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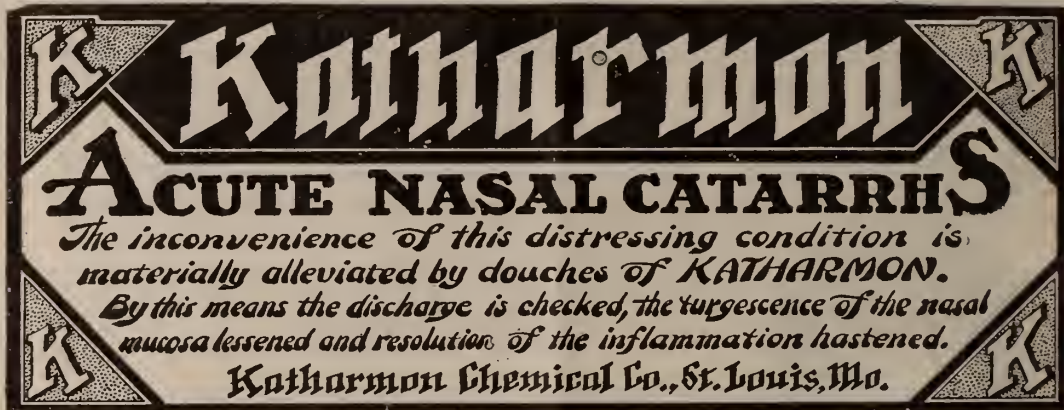
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ERA OF LOW MORTALITY.

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Washington, D. C.—“The civilized world has indeed arrived at an era of low mortality.”

This conclusion is stated in Census Bureau Bulletin 104, on mortality statistics for 1908, prepared by Dr. Cressy L. Wilbur, chief statistician for vital statistics under Director Durand who has transmitted it to Secretary Nagel of the Department of Commerce and Labor.

The death rate of the registration states in 1908 was 15.3 per 1,000 of population which was slightly lower than that for the entire registration area, 15.4 per 1,000, and it is the lowest on record. Dr. Wilbur states it is probably the lowest death rate that has ever occurred in the United States.

The death rate of the rural portions of these states was still lower, being only 14 per 1,000, while that of the urban population was 16.5 per 1,000; the latter including all cities having a population of 8,000 or more inhabitants in 1900, and being, as usual, somewhat greater than the rural rate. Such rates would have seemed quite out of the question a few years ago.

The death rate of England and Wales for 1908 was only 14.7 per 1,000 of population, and of London for the same year, 15.8 per 1,000. For each year since 1893 the death rate of England and Wales has been less than 16 per thousand, with the exception of the year 1904 for which year it was 16.2 per 1,000, while no rate as low has been recorded for any previous years of registration.

The early publication of the data relating to the mortality of the year 1908 for the registration area of the United States was only made possible by the increased promptness of the returns from the state and city offices, most of which now make monthly reports.

The registration area embraces the registration states and separate registration cities in non-registration states accepted by the Census Bureau as having approximately complete registrations of deaths based upon the requirement of compulsory burial permits. For the year 1908, the registration states were: California, Colorado, Connecticut, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, South Dakota, Vermont, Washington and Wisconsin.

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ORIGINAL ARTICLES.

SOME RECENT ADVANCES IN OUR KNOWLEDGE OF THE BLOOD.*

BY

DR. R. C. CABOT,
Boston, Mass.

I had hoped when I sent to the Committee the title of my paper, that I might have the opportunity and comfort of talking about something that was not well-worn and practical, but after I announced my subject, I was warned officially that I had better make the talk elementary and practical, so I am forced to forego the luxury.

As regards the blood the thing that all physicians should do with every single patient is to examine the haemoglobin. I know a great many physicians who because they know that they could not make a full blood examination in every case, have concluded not to make any blood examination. In most cases that seems to me a grave mistake. I don't make a complete examination in one case in a hundred but I always make some examination.

The little Talquist scale is inaccurate, a rough and ready affair, but it is accurate enough for practical purposes and is easy and simple. With it it does not take more than fifteen or twenty seconds to make a haemoglobin examination and it will give you all the information you can do anything with, with regard to the question of anaemia. You can make it as well the first time as the one-hundredth. If the haemoglobin is normal by Talquist, you do not need to go any further with regard to the question of anaemia; you do not need to count the red corpuscles. Now in the vast majority of cases, the haemoglobin is normal, therefore your researches need go no further in this direction. This point seems to me of great importance as I see so many cases diagnosed as anaemia because the patient is pale. Pallor and anaemia have very little to do with each other. Many folks are pale but not anaemic.

Some are anaemic but not pale. The use of that little book will decide the question in a minute. I hope I may persuade you that every physician should own that little book and use it right along in his practice. In the vast majority of cases I make no further examination than that.

The next most important procedure is the examination of the stained blood film, which in a majority of cases is of great importance. Not all doctors will care to do this, but there is one thing we should all know and that is how to make a proper blood film for such an examination. I never go anywhere without carrying a couple of pieces of glass in my pocket. Ordinary window glass will do but microscope slides are more serviceable. The first thing to do is to thoroughly wash the tip of the ear and prick it. Never pierce the finger. The ear is the least sensitive and the finger the most sensitive part of the body. A drop of blood is then placed near one end of a glass slide and the other slide is used as a spreader and the drop is simply carried along as if you were spreading butter. You cannot do this wrong if you should try to. The glass slides are easy to carry and to clean and quite hard to break. They can be sent through the mail and the blood slides will keep indefinitely unless there are flies around. In such case, they should be covered securely.

What help should we expect to get out of an examination of a specimen of blood so prepared? In the first place a leucocytosis is present or absent. Leucocytosis is an increase in the number of polynuclear leucocytes in the peripheral blood over the number normal in the individual case. If you have a leucocytosis, you have either pus or some other inflammation, rarely a toxemia, in the patient. Leucocytosis means that the fighters are marching up to meet the invading army. The diseases in which the presence or absence of leucocytosis is of most value are those characterized by fever. In all fevers when the diagnosis is not clearly defined, a leucocyte count will help you. Leucocytosis is absent in typhoid fever, malaria, measles and early tuberculosis. Epidemic meningitis is practically always accompanied by leucocytosis and tubercular meningitis may or may not have leucocytosis.

*Read at the meeting of the Vt. State Medical Society at White River Junction, Oct. 14 and 15, 1909.

Occasionally an examination of a stained blood-film is of great diagnostic value because it shows eosinophilia. This helps us most often in recognizing trichiniasis. Trichiniasis is a rather rare disease. I made a good many slips in my diagnoses of trichiniasis until I was in the habit of making blood examinations. Knowing as I do how hard it is sometimes to find trichinae in human muscle, I do not think any examination of the pork foods is going to guard us against trichiniasis. Trichiniasis runs a fever like typhoid. There may be no pain in the muscles. In such cases it can be recognized only by a blood examination. Almost all diseases due to animal parasites produce eosinophilia. Trichiniasis is practically the only one found in this latitude.

It must be remembered that chronic skin disease and bronchial asthma also give eosinophilia but no diagnostic mistakes are likely to occur on that account.

We are all on the look-out for leukemia when we see enlarged glands in the neck or enlarged spleen. The majority of cases fall inside one of the well-known types—the lymphatic or the splenic-myelogenous. The lymphatic forms usually show some enlargement of the spleen as well as enlarged glands. Cases where either of these symptoms are not apparent are rare, but they do occur and are recognizable only by blood examinations. It takes only a few seconds to recognize leukemia.

The counting of the leucocytes in fluid from the pleura or spinal canal is one of the most recent advances in this field. Lumbar puncture which should be done far more often than it is, gives us a fluid in which we can sometimes make a diagnosis by studying the cells. In what diseases can we search for cells in this fluid? First acute meningitis. I was called early, about five o'clock one morning to see a patient who had gone to bed the night before with a headache. Her sister who slept in the same room with her was awakened at midnight by a noise and found her sister unconscious and in convulsions. Her urine was withdrawn. This showed albumen and casts as it practically always does in coma. Uremia was the diagnosis made before I got there. I put a needle into the spinal canal and drew off thirty-seven c.c. of fluid which was clear; centrifugalized it; and found it to contain 87 per cent polynuclear cells, with diplococci which decolorized by Gram's method and by culture proved to be the organism of epidemic menin-

gitis. We injected Flexner's serum and saved her life. If we had gone on and treated her for uremia, I believe she would have died. It seems to me this case should make us more ready to do lumbar puncture in doubtful cases. I suppose the majority of cases of tabes and of general paralysis of the insane, are easy enough to diagnose. But in the doubtful cases, the cells in the spinal fluid may put us right as they usually show what we never get in neurasthenia or arterio-sclerosis, that is an excess of lymphocytes.

LEAD POISONING.

One of the most important examinations of blood is that made in doubtful cases of lead poisoning. I was called recently to see a patient who had a two months' anaemia and occasional convulsions. This patient, three weeks after having given birth to a child, became pale and proved to be anaemic. On her gums were the little dots of black staining indicating lead poisoning. An examination of the blood was indicative of lead poisoning. This diagnosis was later verified by the finding of large amounts of lead in the drinking water which came from quite a distance in lead pipes.

BLOOD CULTURES.

Blood cultures ought to be used more than they have been. Most of us have not taken advantage of them because of the idea that it is hard to get blood. After it is found out how easy it is to put the hypodermic into the vein in the elbow, drawing off from three to ten c.c. of blood, this method of procuring a blood culture will be employed much more than it has been. The pain ceases almost at once. The blood so withdrawn can be pushed either into sterile bouillon or a sterile vial. When is it of use? In early typhoid when the Widal reaction has not appeared it helps us to make an early diagnosis and so to start early treatment. In doubtful sepsis especially septic thrombus of a cerebral sinus, cultures are of value.

THE X-RAY TREATMENT OF LEUKEMIA.

I saw a man three years ago who had come home from Porto Rico on account of leukemia. He was very pale, thin, and so weak that he could not sit up in bed. He had not had X-Ray treat-

ment so I at once started in with it. In four months he was able to go back to his work. He lived three years but finally died from the disease. The treatment, of course, only prolonged his life. The X-Ray acts directly and destructively upon the over-active blood-forming organisms and thus brings the blood for a time to its normal condition in favorable cases.

BLOOD SERUM.

The more I study the serum, the more astounded I am at the complexity and at the number of forces and bodies that are in it. I will speak first of toxins. The most familiar and useful is tuberculin. I believe firmly in the diagnostic and therapeutic use of tuberculin in suitable cases. Speaking first of some of the eye reactions and skin reactions. In adults they are almost useless because too many people react. If we apply the test to this audience probably more than one-third would react. It simply means that at some time in our lives, we, most of us, have had tuberculosis and have recovered. Post mortem examinations show that to my satisfaction. When is it of use? In young children. In doubtful fevers in young children. The younger the child the more valuable is the result. In children under one year of age, it is positive proof of fresh tuberculosis. In relation to surgical, glandular and joint diseases, in cases which have no fever, the therapeutic value of tuberculin, I think, is considerable, if we use it in small doses and continue it through months and years, expecting no improvement inside of that time.

OPSONINS AND VACCINES.

The opsonic index has almost gone out of use. It was used much three years ago; less two years ago; today it is not used to any extent. It has gotten so mixed up with the use of vaccines that those who have found out that the opsonic index is of no value, think that vaccines are equally useless. Vaccines in relation to pus organisms are of great value. If you have boils or furuncles which are obstinate and pus-forming, to isolate the particular germ causing the trouble, to kill the germ and to inject the germ back into the individual, does a great deal of good. In the Massachusetts Hospital we are using these vaccines a good deal and as time goes on it is pretty

generally felt that there is little confidence to be placed in the streptococcus vaccine; some good to be attained from coli and from gonococcus vaccine, but sometimes brilliant results from the pus vaccines. It is a very simple matter. Any bacteriologist can furnish you with the dose and all you have got to do is to inject it. I have only words of enthusiasm for Flexner's anti-meningitis serum. In Massachusetts in 1897, there were more deaths from meningitis than there were from diphtheria. That means it is a sizable problem to be dealt with. Seventy-five per cent in every one hundred die. Flexner has now had six hundred cases treated with his vaccine and seventy-five per cent got well. That seems to be the greatest triumph in American medicine. We should not only talk about it but use it. All you have got to do is to get someone to make the test for meningitis and inject the serum obtained from Flexner at Rockefeller's Institute in New York City. The fluid is withdrawn from the spinal cord, tested bacteriologically and the serum is then injected. In our community it has been arranged that one man, Dr. C. H. Dunn, distributes all the antitoxin for Boston and its vicinity. If the family are able to pay for it, well and good; if not, they get it just the same. Seventy-five per cent are cured who otherwise would die.

TRANSFUSION.

The work of Crile on transfusion is known to you all, no doubt. I mean, of course, the transfusion of human blood. Abandoned years ago as unsafe, it was revived by Crile three years ago and is today one of the life-saving measures in selected cases. It brings the intima of the giver's artery against the intima of the recipient's vein. It saves many lives if done properly in cases of collapse from haemorrhage. We have, of course, to look out that the new blood put in does not break up the blood of the recipient. Before transfusion is done a mixture of the two bloods is made. The blood of a pernicious anaemia person will break up the blood corpuscles within forty-eight hours and make a patient a great deal worse than he was before. But in such cases as the constant oozing in jaundice, after operation, the oozing can be stopped by transfusion of healthy blood. Chronic haemorrhage from the bowels can be checked by transfusion. How many times have you been by the bed-side

of a patient and one member of the family has expressed the urgent desire to do something for the patient. In reply to such an inquiry, you now can say, give some of your blood.

THE WASSERMAN REACTION IN SYPHILIS.

In the blood of a person who has ever had syphilis, probably as long as he lives, there are substances which can be discovered by a test of the serum. This seems to me even more important than the Widal reaction. The Wasserman reaction is as reliable as any test we have. It will take you from three to four hours to make the test but as soon as the physicians and patients realize the importance of this, we will have in each community a man who will make these tests for us. If there was any demand for it, the test could be easily done by some competent man who made this his special work. I wish to recommend the test as strongly as I can. It has helped a great many people and saved the lives of not a few. All you or I will have to do about that is to collect the blood and send it and for that purpose all you need is a piece of glass tubing drawn out fine and bent. The ear is pricked in the ordinary way; then suck the blood into the tubing, sealing up the ends and then send it in for examination by an expert.

I have been talking to you mainly about laboratory tests and you might think that laboratory tests are the most important part of clinical medicine. I consider that the laboratory tests are secondary. If it came to a choice between clinical facts and laboratory facts, I would choose the bed-side facts. The man at the bed-side and not the laboratory expert is the man to judge. Stand by your clinical facts. If you have good reason to think that a patient has not typhoid fever and the laboratory reaction tells you that your patient has typhoid fever, take your clinical report and work according to that. But if we keep the laboratory facts in their proper place and give due weight to clinical observations, I believe we can do better work with the aid of both than we can with either one alone.

DISCUSSION.

Dr. C. S. Caverly.—The innovation that the Secretary has introduced in furnishing abstracts for those who are rash enough to promise a discussion of the papers presented ought to serve two purposes. First—

it ought to furnish a hint of the limitation of the powers of those who are to discuss the subjects. As everything I know about the subject of blood I have gleaned from the writing of this gentleman, I feel I am rather incompetent to say very much upon the subject. I cannot, of course, add anything to what he has already said on the general subject of blood work. While we are general practitioners and very few of us have any time to devote to this subject of blood, it is so important and we can learn so much with regard to our cases in the examination of the same, there ought to be in every sizable community, a man who will do this work. We have fortunately in Rutland a man who does this sort of work and there should be in every community in the state, one man who can do this work and do it in an intelligent and quick way for the practical use of his fellow practitioners. The estimation of haemoglobin is about the only thing I have the time to do. I always carry the Talquist book in my grip. I also have the Fleishel instrument which I use in my office. From the haemoglobin estimation you learn whether the case warrants a complete blood count; whether there is need for a red and white count or a differential count.

I wish to introduce a rather brief case of myeloid leukemia.

Dr. F. K. Jackson.—It will hardly be possible for me to add anything to what has already been said on the subject.

I wish to emphasize the fact that we are today indebted to such a very great extent to the laborious and minute examinations of blood which have been made from time to time by early investigators and that we are going to be more indebted as the years go by. We are going to have more toxins and more vaccines which will be of more service to us in our general practice than they have been in the past. We can now look back to Jenner and his discoveries with interest and wonder. There was a man without any knowledge of vaccines or antibodies or antitoxines who went ahead, hit or miss, and stumbled upon a great principle and applied it to wipe out small-pox. Time has worked wonders along these lines and we wonder what will be the next advances.

Dr. Lyman Allen, Burlington, Vt.—I should like to move, if it is in order, that Dr. Cabot be made an honorary member of this Society. Certainly no more able or interesting paper has been presented to us in years than the one which he has presented to us today.

Dr. C. S. Caverly, Rutland, Vt.—Seconded this motion and the motion was adopted and Dr. Cabot was made an honorary member of the society.

AND FATHER?

"Yes, children," said the nurse, "the stork
Has brought you each a little brother."

"Oh good!" cried they, and ceased their play,

"Do let's all run and tell poor mother!"

—*Smart Set.*

VENEREAL DISEASE IN VERMONT.*

BY

WILLIAM WARREN TOWNSEND,

Rutland.

That the percentage of venereal disease in Vermont is as great as it is in the more thickly populated and congested sections of the country is my belief. I realize that this statement will be criticized by my hearers, and, unfortunately, I have no statistics, other than those compiled from my private and hospital work, to confirm my statements. Several years ago our esteemed and progressive State Board of Health had mailed to every physician in the State a circular with a return attachment requesting that the recipient report their cases of venereal disease. In conversation with a member of the Board, I learned that gathering statistics of the venereally affected, as far as the Vermont State Board was concerned, was a failure as only a few replies were received.

In analyzing this commendable effort upon the part of our Board, one wonders why so few replies were received. Certainly venereal disease is of enough pathological importance to humanity in this State to be recorded with other communicable diseases. I believe that aside from the fact that our statutes do not make a report compulsory, that the reason for so dismal a failure was the utter scientific disregard to venereal disease entertained by the average general practitioner.

It is only within the past few years that the ravages of the gonococcus have been fully understood by the profession at large; and I can assure you that today there are many medical men, not only in this State but in others, that know nothing of the pathology induced by this micro-organism, while these very same men are thoroughly familiar with the bacteriology and pathology of tropical diseases, rare in this section of the country, and would be highly insulted were you to suggest that they were treating the gonorrhoeics, who come to them and from whom they are accepting fees, in an unscientific and sometimes harmful manner. For example, when a medical man passes a sound into a patient's anterior urethra, the walls of which are exuding a discharge swarming with

gonococci, and then drives the sound home through the posterior urethra carrying with it millions of gonococci which very promptly set up a prostatitis, infection of the ejaculatory ducts, seminal vesicals, vas and epididymis, I assert that such practitioner is responsible for the loss of patient's time and for the suffering entailed and could be forced to settle were the actual conditions thrashed out in a court of law. This clinical picture perhaps seems overdrawn, but it is not so, but is a word picture of a fact, and it is only recently that I have had the original victim in consultation.

Various have been the estimates placed upon the percentage of venereal disease in civilized countries. Some authorities go so far as to state that 90% of male adults have suffered from venereal infection. Life insurance companies have attempted to compile statistics from their records of the insured, and one company reported that less than 25% of their risks acknowledged venereal disease. Twenty-five per cent is too low a percentage, for certainly men "lie like gentlemen" when applying for insurance for obvious reasons.

In my records of entrance examinations of prisoners at the House of Correction, 83% of the adult males acknowledge a venereal history; to be sure these men are from the so-called lower strata of society, but venereal micro-organisms, gentlemen, are no respecters of persons, and they attack the high and lowly of society alike.

Gonorrhoea is, of course, the most prevalent of venereal diseases in Vermont, as it is in every other state in the union; however, syphilis is much more common than one would expect to find it in a rural community, the reason being that owing to our marble and granite quarries we have a comparatively large foreign population, and our military post with its soldiers who are recruited from the larger cities and a great many of them who have returned from our foreign posts, have brought to Vermont syphilis in a communicable stage, and in the gratification of their sexual instinct they have infected our Vermont women, who, in turn, have passed the infection along to the Vermont men.

In a small village of two thousand people in this State I traced as best I could an epidemic of syphilis. Two young women visited Burlington and while there met the soldier boys who had returned from a service in the Philip-

*Read at the meeting of the Vermont State Medical Society at White River Junction, Oct. 14 and 15, 1909.

pires, they accepted the attentions of many of them, and returned to their homes flushed with the enthusiasm of the good time they had had and in due course of time became flushed with a maculopapular eruption and other lesions. These girls were of a type that are neglectful of ordinary hygienic rules, and consequently paid little heed to their eruption. In fact, when I examined them I found them to be in the full bloom of a secondary syphilis. They remembered with difficulty having had a rash, and after rigid interrogation acknowledged that they ascribed the condition to the heat. Indulging in promiscuous intercourse it is not to be wondered at that they infected their partners in many instances, until, as stated, syphilis became epidemic in the village. I personally have under active treatment at the present time 16 cases of syphilis, traceable to these women, and have seen in consultation as many more, and the physicians located in the village are treating some and I am told by my patients that some are taking advertised cures, so that it is impossible to trace the total number of cases.

One case I saw, a case of syphilis of the innocent, so impressed me that if permitted I will present the history in brief.

A man, a husband and father, "went out with the boys," as he expressed it, and after drinking heavily wound up a night's debauch by cohabiting with one of these women. In due time he developed a chancre which was improperly diagnosed as a soft sore and cauterized. It was of the chancrous erosion type, and healed rapidly. About the time of its healing, mucous patches appeared in the buccal cavity. Not much importance was attached to them by the medical attendant, or patient, so he had no warning of their infective character, and hence had no hesitation in kissing and fondling, as was his custom, his four year old baby girl, with the result that when I saw the child it presented a typical chancre of the lip that had been treated domestically as an ordinary cold-sore. The adenopathy alarmed the father who sought medical counsel, who kindly afforded me the opportunity to see the case.

The recitation of this one case, gentlemen, should help to waken in you the desire of a further study of venereal disease.

Syphilis is a disease that you all know as a horrible pathological condition, but your ab-

horrence for it makes you loth to have the patients around your office, and from personal experience I am sure that there are many lesions such as I have just mentioned that could be kept innocuous were they given the scientific attention that they should have as pathological lesions.

Chancroid is a filth disease, and while it exists in Vermont, compared with gonorrhoea and syphilis, it is a much rarer disease. Several of the cases of syphilis that I have had from the village where syphilis was epidemic, have been of the mixed character, that is, presenting chancroids as well as initial lesions.

The relation of venereal disease to the marriage state is a most important phase of the discussion of the Black Peril, and one which I want to touch upon.

It would be presumptuous on my part to assume that the learned members of this society are not familiar with the generalities of venereal disease to the marriage state, and it is due to this general conception, if I may be permitted to refer to it in that way, that most of the suffering of the innocent is due. Were the profession more familiar with the details and refinements of technique that make accurate diagnosis possible, men and women with dormant gonorrhoea would not be assured that they were safe to enter the state of wedlock and infect their partners.

The legislatures of several states have enacted statutes tending toward the prevention of the marriage of venereally infected individuals. This is a good measure and it is hoped that eventually some such work will be done by our legislative body, and thus the lay public will become better educated to the relationship of venereal disease to the marriage state.

The lay people need the rays of medical intellect directed to the prudishly hushed-up venereal peril, and until such a time comes that society will talk and write about venereal disease without fear of criticism from those who believe that the possessor is getting his "just reward," and that it "served him right," the innocent will suffer from infection.

To us, as physicians, a great deal of the responsibility for the incubation of venereal disease in the marriage bed rests. I think that we are not careful enough in our examinations and

treatment of venereal conditions, especially is this so of a gonococcic infection.

Chancroid bears very little relationship to the marriage state for the reason that it is a local condition and an open, painful lesion, and when it exists the attention is directed to it and it is attended to until it becomes cured. Of course, there are exceptions, and many cases undoubtedly exist where chancroid has been carried to the conjugal couch.

The superficial loathsomeness (by this I mean the syphiliderma) has done much towards the prevention of the marriage of syphilitics. Individuals suffering from open lesions, as in chancroids, are reluctant to enter the marriage state for fear of exciting pain, and for cosmetic reasons. While it on the other hand incurs in the individual a false assurance of freedom from disease.

The profession I feel sure is awake to the relationship of syphilis to marriage, but it is the dormant gonorrhoeic that is a menace to the community. It is the gonorrhoeic that should be quarantined and isolated until cured. This will never be. Were all the gonorrhoeics to be quarantined or isolated for 24 hours, certainly a most confused condition of the country would exist. We must adopt the next best measure to quarantine and isolation, namely, education.

I have the honor of being a member of the American Society of Sanitary and Moral Prophylaxis. This Society is issuing and circulating venereal propaganda that is doing good work and is slowly overcoming the prudishness relating to the venereal problem.

Gonorrhoea and its sequelae are known to be as important, if not more important, than are the results of syphilitic infection. The diplococcus of Niesser can enter any of the serous cavities of the body and therein it and its toxins can cause untold suffering to their host.

There is not a member of this Society present who does not recall a case he has had in his personal practice, or know of a case in the practice of a colleague that has not gone to its grave as a result of a gonococcic infection. This infection that has been classed with a common coryza! An infection communicated by a husband who thought he was cured, because he was told that he was by his physician. The sterilization of women for pus tubes and diseased ovaries is almost a daily occurrence in the large hospitals throughout the land. An examination

of their partners in life when the finger of accusation points to them reveals an uncured gonorrhoea, generally a gonorrhoeal prostatitis and adnexa.

It was with a view of adding my mite to the sum total of the educational effort that is being attempted along these lines, that I have offered you this elemental paper today. I plead with you to use your best efforts towards the prevention of the marriage of venereally infected individuals.

I can hear some of you ask yourself the question: "How are we to do that?" In reply I will say: *First*, by using all the scientific means that are at your disposal, to determine whether or not the individual who presents himself to you to ascertain if he is free from venereal disease, is so or not. *Second*, by curing your cases. It is not within the province of this paper to touch upon the subject of treatment, but allow me to suggest that in gonorrhoea the cessation of discharge does not constitute a cure; or in syphilis, the freedom of buccal or dermal syphilides for a few weeks when no treatment is being administered, does not constitute a cure. *Third*, by using your influence in your respective communities towards the ventilation of the far-reaching properties of venereal disease. Do not treat the subject jestingly. When patients come to you with venereal disease do not hand them a few tablets, but sit down and explain to them the seriousness of the infection they present, not only to themselves, but to others, and in this way, gentlemen, you will be doing a great work, and adding your effort towards pushing along the great wave of prophylactic medicine, and further gracing the profession in whose ranks you are working.

Dr. Campbell.—What do you consider the best diagnostic tests for latent syphilis and gonorrhoea? Is Wasserman's reaction practical for general use?

In reply to Dr. Campbell's question, I would say: "Dr. Cabot has told us how to determine by the Wasserman test whether or no a patient has had syphilis and if there is a dormant syphilis. I agree with Dr. Cabot that this is the method par excellence of determining the presence of syphilis, but in the hands of the general practitioner it is of no practical value, and as Dr. Cabot has stated, Wasserman tests should be made by experienced pathologists.

Regarding gonococcic infections, there are several so-called tests that can be made; all of them having for their object the detection of gonococci in the expressed and induced secretion from the prostate, the

urethra, glands and ducts. These secretions are obtained by massage and injections of irritating chemicals to produce urethral irritation which provides a favorable culture medium for the germs as they come down from the prostate and vesicular region."

THE CARE OF THE CHILD IN "PUERPERIUM."*

BY

G. S. CLARK, M. D.,

Montgomery Ctr.

It has been said by a wise man that "The beginning is half of all." If this is true it is very important that the person who is in charge when a traveller emigrates from a world of darkness, peace and slumber to one of light, sin and activity and struggling for the breath of life, he should care well for the newly arrived traveller.

After the infant is born, if it does not cry out strongly, take it up by the feet in the left hand and with a thin piece of gauze around the finger of the right hand wipe out of its throat the mucus which may interfere with respiration, then slap the buttocks hard enough to start a lusty cry, or throw a few drops of water from the finger tips over the chest and face and blow vigorously until the desired effect is obtained.

When breathing is well established the infant is laid on its right side with its head lower than its feet and covered over with a warm towel.

The pulsation in the cord is then felt and if it has ceased or is very weak it is tied immediately, but if it is full and strong it should be left until it becomes weak and then it is tied one and one-half inches from the body with a sterilized silk cord, and tied again about two inches farther on and then cut between the two ligatures with a sterilized pair of scissors. The stump of the cord is taken in one hand and the blood squeezed out of it and wiped off with a piece of sterilized gauze and then examined to see that there is no oozing from it.

The infant is then wrapped in a warm blanket and as a prophylactic to ophthalmia two drops of a two per cent solution of nitrate of silver or protargol are dropped in the eyes, he is then put away in some safe place to await his bath while the mother is being attended to. If there is some

anxious grandmother present it is a good plan to have her take the baby into another room out of the way and where the baby, if crying, will not disturb the mother.

The bath should be given before a good fire, preferably an open one. The room should be warm and no draughts allowed to reach him. To loosen the vernix caseosa a liberal supply of sweet oil is probably the best but other things may be used such as vaseline, lard, hen's oil, skunk's oil, to accomplish the same purpose. The little one is then gently and quickly sponged with warm water and good castile soap, only a part of the body being exposed at a time. The bath should be completed in ten minutes and the baby should be rosy red. The body of the infant should now be examined to see if there are any injuries or abnormalities upon it.

To dress the cord I use the plain pulverized boracic acid for a dusting powder but salicylic acid and starch in the proportion of one to twenty forms a good dressing powder. I have the stump placed through a hole in a square pad of sterilized gauze four or five layers thick and a good layer of absorbent cotton placed above the gauze. The binder should be of soft flannel eight or ten inches wide and pinned just snugly enough so as not to interfere with respiration. The outer coverings are then applied and the baby is then put away in a crib in a quiet darkened room and well covered. If he is cold, bottles of hot water should be applied to the feet and sides.

The cord should be left alone as much as possible until it drops off about the fifth day. After it falls off a pad of several thicknesses of sterile gauze two inches square should be applied to the umbilicus and kept in place by the band. This pad should be worn for about a month or until the parts are healed over strong enough to prevent a hernia developing.

During the visits to the mother the baby should not be forgotten and inquiry should be made regarding its sleep, urine, feces, etc.

For the first few months the baths should be given at about body temperature. They should be given before an open fire if possible and as quickly as possible with little rubbing and when finished the baby should be not blue but a rosy red all over. For delicate skinned infants a little salt should be added to the water.

The clothing of infants should be light, warm and non-irritating to the skin and loose enough to allow of free movements of the limbs. A

*Read before the Franklin Co. Medical Society, Sept., 1909.

common mistake is to put on a band so tight that it hinders breathing. The chest should be protected by a woolen shirt. Petticoats should be supported from the shoulder. For diapers canton flannel or stockinet make better absorbents than linen. When signs of poor circulation are present hot water bottles should be used in the crib. Cold feet are often the unsuspected cause of colic and indigestion.

The abdominal band should be worn during the first few months as a protection to the viscera. During the summer the outer clothing should be light and the under-clothing of the thinnest flannel or gauze and the night clothing should be similar to the day clothing, very loose and of the lightest flannel. Too much clothing at night is often very injurious by causing restlessness.

In male children if the fore-skin is very long and the orifice small, circumcision is advised by many. If adhesions are present they should be broken up and the parts kept well and regularly cleansed.

An infant should sleep nearly all the time for the first two or three days. After this it will sleep twenty to twenty-two hours for the first few weeks. It is important, from its birth, to train an infant to regular habits regarding sleeping hours. The baby should sleep in a crib and should not be rocked to sleep or lulled to rest on the nurse's breast or to have a nipple or comfort in the mouth to induce sleep. These are injurious habits and increase the labors of the nurse. "A quiet darkened room and comfortable bed, an appetite well satisfied and dry napkins are all that are needed to induce sleep in a healthy child." Regularity in sleep and feeding are two important factors in inducing health in the infant.

Hunger and indigestion are the two greatest causes of disturbed sleep in young infants. Sleeplessness from hunger is usually seen in those who nurse a long time and take short naps. Disturbed sleep from indigestion is generally seen in babies artificially fed and often over-fed and at irregular intervals. The little one should be wakened for its food regularly at intervals of from two to two and a half hours according to its age.

The youngest infant needs exercise as well as the oldest child. This is accomplished by the lusty cry during the morning bath which expands the lungs and strengthens the muscles of respiration and the remainder of the muscles

are strengthened by kicking and struggling about. The little one should be taken up occasionally as it gets older and carried about the room. When lying down its position should be frequently changed and general friction applied to the body twice a day.

Plenty of fresh air is very essential to the health of the child. In summer by the end of the first week it can be taken out of doors and allowed to sleep there most of the day. In cold weather it should be a month old before being taken out of doors. Plenty of fresh air should be supplied to the room of the infant in winter as well as in summer but no draught should be allowed to blow on it. In fact the infant should have the sunniest and best ventilated room in the house. The temperature should be 70 degrees F. during the day and 65 degrees F. during the night. The infant should always sleep in a separate bed or crib.

Delicate and premature infants require especial attention. The special indications in these cases are, to maintain the animal heat and to nourish the infant. In premature infants the body should be well oiled with sweet oil and covered with cotton batting and laid away carefully and handled as little as possible. Heat may be applied by use of hot-water bottles, blankets and electric pads. The great difficulty is to obtain a uniform temperature and efficient ventilation. These conditions are best accomplished by the use of incubators. Next to maintenance of uniform heat and ventilation the feeding question is most important. Special feeding tubes may be used or the infant may be fed by gavage using a funnel and soft rubber catheter. The food should be given slowly and in small quantities to meet the requirements of the infant. Mother's milk should be used as poor results are obtained from artificial feeding and if the infant cannot nurse the breast the milk should be drawn and fed with a medicine dropper or special feeding-tube. To insure the best results the infant should be placed in the incubator as soon after birth as possible. Statistics show a great saving of premature infants by the use of incubators.

The Georgia State Board of Health claims that the free Pasteur treatment has saved the lives of 572 persons bitten by rabid animals during the past year. Only one death is reported out of all the cases handled.—*Western Med. Review*.

SOME FEATURES OF INFANTILE PARALYSIS.*

BY

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The stool of a healthy infant is described as a soft golden-yellow mass. It is discharged once or twice daily, clings to the diaper, and has no odor. Any variation from this standard is abnormal, changes being the result of imperfect digestion, improper food or infection of the gastro-intestinal tract.

An ideal condition no longer exists when the movements are more frequent, when the fecal mass becomes hard, pasty or watery, when curds, mucus, blood or pus makes its appearance, or when an odor, more or less offensive, is detected.

Movements, four, five, six, to a dozen or more daily, the presence of free mucus, of offensive odor, of blood in streaks or larger hemorrhage, of pus free or mixed with the stool, each and all signify an abnormal condition, with or without pathological lesions.

These lesions are, primarily, congestion, hypertrophy and ulceration of the mucous membrane, congestion and hypertrophy of the intestinal lymph nodes; secondarily, congestion of liver, spleen and kidneys.

An interesting study of the relations which exist in cases of enteritis between the intestinal discharges and the pathology was published in the *Journal of the American Medical Association* by Dr. Knox of Johns Hopkins. His conclusions, based on autopsy findings in one hundred cases, are as follows: some cases die with an almost unchanged intestinal mucosa. All lesions may be present with only a small amount of mucus in the stool, but with a greater quantity, pathological findings are still more probable, and where movements consist of mucus almost entirely, such serious damage as ulceration often is present.

Blood is still more important, the amount present usually indicating the changes wrought within, from congestion to ulceration, while the meaning of pus is the most significant of all. Finally, though blood and pus deserve a serious

interpretation, their absence, while desirable, gives no guarantee of escape from grave pathological lesions.

Odor of a stool or the expulsion of foul gas is due to the decomposition of proteid, fat and sugar; in itself not a sign of morbid alteration of the mucosa, but certainly a harbinger of impending evil and an alarming symptom which demands immediate elimination. The pasty, putty-like dejecta and the so-called curds are danger signals. Consisting of fats, fatty acids, proteids and soaps, they represent imperfect digestion, are irritating to the intestine, and form an excellent pabulum for the attack of micro-organisms.

Constipation, instead of diarrhoea, is sometimes present. Diarrhoea is conservative; it is the work of the bowel trying to cast off offending articles. If, as a result of intoxication, the gut becomes sluggish or paralyzed, the decomposing mass is imprisoned, the toxins cannot escape, are absorbed into the system, often causing sudden, dangerous and at times rapidly fatal symptoms.

It is needless to suggest thorough treatment for such a condition. Perhaps the most popular plan is purgation by calomel, colon irrigations, withdrawal of all food, administration first of water alone and later of a cereal decoction, usually barley water. Such treatment is radical and efficacious and on examination seems reasonable.

The calomel increases peristalsis, and thus dislodges the drives on the decomposing material, shortening its stay in the intestines and consequently diminishing the harm that might result. Colon irrigations, while absolutely free from danger, reinforce the activity of the calomel, by mechanically cleansing the large intestine.

Food is stopped, because wholesome maternal milk, sterilized or pasteurized cow's milk, however they be modified, are potent for decomposition and excellent culture media for any pathogenic organisms that may be present in the bowel. Water in place of food, has the advantages of being non-irritating, dilutes toxins, replaces to some extent lost fluids, supplies no culture media for bacteria, and allows deranged secreting organs complete rest by making no requisition on their digestive ferments.

At the end of 24 hours all symptoms of intoxication usually have passed and we see a peacefully quiet or hungry crying infant. Water is not its food, and it demands something more substantial. Nevertheless, whatever the nutritional

*Read before the Clinical Society of the N. Y. Polyclinic Medical School and Hospital, Oct. 4.

requirements may be, the intestinal mucosa is by no means normal, decomposition is potential and therefore regular diet is impossible.

At this time a weak barley water is substituted. This is said to be soothing and is a little more nourishing than water. In addition, it calls into regular, though weak activity, the secretions which have had a 24 hour rest. A few minutes after its ingestion free hydrochloric is obtainable from the infant's stomach, and in passing through the duodenum this hydrochloric acid indirectly stimulates the flow of pancreatic juice.

Barley water, however, is but a temporary food. It is a starvation diet on which no infant can thrive, and a return to proper nourishment is the problem now confronting us.

Two questions are involved. When can the child, with safety, resume its normal food, and how is the transition from barley water to a properly modified milk accomplished?

An immediate change from a cereal decoction to a suitable normal diet probably never is attempted, because we realize that the digestive secretions are still feeble and the mucous membrane exquisitely tender in convalescence. Of all plans, perhaps the commonest is a gradual simultaneous increase of fats, carbohydrates and proteids, beginning with a very weak combination and improving the strength till the desired formula is obtained.

At best such a plan is tedious. It often succeeds. Frequently it fails, and its failures may have given birth to the popular medical fallacy that some babies cannot take milk in any form. At a cursory glance, it seems the most rational method not only of increasing the strength of the food, but also of improving the functional activity of the digestive glands. But on deeper analysis, we find that four facts from physiology and physiological chemistry are overlooked.

1. Fat interferes with or impedes gastric digestion.

2. Fermentation of fats and carbohydrates occurs mostly in the small intestine, putrefaction of proteids in the large intestine.

3. Absorption takes place throughout the entire length of the intestine, but principally in the small intestine.

4. Fat, in the stomach, may form an envelope around masses of proteid, and, if undissolved in the small intestine, carry such proteid to larger bowel, thereby indirectly being a cause of putrefaction.

These facts require no discussion here. It is

evident that, if proteid alone be administered, it can be digested and absorbed before passing entirely through the small intestine, and do no damage, because it never reaches the large intestine, where putrefaction would be possible. The objections to fat are obvious, and a logical conclusion also demands the exclusion of carbohydrates.

Therefore, it is manifest that a mixed diet of fat, carbohydrate and proteid is improper at this time. We have attempted to apply the principles underlying the above facts, but as pure proteid is impracticable, the substitution of skimmed milk as the first addition to the barley water is advocated.

Skimmed milk contains practically no fat, sugar 5%, proteid 3.45%. A mixture of barley water and skimmed milk, in proportion of 4 to 1 contains carbohydrates 1.5% and proteids 0.7%. With such a food, scarcely any fat being present to interfere, gastric digestion may gain its full activity and cause nearly a complete change of proteid to peptone. Only one step remains for the action of intestinal ferments, a change from peptone to amino acids, and the end product of proteid digestion is obtained. Having reached this final stage early, there is more time for absorption within the small intestine, and this absorption is probably completed before the proteids arrive at the ileocecal valve. By this means the large intestine is cheated of proteid or intermediate products and putrefaction is impossible.

The fact is fully appreciated that, although we have eliminated one source of fermentation in the small intestine, the fats—the addition of skimmed milk means the addition of lactose, which also is fermentable in the same part of the bowel. The increase of lactose, however, while actually greater, is relatively less than the increase of proteid. When proteid has reached the normal standard, lactose is still three or four points below the required six or seven per cent. Further, barley water alone had been administered previously, and while some sugar must have been formed from the starch improvement in the symptoms had continued. Incidentally, it appears that there is less liability to fermentation of sugars when fat is absent. Our experience seems to prove that, while a larger quantity of lactose might be dangerous, the amount present in skimmed milk is harmless, and it is unnecessary to make needless sacrifices of the food's strength by excluding it.

Having satisfied ourselves that skimmed milk is the best food available as the first addition to barley water, our general rule is to begin its use as soon as the bowel movements are reduced to three in number daily, regardless of abnormal constituents, except blood, pus and a large quantity of mucus. When the stool becomes normal, sugar is further increased and the gradual addition of fat begun, and thus a return to a proper diet finally effected.

As an illustration, let me cite one case now under observation: Sept. 20, 1909. Female infant, one month. Birth weight 7 lbs. Father healthy; mother decidedly neurotic, and always has suffered from obstinate constipation, which has been even worse since birth of child. Child vomits occasionally; movements have never been normal. Now there are 6 or 7 green, foul movements, with a large amount of mucus, daily. Child looks thin and sick. Hands and feet cold. She cries piteously. Temperature 101, weight 7 lbs., 2 oz.

Orders: Calomel, gr. $\frac{1}{4}$ b. i. d., for three doses; colon irrigation b. i. d.; diet, 2 oz. plain water q. $2\frac{1}{4}$ h. 10 feedings.

Sept. 21st. Child slept through most of the night; 4 movements; diet, barley water 2 oz. q. $2\frac{1}{4}$ h. for 48 hours.

Sept. 22nd. Weight 7 lbs.; 3 movements, green, small amount of mucus, very slight odor. Mother unable to take care of child. Her obstinate constipation and nervousness precluded any hope of future maternal nursing. Trained nurse put in charge.

Sept. 23rd. Two movements, one with each enema, same as day previous, but less mucus. Diet; skimmed milk, 4 oz., barley water, 16 oz. 2 oz. q. $2\frac{1}{4}$ h.

Sept. 24th. Two movements, one with each enema, light brown color, small amount of mucus, very faint odor. Weight 7 lbs.; diet same.

Sept. 25th. One movement after morning enema, dark yellow color, small amount of mucus. No odor. Diet: skimmed milk 6 oz.; barley water, 16 oz. 2 oz. q. $2\frac{1}{4}$ h.; milk sugar $\frac{1}{2}$ oz.

Sept. 26th. Two movements, one after each enema, practically normal. Weight, 7 lbs. Diet: skimmed milk, 7 oz.; barley water, 16 oz. 2 oz. q. $2\frac{1}{4}$ h.; milk sugar, 1 oz. Value, fat 0.2%, carbohydrate 6.5%, proteid 1.0%. Calories 215, or 30 per lb.

Sept. 27th. Fat 0.8%, carbohydrate 6.5%, proteid 1.0%. The addition of fat begun. Value,

38 calories per lb.

Sept. 28th. Fat 1.0%, carbohydrate and proteid same. Value 40 calories per lb.

Sept. 29th. Weight 7 lbs., 1 oz. Fat 1.2%, carbohydrate and proteid same. Value 41 calories per lb.

Oct. 3rd. Weight 7 lbs., $2\frac{1}{2}$ oz. Fat 2.0%, carbohydrate and proteid same. Value 40 calories per lb. One normal movement.

Enteritis cured, and case now becomes one for proper application of principles of infant feeding.

A similar plan may be employed with breast fed infants. During the time the child is on barley water, the mother is emptying the breasts with a pump at the regular nursing interval, and also taking sufficient exercise in the fresh air. With the beginning of convalescence, the child is fed $\frac{2}{3}$ the former amount of barley water, and then put to the breast for $\frac{1}{4}$ the former nursing period. The first part of the secretion from the breast is rich in proteid and poor in fat, giving the infant what is practically a skimmed milk breast. The breast is given in this way at every other feeding or every third feeding on the first day, and more frequently on the following days. As soon as the breast is taken at every feeding, barley water is reduced gradually day by day, and the time of nursing proportionately prolonged.

It is evident to all that no attempt has been made to treat this subject in a comprehensive manner. Prophylaxis would have included all the intricacies of infant feeding, and would have led us from the cow pasture to the nursery. Bacteriological findings and serum treatment of certain specific cases, and many other features necessarily had to be neglected.

A special appeal has been made for the employment of skimmed milk as a transitional food. We believe that a fair and impartial trial will convince even the most skeptical, that it is the quickest and safest vehicle for a journey toward that desired goal, a healthy infant on a normal diet.

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Note: Paper read before the Clinical Society of New York Polyclinic, October 4, 1909.

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EDITORIAL.

Considerable interest has been aroused throughout the medical world by the advocacy by Dr. Jonnesco, Bucharest, of a method of spinal anaesthesia by the use of stovaine and strychnine. The method was first brought to the attention of the profession in a paper presented at the International Congress of Surgery in Brussels in September, 1908. The author of the paper advocated this method for operation on the upper as well as in the lower parts of the body, thus going beyond any previously advocated method of spinal anaesthesia, and maintaining that the addition of strychnine deprived the procedure of all danger even when the injection was made into the arachnoid of the upper dorsal spine.

The points of novelty are, (1) that the puncture is made either in the dorso-lumbar region for operation on the abdomen or lower extremities or between the first and second dorsal vertebrae for operation on the upper extremities and head and (2) the addition of the strychnine

preventing it is claimed the occurrence of bulbar symptoms when the injection is made.

The advantages claimed for the method are that it does away with the necessity of an anaesthetist and can be given by the surgeon himself. That it can be used in any case with absolute safety. That it greatly simplifies operation on the face or throat by doing away with the troublesome mask. That there is usually immobility of the limbs by reason of the paresis resulting from the anaesthesia of the spine and finally that there is an immobility of the abdomen including the intestines.

The disadvantages of this method are the fact that the patients are conscious all the time and must necessarily be subject to a tremendous strain. Then again it is inconceivable that a surgeon can operate with the same calmness and deliberation upon conscious patients. And finally the absolute safety of the procedure cannot be granted from the accumulated evidence. Up to the present out of 50,000 cases of spinal anaesthesia reported by use of the cocain and its analogues, the mortality has been six times as great as that from chloroform and thirty-two times that of ether.

Jonnesco's arguments for the safety of his method are based on six hundred and twenty-three cases of the use of stovaine and strychnine and six hundred three by the use of stovaine alone, all without a fatality—certainly a good showing—but not absolutely conclusive.

All things considered it hardly seems that the method is likely to in any way replace the older methods of anaesthesia, but that we must credit Jonnesco at the very least with devising a method of spinal anaesthesia of minimum danger which will be extremely valuable in a limited number of cases. The recent experience with scopolamine-morphine anaesthesia has had a tendency to render the profession skeptical in regard to anything new in this line. That

skepticism should not go so far as to deny the value of a method which has furnished the demonstration produced by Prof. Jonnesco.

The County Medical Society is the foundation upon which the State Medical Society and the American Medical Association is built and to the County Society is delegated the vital question of membership. The constitutions of the Vermont State Medical Society and American Medical Association make no distinction between physicians of the different schools. These are distinctions which have lost their force in a large measure. With the passage of our registration law establishing a common board of License Censors and a system of uniform requirements and examinations it would seem that any argument for exclusion from our society of any practitioner because he is a graduate from a Homeopathic or Eclectic school has passed. The maintenance of separate societies is contrary to the broad scientific and humanitarian tendency of modern medical thought. Furthermore another argument for enlarging the membership of the County Society is that the Medical Defense League which is being inaugurated in the County Societies of other states may be more effective.

The fewer men outside the pale of the insuring society the less likely are malpractice suits to be brought for there is little chance for such suits to be brought unless stirred up by some medical man. No man is likely to stoop to this if he goes into his own pocket to defend the victim.

The County Societies of many states have already opened their membership to all schools of medicine by eliminating from their membership requirements the word "regular."

The members of the Eclectic and Homeopathic schools in this state are nearly all of

them men whom we respect and with whom we consult. It seems narrow minded and foolish to debar them from our societies.

NEWS ITEMS.

The following from the Burlington Daily News gives clearly the typhoid fever condition of Montreal:

Montreal, Dec. 30.—It is estimated that five persons out of every 1,000 in the city of Montreal are ill from typhoid fever. Thirty-one new cases were reported to the health department yesterday and two deaths occurred, bringing the total for the month up to 43. Estimates of the number of cases in the city, based upon canvasses of practicing physicians, range from 2,000 to 4,500.

Accommodations at all the hospitals which handle contagious diseases were exhausted long ago and a movement is on foot to have the city open temporary hospitals if nurses can be secured.

The responsibility for the epidemic is placed upon the city water supply. The intakes for the city service and a private water company are located in the St. Lawrence river. Outbreaks of the disease are yearly occurrences.

Dr. O. B. Gilbert, Dartmouth 1908, has opened an office in Concord, N. H.

Dr. Alfred Daudelin, Baltimore Medical, has gone into practice at Somersworth, N. H.

Dr. F. A. Durkee has moved from Belmont, N. H., to East Hanover, N. H.

Dr. D. Caron has removed from Franklin, N. H., to Laconia, N. H.

Dr. J. N. Letourneau of Laconia, N. H. has given up all practice because of his dangerous condition due to cancer of the jaw.

Dr. Clifton Smith of Warren is contemplating locating for the practice of medicine in Westford.

Dr. Albert H. Garvin of Amsterdam has been appointed superintendent of the New York State Hospital for Incipient Tuberculosis at Raybrook. He has been acting as such for the past two years.

Dr. B. E. Marshall of Albany, N. Y., a former Middlebury man but now a physician in Albany, was married at the home of his grandmother, Mrs. A. J. Marshall, at 10.30 o'clock Monday

morning to Miss Frances Reynolds of Albany, N. Y.

Mrs. E. M. Pond, wife of a prominent Rutland physician, died at her home December 28th of asthma and heart trouble.

Dr. William E. Denning of the class of 1899, University of Vermont, has returned from two years' study in Europe and will open an office for surgery and diseases of women at 66 Pleasant Street, Worcester, Mass.

Word has been received that the buildings of the North Dakota Agricultural College, including the building housing the Department of Chemistry in which Prof. H. L. White, former professor of chemistry, was employed, were burned Sunday, December 26.

A son was born December 23rd to Dr. and Mrs. Marvin of Essex Junction.

Professor Jonnesco gave a demonstration of his method of spinal anaesthesia by the use of stovaine and strychnine at the Hospital for Ruptured and Crippled in New York, December 7th and a second demonstration at the New York Post Graduate Hospital on December 8th. At the first date four patients were operated on. These operations were for club foot (2 patients) reduction of an old dislocation of the hip and a double inguinal hernia. The operators were Drs. Horner Gibney, Virgil P. Gibney and Williams B. Coley. The second series of operations were all serious ones including the removal of a tumor of the left frontal lobe of the brain. These operations were all absolutely painless although the patients were fully conscious. The patients showed a good deal of nervousness and three of the four in the first series were nauseated.

Dr. Frank Bradford Sprague of Providence, R. I., died on November 17th, 1909, aged 44 years. He was a graduate of the Medical Department of the University of Vermont in 1889. Dr. Sprague had attained a natural reputation as a specialist in diseases of the eye, ear, nose and throat.

John R. Early, the man who was detained for many months in Washington last winter as a leper suspect but was declared to be quite healthy at the New York Skin and Cancer Hospital, returned to Washington on December 2nd and was promptly rearrested by the Board of Health. The pension office has cut off his pension on the ground that he is not a leper; the health officer of Washington has caused his arrest on the ground that he is a leper.

SMALL-POX IN NEW YORK STATE.

The State Department of Health has been notified of an epidemic of small-pox prevailing in Touairanda, New York; thirteen cases of the disease having been reported from this town.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

PUS TUBES IN THE MALE.

W. T. BELFIELD, Chicago (*Journal A. M. A.*, December 25), says that these conditions in the male are generally unrecognized, and he defends the use of the name he had given them by describing the clinical anatomy of the parts, showing the analogies with other tubal suppurations. He describes the symptoms, the vesical and rectal tenesmus, the abdominal pain simulating appendicitis, the toxemia causing the neurasthenic symptoms, and the impotence and sterility which are the results. The surgical treatment of these conditions and its advantage over the medical treatment are pointed out. He has operated for draining and medicating the vas ampulla, and vesicle 149 times in 107 patients by vasotomy, usually in the office under cocain anesthesia and often without assistance, relieving pus tension and offering opportunities for direct medication, also protecting the epididymis from infection, or if infected from pressure infection, as free drainage is afforded through the vas incision. In the technic of vasotomy three features are important: (1) Fixation of the vas, which otherwise may drop into the scrotum; (2) raising the vas through the skin cut for accurate manipulation; (3) exploration of vas for obstruction by sounding with a silkworm thread. When resection is performed a silk worm or catgut thread is passed into the lumen and out through the wall of each cut end and the ends tied above the skin, the thread serving as an axis splint securing exact apposition of the cut end. This method of anastomosis, devised by Mayo, should, he thinks, supersede all others. His experience has taught him the value of accurate vaccine therapy, especially with autogenous vaccine, as a constitutional aid to the local treatment. He summarizes his paper in the following conclusions: "1. Pus infection of the seminal tract plus occlusion of the ejaculatory duct soon converts vesicle, vas and finally epididymis into a closed abscess. 2. Vasotomy is the simplest and least objectionable means of evacuating pus, relieving tension and medicating vas and vesicle. 3. Among the effects of these infections on the urinary organs are bladder irritation and obstruction of the ureter with consequent kidney lesions. 4. Impotence, sterility and sexual neuroses in the male are frequent results of pus infections of the seminal tract and amenable to appropriate treatment thereof. 5. Vaccine therapy, accurately applied, is the most valuable internal measure against the infections which produce pus tubes in the male."

FACIAL TIC DOULOUREUX.

L. PIERCE CLARK and A. S. TAYLOR, New York (*Journal A. M. A.*, December 25), report a case of

true tic douloureux of the sensory filaments of the facial nerve, cured by extirpation of the geniculate ganglion. The clinical report is by Dr. Clark who points out that it has recently been proven that the facial nerve like the trifacial is a mixed nerve with its sensory root in the nerve of Wrisberg. He thinks that many of the otalgias will be proved by accurate studies to be due to disorder of this nerve. The operation is described in detail by Dr. Taylor.

TRANSPERITONEAL CYSTOTOMY.

E. S. JUDD, Rochester, Minn. (*Journal A. M. A.*, December 25), speaks of the danger of delaying diagnosis of growths in the bladder and the consequent necessity of early operation before they become inoperable, and describes his method of treatment. One of the greatest difficulties in handling a tumor at the base of the bladder where 90 per cent. of these growths begin, is the inability to get a good exposure through a suprapubic or perineal incision. The hospital staff at Rochester therefore determined to try to improve on former discouraging results by incising the bladder so as to get a good exposure of any part and doing a more radical operation. They determined to open the peritoneal cavity deliberately and pack off the intestines and omentum, preparing this area of the peritoneal cavity for resection in the bladder similar to that for resection of any organ. The patient is placed in the high Trendelenburg position and on opening the abdomen an opportunity is afforded for exploring the liver, pelvic peritoneum and lymphatics. While they have never seen an extensive involvement of the lymphatics, in one case a metastasis in the liver had already occurred and in another the condition was found on examination to make vesical operation useless. The operation is described as follows: "The intestines and omentum are packed into the upper abdomen with several large gauze pads, the packing covering the abdominal wound. The posterior bladder wall is grasped with tenaculum forceps, one on either side of the median line, and the bladder is lifted into the abdominal incision. A longitudinal incision is made in the posterior wall of the bladder, beginning on its peritoneal surface in the midline and extending well back to the base of the bladder. The urine is sponged from the bladder as soon as it is opened. This should be done carefully so as not to start a troublesome oozing. If the tumor is on a pedicle, this may be grasped by a pair of curved hemostats and excised with a cautery, leaving the cauterized surface to granulate. The area removed should include a portion of the healthy mucosa and submucosa. When the tumor has an indurated base it will be necessary to excise a portion of all the coats. At times as much as one-half of the bladder must be removed. It is essential to preserve as much as possible of the healthy tissue about the urethral orifice. If the bladder is involved at the ureteral opening after the diseased portion of the viscera is removed, the ureter is divided near the bladder and drawn into the abdomen through a perforation in the peritoneum close to the remaining half of the bladder into which it is passed and attached with catgut sutures. The peritoneum is closed over the exposed ureter in a fold, to insure rapid healing. The remaining part of the bladder is closed, and, though greatly reduced in size, will be serviceable, and as time passes its capacity will tend to increase. Having completed the intravesical part of the operation, the same technic is employed in closing the wound in the bladder as that which would

be used in repairing a wound in the intestines or stomach. The first row of sutures begins and ends with the knot inside. These are of chromic catgut placed as a running mattress or Connell stitch, including all the coats. The mucous edges are turned in, not only making an air-tight and water-tight closure, but also controlling all bleeding from the edges. This suture line is re-enforced by a linen stitch, including the peritoneum, put in parallel to the previous suture line." Judd says that it is not necessary to drain the peritoneum or the bladder unless the growth involves the ureteral opening or the prostate is removed, when it is best to establish an independent drainage through the space of Retzius after the bladder has been closed. The Rochester surgeons have operated in this way in 15 cases of tumors of the bladder with one death. In this case the patient died of uremia at the end of the first week. There was found an acute nephritis of the right kidney, the other having been disabled by an old hydronephrosis which had almost completely destroyed its parenchyma. Another patient died in 3 months of a recurrence in the peritoneum. The history of a number of these patients since operation is given. In 9 of them the pathologists reported malignant papilloma and three were of the straight carcinoma type. While not advising the transperitoneal operation in case of tumors involving the upper quadrants of the bladder, Judd and his colleagues think that it is little, if any, more risky than any other operation in the greater number of cases which begin in or near the base.

HYDROCELE.

W. BARTLETT, St. Louis (*Journal A. M. A.*, December 25), suggests as an improvement on the ordinary method of extirpation of hydrocele, the complete extirpation of the sac without opening, to avoid recurrence. A number of text-books which he enumerates have been searched for a mention of this method by the author, but without success; nor have any been discovered in the literature by his colleagues who have investigated it for him. The technic is as follows: After turning out the sac in the ordinary way, it is easy to begin its removal at the spermatic cord where the areolar tissue can be readily separated by blunt dissection. The same procedure can be performed over the whole connection between the testicle and the tumor, except at its later reflections from the testis, where some cutting must be done. A number of small blood vessels will have to be ligated. After the testicle has been replaced, metal clips are placed on the wound in the scrotum, close together, covered with powder and no dressing applied. The patient is up and about in four days and no serious post-operative effects have been observed.

ALGID MALARIAL FEVER.

T. D. COLEMAN, Augusta, Ga. (*Journal A. M. A.*, December 25), describes algid malaria, which is one of the three types into which he divides the pernicious form of malarial disease. He defines this special form as a pernicious type of malaria caused by the estivoautumnal form of the malarial parasite, characterized by profound prostration, cold and clammy skin and an unclouded intellect; this latter in strong contrast with the comatose variety of the disease. It occurs in all tropical and subtropical countries where malaria is

endemic and does not differ from other forms as to predisposition, age, sex and race. In subtropical countries it occurs chiefly in late summer or early autumn, as a sequel of more or less chronic malaria. The symptoms are described in detail. The diagnosis is made from the history and the presence or absence of cholera morbus and ptomain poisoning. Of course, the blood examination will be the surest evidence, but it may not exclude coexisting disease. Cases of reasonable doubt, however, are exceptions. The prognosis is generally grave and quinin seems singularly ineffective. He still uses it, however, hypodermically. The rest of the treatment is symptomatic and supportive. Five cases are reported, three of them personal observations, all of which were fatal, as was also one quoted from the literature.

NOTIFICATION OF ABORTION.

M. SOLIS COHEN, Philadelphia (*Journal A. M. A.*, December 25), pleads for a modification of the rule of professional secrecy in cases of abortion. In his opinion, the health authorities are the ones to receive this notification. It is not only a duty to the community but a duty of the practitioner to himself, as in criminal cases he might find himself in a very awkward position. Cohen therefore recommends to the Committee on Legislation the proposition of the enactment of a law requiring the physician or midwife attending a case of abortion, miscarriage, or stillbirth, to report such case to the proper health authorities or to the registrar, and, if there be no physician or midwife, requiring the patient, or her husband, or the householder or owner of premises, or the manager or superintendent of a public or private institution, where the abortion or miscarriage occurred, to give such notice.

THE DEAF CHILD AND THE PHYSICIAN.

J. D. WRIGHT, New York City (*Journal A. M. A.*, December 25), says that we have to deal with three classes of deaf children: (1) those totally deaf from birth or early infancy, (2) those rendered deaf by accident or disease after speech and some language had been acquired, (3) those partially deaf but with enough hearing to acquire some speech and language through shouting near the ear. The first class must be taught without the aid of the ear. The other two classes must have their speech preserved and improved by careful instruction, and all three must be educated to understand the speech of others by the eye alone or by the eye and ear. A child possessing normal speech even up to eight years of age will lose that speech and become a deaf-mute if hearing is lost and careful attention is not at once given to preserve it. The physician should therefore urge the parents to give the matter their immediate attention, as many doctors have observed that lost hearing may be unrecognized even by the parents. The child should be placed under special trained instruction at not later than six years of age, if well-developed and strong, it is better to begin at four and a half or five. The deaf child which has not acquired language at the age of twelve has a bitter and discouraging struggle ahead of it. There is still a difference of opinion as to the advisability of the oral or manual methods, but Wright believes that as good instruction can be given by purely oral means as by the other and it is now used in the majority of cases. He calls attention to

several points: "1. The education of the deaf is not a charity any more than the education of your own sons and daughters. 2. All education, and especially the education of the deaf, should be wholly and forever divorced from politics. In too many instances the guidance of institutions for the deaf is entrusted to men of political rather than educational efficiency, and changes in control are made not for the purpose of bettering the school, but for purely political reasons. This is outrageous cruelty to the helpless and dependent child, who innocently suffers for the pride or purse of the politician. 3. The great body of deaf children are bright and normal mentally, and it is unjust to compel the state institutions to include the few abnormal and feeble-minded among the bright ones simply because they are deaf. The feeble-minded deaf should be segregated and taught in schools by themselves as are the hearing feeble-minded. 4. The physician should lend his intelligent aid in placing the deaf child in the school best adapted to his needs."

BOOK REVIEWS.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY.—The New (5th) Revised Edition. Dorland's American Illustrated Medical Dictionary. A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, and kindred branches; with new and elaborate tables and many handsome illustrations. Fifth Revised Edition. By W. A. Newman Dorland, M. D., large octavo of 876 pages, with 2,000 new terms. Philadelphia and London. W. B. Saunders Company, 1909. Flexible leather, \$4.50 net; indexed, \$5.00 net.

The author of this work in his own language "has sought the middle course between the large university lexicon and the abridged students' dictionary avoiding the disadvantages of each." In the opinion of the reviewers the aim has been admirably attained. The book is large enough to meet the requirements of a dictionary without being clumsy. It contains some splendid illustrations.

THE ANNALS OF SURGERY COMPLETES ITS FIFTIETH VOLUME.

The December number of the *Annals of Surgery* (Philadelphia), which completes the fiftieth volume of that journal, is worthy of more than passing notice. It is a jubilee number, and, by its size and the character of its contents, fitly marks so important an event in its history. The cosmopolitan character of the journal is seen from the list of contributors, which comprises the leaders in surgery of England, Scotland, Denmark, France, Italy, Hawaii, Canada, and the United States.

Twenty-two articles form a number of more than four hundred pages. The illustrations,

some of which are colored, are profuse, making a volume which merits the term of a jubilee number. Such an event in the history of any medical journal is worthy of note.

PRINCIPLES OF HYGIENE.—The New (3rd) Edition. *Principles of Hygiene: For Students, Physicians, and Health Officers.* By D. H. Bergey, M. D., Assistant Professor Bacteriology, University of Pennsylvania. Third revised edition. Octavo of 555 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$3.00 net.

The author has attempted to prepare a book to meet the needs of students of medicine in the requirements of these principles on which modern hygienic practice is based. Among the first duties of a young physician are apt to be those devolving upon a health officer and he early requires a book to supplement his too often limited knowledge of the problems he meets in the office. Good text books upon this subject are few and in the judgment of the reviewer this book is a distinct addition to the subject.

OBSTETRICS IN ABSTRACT.—By William D. Inglis, A. M., M. D., Professor of Obstetrics in the Straling Ohio Medical College; Obstetrician to the Protestant Hospital of Columbus, Ohio. Medical Abstract Publishing Co., 219 Sixth St., Pittsburgh, Pa.

Books of the *multum in parvo* type are always useful as an aid to memory although somewhat dangerous for students' use. This little volume contains in vest pocket size many useful facts in obstetrical practice which are apt to escape the memory.

SECOND ANNUAL REPORT OF THE COMMISSIONERS OF HEALTH OF THE COMMONWEALTH OF PENNSYLVANIA. Samuel J. Dixon, M. D., LL. D.

This is the most comprehensive report on health matters which we have had the pleasure of reviewing. In total it covers 956 pages of closely typed, texted and tabular matter and comprises reports on the sanitary inspections of schools, division of laboratories and experiment stations, bureau of vital statistics, division of biological products and division of sanitary engineering.

The report gives the result of a tremendous amount of work and is extremely valuable. One cannot fail to be impressed with the splendid organization of Pennsylvania's Health Department.

THE MEDICAL COMPLICATIONS, ACCIDENTS AND SEQUELS OF TYPHOID FEVER AND THE OTHER EXANTHEMATA.—By H. A. Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College and Physician to the Jefferson College Hospital, Philadelphia, and E. J. G. Beardsley, M. D., L. R. C. P., Philadelphia. With a special chapter on the Mental Disturbances Following Typhoid Fever, by F. X. Dercum, M. D., Professor of Nervous Diseases in the Jefferson Medical College. Second edition, thoroughly revised and much enlarged. Octavo, 398 pages, with 26 engravings and 2 plates. Cloth, \$3.25 net. Lea & Febiger, Philadelphia and New York, 1909.

Typhoid fever will, in spite of all prophylactic measures ever be a disease of extreme importance and as refinement of diagnosis grows we shall find more and more atypical cases which escaped the less acute diagnostician of the past. A work dealing with the subject of typhoid fever will always be an important one. Nothing is more dreaded by the practitioner than the sequelae of the exanthemata. This work covers the subject clearly and concisely.

AN EPITOME OF DISEASES OF WOMEN.—By Charles Gardner Child, Jr., M. D., (Yale), Clinical Professor of Gynecology, New York Polyclinic Medical School and Hospital. 12 mo, 210 pages, with 101 engravings. Cloth, \$1.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1909. (*Lea's Series of Medical Epitomes.* Edited by Victor C. Pedersen, M. D., New York).

This little book is an admirable condensation of this subject and physicians or students who desire a brief but concise discussion of the subject will find this book meets these conditions.

INTERNATIONAL CLINICS, A QUARTERLY OF ILLUSTRATED CLINICAL LECTURES AND ESPECIALLY PREPARED ORIGINAL ARTICLES ON TREATMENT, MEDICINE, SURGERY, NEUROLOGY, PEDIATRICS, OBSTETRICS, GYNECOLOGY, ORTHOPEDICS, PATHOLOGY, DERMATOLOGY, OPHTHALMOLOGY, OTOTOLOGY, RHINOLOGY, LARYNGOLOGY, HYGIENE, AND OTHER TOPICS OF INTEREST TO STUDENTS AND PRACTITIONERS.—By Leading Members of the Medical Profession throughout the world. Edited by W. T. Longcope, M. D., Philadelphia, U. S. A., with the collaboration of Wm. Osler, M. D., John H. Musser, M. D., A. McPhedran, M. D., Frank Billings, M. D., Chas. H. Mayo, M. D., Thos. H. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D., Richard Kretz, M. D. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Liepsic, Brussels, and Carlsbad. Volume III. Nineteenth Series, 1909. Philadelphia and London: J. B. Lippincott Company.

This volume of the *International Clinics* is fully up to the standard which has been maintained by this publication. This list of con-

tributors to the volume is especially attractive and the subject contains many interesting and instructive articles.

PRACTICAL POINTS IN THE USE OF X-RAY AND HIGH-FREQUENCY CURRENTS.—By Aspinwall Judd, M. D., Formerly Radiologist Post Graduate Medical School and Hospital; Adj. Professor of Surgery of the Post Graduate Medical School and Hospital; Consulting Surgeon St. Vincent's Hospital Bridgeport; Member of the American Medical Association; Fellow of the Academy of Medicine, New York; Member of the Medical Association of the Greater City of New York, etc., etc. Published by Rebman Company, 1123 Broadway, New York.

This book is written expressly for the general practitioner who desires definite knowledge in regard to the use of the X-ray machines. It discusses the static machine and coil with accessories, giving the practical points in regard to the construction and use of both. A chapter discusses high frequency apparatus, another the X-ray tube and another the fluoroscope. These chapters treat in a most practical way the elementary knowledge of these important parts of an X-ray outfit, not only as regards the principles of construction and correct use but also their application. The final chapters deal with the therapeutic application of the X-ray, discussing briefly the various diseases in which it has been used. It is a most useful book for the physician who wishes to avail himself of X-ray in his practice but who is not familiar with the apparatus.

The Physician's Visiting List for 1910, published by P. Blakiston's Son & Co., is a model of convenience. In addition to the space for daily visits memoranda, addresses, cash, etc., there is much valuable information which includes antidotes for poisons, table of doses, both in the apothecaries' and metric systems of the more important drugs, table of incompatibilities, calendar, etc. The price of the book is \$1.

In his book on Parenthood and Race Culture Dr. Saleeby has treated the subject of Eugenics in a thorough and scholarly manner. He sees in the unlimited and uncontrolled multiplication of man a serious menace to the highest development of the race and urges that public sentiment be roused to the vital importance of the subject. "The highest form of the maintenance of the race" will be "a form in which the amount of life

shall be the greatest possible, and the births and deaths the fewest possible," but this "maximum population must be obtained by the humane and decent processes which man is capable of putting into practice." Here is the field of Eugenics, and its work is two-fold. "We are going," says Dr. Saleeby, "to have the right kind of life born, and we are going to take care of it when it is born." In a chapter on the selections of the Mind headed by the quotation "The soul of all improvement is the improvement of the soul," our author interestingly sets forth his idea that the right kind of life is that in which the mind is most fully developed. Dr. Saleeby is careful, however, to state emphatically that "to breed for brains is most assuredly to breed for body too, only that the end in view will guide as to what points of body to breed for." He holds up in short the old Roman ideal of a sound mind in a sound body. In order to obtain life that shall measure up to this ideal the Eugenist must rely upon the law of heredity and assuming that "like tends to beget like" "make parenthood the privilege of those whom we regard as inherently the best." Education has its direct bearing upon Eugenics for "no system of race-culture can ignore it or be effective without it." Education in itself does not tend to producing a better race it can only improve what heredity gives and that polish cannot be passed on to another generation. It is useful, however, in providing for the young an environment of books and cultivated people, more important for race culture would be a distinctive eugenic education which would teach the child the supreme sanctity of parenthood. It is possible to so educate that even affection itself may be incapable of arising towards an individual who affronts the eugenic sense. In all race culture motherhood must be regarded as sacred and the father must protect and care for both mother and child. Marriage is essential to highest and best development. All theories for race culture not based upon the marriage relation seem intolerable to this author.

In the second part of the book Dr. Saleeby turns from a discussion of means of encouraging parenthood of the most desirable to means of discouraging the parenthood of the least desirable. It will be necessary to determine those diseases and defects which are transmissible and to seek to prevent parenthood among those suffering therefrom. Parenthood must also be forbidden to the dipsomaniac and drunkard because

of the known effects of alcohol as a race poison. Of syphilis Dr. Saleeby says it can be rivalled by no other disease in its hideous influence upon parenthood and the future"—and marriages of this kind are criminal.

The discussion of the subject is timely and of interest to Americans who are so wide awake at present to the marriage question and to the need of revising the marriage laws. However, it is somewhat long and heavy to have much influence popularly. We think his denunciation of the present system of education somewhat severe, though here he may not have reference to American schools. His point in regard to the infertility of the woman of higher education we feel is based upon misinformation in regard to American colleges and would refer him to articles by Dr. Seeley, late president of Smith College.

On the whole the book, though heavy and verbose, is an interesting and valuable contribution to the subject of Eugenics.

WASTE OF CHILDREN'S LIVES.—About 200,000 die annually from preventable death causes.

Washington, D. C.—American race waste—more serious than race suicide—is pointed out in Census Mortality Bulletin No. 104, in which it is estimated that annually in the United States from 100,000 to 200,000 babies under five years of age die from preventable causes. This great loss of life among the little ones at the period when they are most loving and most lovable could be prevented, it is the opinion of Dr. Cressy L. Wilbur, Chief Statistician for Vital Statistics of the Census Bureau, who prepared the bulletin, on the basis of present-day knowledge of sanitary measures. For the accomplishment of effective preventive work in this direction, Dr. Wilbur holds that the prompt registration of all births and the more careful and precise statement of causes of death by physicians are essential.

In analyzing and comparing the totals obtained in the compilation of transcripts of death returns received for the year 1908 by the Census Bureau from the entire death-registration area of the United States, as set forth in the bulletin, those for age periods show a somewhat increased per cent. of deaths of infants under one year for 1908, although the ratios for each of the individual years from one to four are identical for 1907

and 1908. Of the total number of deaths, 691,574 returned for 1908 from the entire registration area, it is stated in the bulletin that nearly one-fifth were of infants under one year of age and over one-fourth of children less than five years of age. It is declared that the brute force of the figures representing the actual deaths is more impressive, however, than any ratios or than the rates of infant mortality, even if the latter could be computed in the absence of proper registration of births. Here are the figures:

More than one-eighth of a million babies, under one year of age and fully 200,000 children, under five years of age, died among about one-half of the total population of the United States in the year mentioned. It is considered probable that fully 200,000 more died in those cities and states not included in the Census Bureau death-registration area. In this connection Dr. Wilbur quotes Professor Irving Fisher's conclusion that of all the diseases of infancy, having the median age one year, 47 per cent. may be prevented; and that of the diseases of childhood having median age two to eight years, 67 per cent. may be prevented.

"It does not seem unreasonable," Dr. Wilbur states, "when we consider the fact that there is apparently no reason why infants, if properly born, and this means simply the prevention of ante-natal disease and the improvement of the health and conditions of life of their parents, should die at all in early infancy or childhood, except from the comparatively small proportion of accidents that are strictly unavoidable."

The bulletin continues with a statement that the general death rate of a country is largely dependent upon its infant mortality, because the death rates of infants and young children are high and they affect a relatively numerous element of the population. Exact study of the incidence of disease upon infancy and childhood is most important, and it is imperatively necessary that there should be more effective registration of births throughout the United States for this purpose. The extremely important ratio known as "infant mortality" is the ratio of deaths of infants under one year of age, not to population but to the number of children born alive during the year. This most important ratio should be readily available for the comparative study of deaths of infants in all of our states and cities, but, the bulletin states, in the great majority of them, unfortunately, the registration of births

is worthless, and ratios calculated upon the returns would be deceptive and unreliable.

"The possibility of great saving of human life during infancy and early childhood is emphasized by the estimates made by Professor Irving Fisher, on the basis of independent medical opinions, for his Report on National Vitality to the National Conservation Commission, as to the 'ratio of preventability (postponability),' that is, ratio of 'preventable' deaths from cause named to all deaths from cause named for certain diseases of early life.

"Out of every 100 deaths that occur from disease in which the median age at death is under 5 years, there could be prevented the following numbers: Premature birth, 40; congenital debility, 40; venereal diseases, 70; diarrhoea and enteritis, the most important cause of infant mortality, 60; measles, 40; acute bronchitis, 30; bronchopneumonia, 50; whooping cough, 40; 'croup' (which means diphtheria), 75; meningitis, 70; diseases of larynx other than laryngitis, 40; laryngitis, 40; diphtheria (under its proper appellation), 70; scarlet fever, 50.

"Other diseases especially fatal to infants and children would perhaps show equally great ratios of preventability; they do not appear in the above list because their median ages are above the limit chosen or because, as is the case with 'convulsions,' they are grouped with other and incongruous causes.

"The possible saving of life for 'general, ill-defined and unknown causes,' including 'heart failure,' 'dropsy,' and 'convulsions,' median age 35 years, is 30 per cent. The median age of 'convulsions' alone is less than one year, and it is probable that at least the ratio of preventability of diarrhoea and enteritis (60 per cent.) would apply to it. The term is an indefinite one, being expressive merely of the symptoms attending the true cause of death; nevertheless, no fewer than 6,450 deaths were compiled therefrom for 1908, although, in compilation, any other definite cause is preferred. The term is no longer employed by well-informed physicians in reporting causes of death, and it is possible, by inquiry made by the local registrar immediately after the receipt of this and other unsatisfactory statements, to practically eliminate them from the returns, as has lately been done in Chicago.

"In the light of the figures quoted above it would seem that practical sanitation has only made a beginning in the work of preventing the

occurrence of infant and child mortality. The ground has only been scratched over. Deep stirring of the soil and thorough cultivation of all the means available, with our present scientific and medical knowledge, for the guarding of young human lives would produce startling, and from all past human experience almost unbelievable results. Public health, as a function of government, is itself only a creation of the middle part of the last century, dating from the utilization of the knowledge available as a result of the operation of the English laws for the registration of vital statistics (1837). Even in England, however, no systematic efforts have been made until very recent years to utilize to their utmost possibilities the facts already known. The infant mortality of England was higher for the years 1896 to 1900 than for the years 1861 to 1865, and no marked reduction in the early rates occurs until the present decade.

"It is time that greater attention be given to the subject in the United States. The prompt registration of all births and the more careful and precise statement of causes of death by physicians are essential. Such terms as 'convulsions,' 'marasmus,' 'debility,' and the like should no longer be tolerated when the true cause of death can be determined."

ANÆSTHETIC VOMITING, TREATMENT OF.—
The most rational way to treat and prevent nausea and vomiting after anæsthesia appears to be to promote in every way the elimination of the circulating anæsthetic. That is to say, the patient should be kept warm so that the skin may act freely, and renal secretion should be helped. For this purpose saline enemata are of great value, and one should be introduced slowly as soon as the patient is back in bed. In some cases large quantities of saline solution are introduced under the skin slowly and for long periods of time after severe operations, and it is claimed that not only is shock diminished in this way, but after-vomiting is much less frequent. While elimination is thus going on, the less put into the stomach the better. There is no call for anything at all except through thirst, and this gives little trouble if enemata or subcutaneous injections are used. Washing out the mouth with lemon juice and water is pleasant for the patient, and helps to allay feelings of thirst. Preventive treatment

with glucose, based on chemical theories explaining delayed chloroform poisoning, has been given a trial at St. George's Hospital; the results do not show any marked alteration of the ordinary percentage of cases of after-sickness. J. Blumfeld (*Medical Press and Circular*, June 16, 1909.)

Dr. William Osler is always exceedingly precise in his directions to patients. He relates an experience which a brother practitioner once had which illustrates the danger of lack of precision.

A young man one day visited this doctor and described a common malady that had befallen him.

"The thing for you to do," the physician said, "is to drink hot water an hour before breakfast every morning."

The patient took his leave, and in a week returned.

"Well, how are you feeling?" the physician asked.

"Worse, doctor; worse, if anything," was the reply.

"Ah! Did you follow my advice and drink hot water an hour before breakfast?"

"I did my best, sir," said the young man, "but I couldn't keep it up more'n ten minutes at a stretch."

A "STOUT" FEE.

The following joke is from the staid old *British Medical Journal*, and as you may readily see can be understood even by an Englishman. "A medical practitioner who was attending a licensed victualer, and had brought a physician to see him, said in an undertone to the wife as they were going upstairs, that the fee would be "three guineas." After consultation as the money did not seem forthcoming, he again mentioned the fee, which was promptly paid. The doctors then prepared to depart but the lady of the house interposed and asked what was to be done with the three glasses of stout, which they now saw with surprise on the table, and which she averred that her doctor had ordered as they were going upstairs. She thought "three Guinness" was the fee—perhaps not an unnatural mistake for a publican's wife. It was a "stout", if not exactly a fat, fee.

Improper breathing is a frequent cause of consumption. A large majority of people are too lazy or too ignorant to breathe deep, and hence the lungs are developed only to part of their capacity and thus afford fertile field for the growth of the tuberculosis germ.—*Ohio State Medical Journal*.

CORDIAL FEELINGS.—In the private ward of a hospital there was recently a testy old millionaire whose case gave his physician considerable difficulty at first.

"Well," asked the crusty patient one morning, "how do you find me this morning?"

"You're getting on fine," responded the doctor, rubbing his hands with an air of satisfaction. "Your legs are still swollen; but that doesn't trouble me."

"Of course it doesn't!" howled the old man. "And let me tell you this: If your legs were swollen it wouldn't trouble me, either!"—*Exchange*.

An old couple lived in the mountains of Eastern Tennessee; he was ninety-five and she ninety. Their son, a man of seventy, died. As the old folks crossed the pasture to their cabin after the burial, the woman noticed a tear roll down her husband's cheek. She patted him tenderly on the arm and said:

"Never mind, John, never mind; you know I always said we never would raise that boy."—*Exchange*.

THE NEW YORK LYING-IN HOSPITAL reports for the year ending September 30, 1908, as follows: Cases treated—outdoor department, 3,854; indoor department, 3,485; total, 7,339. Graduate and undergraduate students from more than 50 medical colleges have taken the course offered by this hospital and have been granted diplomas during the past year. Special apartments are provided for graduates.—*Med. Review of Reviews*.

The United States vice-consul general at Yokohama, Japan, reports that, according to the revised law, physicians may not advertise in any way whatsoever their ability, method of treatment or previous career, excepting degrees, titles and specialties, and shall provide a record book of service to patients which must be preserved for at least ten years.—*Western Med. Review.*

The Tennessee State Board of Health at a recent meeting decided to isolate all known cases of pellagra now existing and those discovered in the future. The cities and counties in which the cases are found are to meet the expenses of such isolation.—*Western Med. Review.*

By order of the Secretary of the Navy, November 11, the controversy as to whether line officers or medical officers shall command a hospital ship was decided when Surgeon General Pickrell, U. S. Navy, was detailed to command the hospital ship Solace.—*Western Med. Review.*

ANTIRABIC VACCINATIONS IN THE PASTEUR INSTITUTE IN THE YEAR 1907.—During the year 1907 antirabic treatment was administered to 786 individuals in the Pasteur Institute, three of whom succumbed to rabies, constituting a mortality of 0.38 per cent.—*Med. Review of Reviews.*

OPENING OF THE AMERICAN HOSPITAL IN PARIS.—On October 28 took place the official opening of the American Hospital at Neuilly-sur-Seine (one of the suburbs of Paris), Boulevard du Château 55, in the presence of M. Doumerque, Minister of Public Instruction; Messrs. Henry White, United States Ambassador; John J. Hoff, vice-president of the council of administration; the members of the board of directors and the medical staff. The hospital contains 25 beds in separate rooms, with bath-rooms, the equipment being according to the latest hygienic requirements. The hospital, which was founded by certain Americans residing in

Paris, will receive in the first place sick and needy Americans, who will be cared for free. Well-to-do Americans may likewise be cared for; from these the hospital will exact no fixed charges, but will receive donations toward the general fund. Two beds will be reserved for emergency cases without regard to the nationality of the patient.—*Med. Review of Reviews.*

PRIZE FOR WORK ON TYPHUS FEVER.—The Mexican Government has authorized the National Medical Academy to announce a typhus prize fund of \$25,000 (50,000 pesos); \$10,000 will be awarded to the discoverer of the cause of exanthematous typhus, and \$10,000 for the discovery of its mode of transmission or a curative serum, and \$5,000 to the investigator whose work is judged most useful in helping toward such a discovery. The competition is international, but all articles must be in Spanish and be in the hands of the secretary of the Academia N. de Medicina, Mexico, before February 28, 1911.—*Med. Review of Reviews.*

AN EPITAPH.—*Editor Medical World:*—Here is an epitaph which a correspondent of the *Atchison* (Kan.), *Globe* avers that he saw on a moss-grown tombstone:

"Here lies my wife, Samantha Proctor,
Who ketched a cold and wouldn't doctor.
She couldn't stay, she had to go—
Praise God, from whom all blessings flow."

Let this be a warning to others not to refuse to "doctor."
J. F. STRONG.

Mount Zion, Iowa.—*Exchange.*

OCCURRENCE OF LEPROSY IN THE UNITED STATES.—There are reported (1909) 139 cases from the States, 764 cases from Hawaii, and 2,330 cases from the Philippines. The cases in the States occur from four zones: (1) the *Atlantic seaboard*, 17 cases—probably due to commercial relations and immigration; (2) the *Gulf coast*, 82 cases—50 in Louisiana—an endemic area of the disease; (3) the *Pacific coast*, 21 cases—cause probably same as on Atlantic coast, and (4) the *North central zone*, 18 cases, originally

due to emigration from a leprous country, now a small endemic focus but under control and dying out. Thus it is seen that aside from sporadic cases, leprosy has practically one endemic center in the United States—the Gulf Coast.—*Colorado Med.*

WHY?—It was a gala occasion at the school, and the young lady principal was very anxious that her pupils should show off to the best advantage before the many ladies present.

So to the first scholar she said:

“Now, Grace, where was Mary, Queen of Scots, born?”

“At Linlithgow,” answered the pupil.

“And why was Mary born there?” asked the teacher.

And sweet little Grace promptly answered:

“Because, ma’am, her mother was staying there.”

THE DEFECTIVE CHILD.—The defective school child has recently been made the subject of an important investigation in Germany. In striking contrast to the tardiness with which New York City has awakened to the necessity of establishing special schools for defective children, Germany had already set a good example, for in 1905 there were 230 such schools in 150 German provinces, registering 15,000 children. That this enormous material furnished an enviable opportunity for studying the origin and antecedents of the various forms of degeneration encountered early in life was fully emphasized seven years ago by the illustrious psychiatrist Kraepelin, and has recently led to some important researches conducted by Eugene Schlesinger (*Archiv f. Kinderheilkunde*, Vol. 16, No. 1).

ADENOIDS IN INFANCY.—R. G. Freeman, New York (*Journal A. M. A.*, August 21), criticizes the neglect of adenoids in early infancy as they interfere with the proper development of the child by reflex action, by the irritation they produce and the obstruction they cause. The post-nasal pharynx at birth is a space only one-quarter

inch high by one-third inch wide, so that a very slight adenoid hypertrophy at this period will cause obstruction. At the end of the first year it is nearly doubled in size. It often produces symptoms in the first days of life and the mistake is sometimes made of diagnosing specific disease. The snuffles are specially marked while the child is nursing and result from an adenoid which produces irritation, and if large enough to obstruct the pharynx, there is mouth breathing. Other causes may produce mouth breathing but adenoids do so most frequently during the first year of life. A third indication of the condition is the appearance of recurrent colds which during the first year are usually caused by adenoids. Another most characteristic sign is the persistent cough, sometimes simulating whooping cough, without any other indication in the pharynx or bronchi to account for it. A fifth and most dangerous condition is otitis media. It is not always easy in a very young infant to determine the presence of adenoids, but it can be done by rapid manipulation. The right index finger being rapidly passed into the mouth while the jaw is held open by the ends of the fingers of the left hand pressing on the teeth, the rough surface of the adenoid can be detected by the skilled physician and sometimes so quickly that the baby does not even cry. He describes the operation of removal of the adenoids, which he says can be done quickly without an anesthetic and with very little shock or lasting fright. If an anesthetic is used it should be nitrous oxid and only enough to produce primary anesthesia and the parents should be warned of the possibility of a lymphatic constitution and the dangers of anesthesia in that case. In conclusion he says that adenoid hypertrophy which causes persistent symptoms should be operated on as early as the third or fourth month of life. The operation should be done rapidly and without an anesthetic.—*Med. Sentinel.*

The third case of bubonic plague contracted by a human being in the State of California during the last three months was reported to the State Board of Health, November 6, from Oakland. The victim is a butcher who became infected through eating squirrels.—*Western Med. Review.*

BEQUESTS OF THE LATE JOHN STEWART KENNEDY.—Among the deaths from whooping-cough during the month was that of the well-known financier and philanthropist, John Stewart Kennedy, who died on October 31 from that disease, after an illness of two weeks, at the age of nearly 80. Mr. Kennedy took special interest in the Presbyterian Hospital, of which he was president for over 25 years, and visited the institution nearly every day. In 1901 he gave \$400,000 for the erection and endowment of a home for its nurses, and last year made a gift of \$1,000,000 for the general purposes of the hospital. In his will, the contents of which were made known on November 5, he leaves one-half of his great fortune of \$60,000,000 to American Institutions. Among the larger bequests are the following: Presbyterian Hospital, \$2,250,000, and to Columbia University, \$2,250,000. Among the smaller bequests are \$100,000 each to Yale University and a number of colleges, \$25,000 to the New York Infirmary for Women and Children, \$10,000 each to the Manhattan Eye and Ear Hospital, the New York Orthopædic Dispensary and Hospital, the Home for Incurables, the New York Society for the Relief of the Ruptured and Crippled, and the Alumnae Association of the Presbyterian Hospital, and \$5,000 to the Bar Harbor (Maine) Medical and Surgical Hospital.—*Med. Review of Reviews.*

PATIENT.—Oh Doctor! I am sorry you have had to come so far from your regular practice to see mother.

DOCTOR.—That's all right. I have another patient in the neighborhood, so I can kill two birds with one stone.—*Exchange.*

Professor Cozzonno, of Naples, has founded a two hundred dollar prize to be awarded for the best work on the treatment of progressive deafness or a mechanical device for relieving it. The prize is to be awarded at the International Congress of Otology, to be held in 1912, at Boston.—*Jour. Ophthalmology and Oto Laryngology.*

HIS NEW BROTHER.

Say, I've got a little brother,
Never teased to have him nuther;
But he's here.
They just went ahead and bought him,
And last week the doctor brought him—
Wa'nt that queer?

When I heard the news from Molly,
Why, I thought at first 'twas jolly,
'Cause, you see,
I s'posed I could go and get him
And then, mamma, course, would let him
Play with me.

But when I had once looked at him,
"Why!" I says, "My sakes, is it him?
Just that mite!"
They said, "Yes," and "Ain't he cunnin'?"
And I thought they must be funnin'—
He's a sight!

He's so small, it's just amazin',
And you'd think that he was blazin',
He's so red;
And his nose is like a berry.
And he's bald as Uncle Jerry
On his head.

Why, he isn't worth a dollar!
All he does is cry and holler
More and more;
Won't sit up; you can't arrange him—
I don't see why pa don't change him
At the store.

Now we've got to dress and feed him,
And we really didn't need him
More'n a frog;
Why'd they buy a baby brother
When they know I'd good deal ruther
Have a dog!

—Joe Lincoln in *L. A. W. Bulletin.*

According to the *London Times*, at the second international conference on leprosy, held at Bergen last summer, Dr. Amaner Hansen, the discoverer of the leprosy bacillus and president of the conference, declared in a personal statement to Dr. Henry Shively, the delegate from New York, "that he had found the bacillus of leprosy in a section removed from the skin of John Early,

an American soldier, who contracted leprosy in the Philippines, the specimen having been sent by Early's wife for examination." The controversy regarding this famous case may now be regarded as definitely settled. According to the highest authority Early is a leper, and the decision of the Washington officials is sustained, the clinical and laboratory diagnosis of Professor Ehlers, of Copenhagen, which was disputed, also being fully corroborated.—*The Post Graduate*.

DIAGNOSIS OF LEAD POISONING.—The presence of basophile granules in the red cells is an early and extremely valuable sign of lead poisoning. A. Trautmann finds that these granules occur in anemia as well as in perfect health, but more than one hundred granular cells to the million is certainly rare. Twelve cases of undoubted lead poisoning were examined, and each showed over one hundred granular cells to the million. The actual percentage is subject to slight changes, hence it is often advisable to make two or more examinations of the same case. It would be most desirable to make regular examinations of all individuals coming into contact with lead, as intoxication could thus be prevented.—*Muench. Med. Woch.*

HEART TROUBLE.

"I don't like your heart action," the doctor said applying the stethoscope again. "You have had some trouble with angina pectoris."

"You're partly right, doctor," said the young man sheepishly; "only that ain't her name."—*Lippincott's*.

The first case of bubonic plague to be discovered in the State of California for a year was discovered in Alameda county, August 6. The patient, a boy of 13, is supposed to have contracted the disease through handling infected squirrels killed by him, on a hunting trip. In consequence of this case, there is renewed activity in the campaign of extermination against the ground squirrel.

THE MILKY WAY.

To boil or not to boil, that is the question;
Whether 'tis nobler, recklessly to swallow
The germs and toxins of raw lacteal blend,
Or to take arms against this sea of microbes,
And, by parboiling, end them? To pasteurize—
No more, the doctors cry, nor sterilize,
For thus we slay the thousand healthful germs,
That milk is heir to; 'tis consummation
Devoutly to be avoided. Thus would they lull
Our fears to sleep. We dream; aye, there's the
rub,

For in that sleep of dreams, what rude alarms
Awaken us! The milkman's morning call
Disturbs our rest. There stands the milk,
A bottled menace unto human life.
Yet must we pay for quarts of bev'rage which,
With germs benign, is mixed the contumely
Of rural scorn for hygienic laws,
And city dealers' dash of formalin,
Put in to lower the count bacterial.
Inspection does not make cowards of us all;
And thus the native hue of bovine milk
Is sicklied o'er with the pale cast of doubt.
From Cow to Milch Goat let us turn our
thoughts,

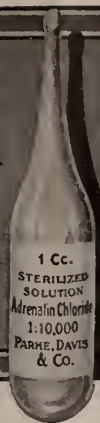
To Nanny, late despised, but now the queen
Of rediscovered country, that fair realm
Of capriculture, whence her lacteal yield
Gives health and strength from infancy to age.
—A Caprine Soliloquy by Julia Harries Bull in
Good Housekeeping.

Tuberculosis among the insane is very prevalent. The lowest estimates show that 5 per cent of all the inmates of hospitals for the insane in the United States have tuberculosis, while in some cases the rate is over 20 per cent.—*Ohio State Med. Journal*.

According to United States Consular reports, the tuberculosis death rate is twice as large in Syria and Turkey as it is in the United States. There is only one special hospital for this disease in the entire Ottoman Empire.—*Ohio State Med. Journal*.

In the prisons of Bengal, India, tuberculosis kills about two persons in every one hundred.—*Ohio State Med. Journal*.

Adrenalin Ampoules



AMPOULES OF

Adrenalin Chloride Solution, 1:10,000

(1 Cc. GLASS CONTAINERS)

FOR HYPODERMATIC INJECTION.

The most powerful of astringents and hemostatics, Adrenalin Chloride Solution lends itself to many practical uses. Since the time of its introduction it has been marketed in ounce vials, and of the strength of 1:1000. Experience has shown, however, that a weaker solution is much more frequently required than the "full strength"; and while it is generally an easy matter to dilute with water or normal saline solution, in certain emergencies an already fully diluted preparation is to be preferred. For hypodermatic injection the small hermetically-sealed package will be found of great convenience.

SOME INDICATIONS FOR THE HYPODERMATIC USE OF ADRENALIN CHLORIDE SOLUTION.

Shock	Postpartum hemorrhage
Cardiac and vasomotor asthenia	Asthma
Inaccessible hemorrhages	Osteomalacia
	Whooping-cough

DIRECTIONS—Break off the neck of the ampoule at the file-mark, as shown in the illustration. Use an ordinary hypodermatic syringe. Insert the point of the needle behind the shoulder of the ampoule—*not to the bottom*. (See cut.) Elevate the bottom of the ampoule as the piston of the syringe is withdrawn, and the contents can be removed to the *last drop*.

Marketed in boxes of 1 dozen.

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Laboratories: Detroit, Mich.; Walkerville, Ont.; Hounslow, Eng.

Branches: New York, Chicago, St. Louis, Boston, Baltimore, New Orleans, Kansas City, Minneapolis; London, Eng.; Montreal, Que.; Sydney, N.S.W.; St. Petersburg, Russia; Bombay, India; Tokio, Japan; Buenos Aires, Argentina.

THERAPEUTIC NOTES.

THE SOOTHING OF A RASPING COUGH.—The soothing of the rasping cough of bronchitis, without resort to some form of opium, is one of the features of daily practice that will contribute to a doctor's success. For relieving this harassing cough Cordial of the Extract of Cod Liver Oil Compound (Hagee) is being largely prescribed, and with the fullest measure of success. It is particularly adapted for use in these bronchial catarrhs, not alone for its relief of the urgent symptoms but also by reason of its protecting influence against further extension of the bronchial inflammation and chronicity.

RELAXED CONDITION OF UTERUS OR APPENDAGES.—Physicians are frequently consulted in regard to various disorders, largely dependent upon a relaxed condition of the uterus or appendages, which is frequently accompanied with neurasthenic symptoms and are in a congested and engorged state, rendering these organs painful and by their pathological condition very detrimental to the general health of the patient. Many women thus affected object to local treatment which frequently places the physician in an embarrassing attitude, and he is perplexed to inaugurate a treatment satisfactory both to himself and patient. He feels the necessity of certain drugs which are known to exercise a beneficial soothing tonic effect on the female reproductive organs. In many cases of dysmenorrhea, uterine leucorrhea, menorrhoea or urethritis, before he can confidently rely upon permanent beneficial results from any local treatment it is necessary to control by the administration of certain internal remedies, those symptoms which are neurasthenic in character and which are insidiously but surely undermining the constitution. For the purpose of at least soothing and controlling these pelvic neuralgias the most satisfactory results in such cases can be obtained by the administration of Dioviburnia, two parts, combined with Neurosine, one part. You can depend upon your patients returning and expressing themselves that the medicine you dispensed caused their nervousness, etc., to abate and requesting of you some of the same. Doctor, give this combination a trial.

INTESTINAL ANTISEPTICS IN TYPHOID FEVER.—The method that has been most successful in our hands is thorough purgation as soon as the case presents itself, followed closely with large doses of an intestinal antiseptic, with restriction of all food for at least twenty-four hours, or even longer if nausea is caused by feeding. The means for purgation is best found in 5 to 10 grain doses of calomel and soda followed by a sufficient saline. In our opinion equally free purgation without drastic action and intestinal irritation may be produced with small doses of calomel, 1-6 grain each, preferably given with podophyllin and Bilein, so as to stimulate the deputative action of the liver. Try "Calomel, Podophyllin and Bilein Comp." The treatment may be repeated if necessary.

For an antiseptic to the bowels the sulphocarbolates have proved the most efficient. Turpentine, however, is a splendid second and we find it very serviceable as an adjunct treatment in both children and adults.

For grown people the triple sulphocarbolates, as prepared in tablet form and called the W-A Intestinal Antiseptic, have been very useful in our experience. In children the sulphocarbolate of sodium is the most palatable and can be given dissolved in water and added to glycerin.

The bowels should, at all times, be left in a lax condition by the use of calomel (with the morning dose of Saline) especially if the combined sulphocarbolates are given, as the sulphocarbolate of zinc is quite astringent in character.

If intestinal antiseptics is pushed to the limit very little if any diarrhea will follow and the danger of hemorrhage will be reduced to the minimum. A filthy bowel predisposes to bacterial development and frequent watery stools. Ulceration is probable, with more or less hemorrhagic conditions.

The degree of fever in typhoid is indicative of the profundity of the local condition and the amount of absorption of bacteria and their products, into the general circulation. The rise of temperature should be controlled by the bath, and elimination of poisons through the skin, kidneys and bowels.—Dr. O. B. Hall in *The Medical Era*.

THE CHILD THAT FAILS TO THRIVE is one of the many troublesome and vexatious clinical puzzles that the family practitioner is called upon to solve.

Malnutrition, slow growth and development, sluggish metabolism, unusual susceptibility to digestive and respiratory disorders, mental dullness, physical lassitude and lack of snap and ambition, constitute a clinical picture that every physician of experience will readily recognize.

To arrive at any definite determination in regard to the treatment of such a patient, a careful and thorough physical examination is essential in order that any of the causes which act reflexly through the nervous system may be discovered and properly dealt with—Post-nasal adenoids, a redundant prepuce, ascarides, eye strain, as well as other local irritations, may be more or less responsible for the child's backwardness, both mental and physical; constitutional diatheses, such as syphilis, tuberculosis and lithemic states, should also be looked for and intelligently treated. After the discovery and removal of the cause, tonic and reconstituent treatment is almost invariably indicated and among the reconstructives especially adapted to the delicate digestive organs of the under-nurtured child, Pepto-Mangan (Gude) is easily first. Its iron and manganese content exists in organo-plastic combination with peptones, and the preparation, as a whole, is so pleasant and readily tolerable as well as immediately and wholly assimilable, that children of all ages take it readily and benefit materially from its corpuscle-building and hemoglobin-contributing power. Unlike most iron-containing remedies, it does not injure the teeth or cause constipation.

PRURITUS REMEDIES THAT WORK.—Pruritus of the skin, anus or vulva, especially when attended by scaling of the skin of the hands or feet, may be invariably set down as due to autotoxemia from fecal absorption. This condition is admirably met by the following combination: Juglandin gr. ¼, to stimulate secretion, relieve costiveness, and favor the loosening of fecal matter adherent to the coats of the bowels;

physostigmine gr. 1-250, to stimulate peristalsis and the ejection of fecal matter; berberine gr. $\frac{1}{4}$, to induce contraction of the relaxed and dilated bowel. This dose should be given from three to seven times a day (with the morning Salithia flush) and continued as long as the necessity exists.

Much better results will be obtained from such application of exact remedies to meet the conditions they exactly remedy than from the ignorant combination of cathartics without regard to the specific action of each, and the administration of such remedies in very large doses which soon exhaust the irritability of the intestines and require constantly increasing doses with constantly decreasing effects.

In persistent anal pruritus, usually dependent upon internal "piles" the Hybisco Ointment (Abbott) will be found an excellent thing.

All these remedies may be obtained of The Abbott Alkaloidal Company, Chicago.

ADRENALIN IN A NEW PACKAGE.—In addition to the ounce vials in which it has hitherto been supplied, Adrenalin Chloride Solution is now being marketed in hermetically sealed glass containers of 1 cubic centimeter capacity. "Adrenalin Ampoule" is the name used to designate the new package, and the solution is of the strength of 1 to 10,000 (one part Adrenalin chloride to 10,000 parts physiologic salt solution). In their announcement of the ampoule, Parke, Davis & Co. have this to say:

"Adrenalin Chloride Solution has become a necessity in medical and surgical practice. The most powerful of astringents and hemostatics, it lends itself to many practical uses and at little risk of injury in reasonably careful hands. Since the time of its introduction it has been marketed in ounce vials, and of the strength of 1:1000. Experience has shown, however, that a weaker solution is much more frequently required than the full strength; and while it is generally an easy matter to dilute with water or normal saline solution, in certain emergencies an already fully diluted preparation is to be preferred. While the danger of deterioration from occasionally opening a vial containing a solution of Adrenalin Chloride is not great, still, in consideration of the fact that a dose is needed now and then for hypodermatic injection, it is believed that the small hermetically sealed package will be welcomed because of its greater convenience and security."

As will be apparent from the foregoing, the Adrenalin Ampoule is intended for hypodermatic use. It should be of great value in such emergencies as shock, collapse, hemorrhage, asthma, etc., or where prompt heart-stimulation is desired.

Two young physicians, Mr. and Mrs. Wm. Cammack, who are at work in Chisamba, West Africa, performed their first hernia operation on a schoolroom table. The sheets, towels and sponges were sterilized by boiling in a galvanized tub, which was the only thing available as a sterilizer; they had to be used wet as they could not be dried without danger of soiling them



K.G.D. DOUCHE FOR THE APPLICATION OF
GLYCO-THYMOLINE TO THE NASAL CAVITIES

GLYCO- THYMOLINE FOR CATARRHAL CONDITIONS

Nasal, Throat

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Toronto, Ont., Can.
Winnipeg, Manitoba.
London, Eng.

again. The native helper, who speaks a little English, stood by during the performance and helped carry the patient, still unconscious, to his room and bed. In describing the scene afterward to a group of astonished listeners he said: "I saw—I saw—I saw him die. When we carried him home he was still dead, and I never thought he would live again." Dr. Cammack said that people came from far and near to look at the man, who was as much a walking miracle to them as the man the Savior restored to his mother from a funeral bier was to the people of his day and age.

In Germany there are 99 public sanatoria for adult consumptives with 10,539 beds, besides 36 private sanatoria with 2,175 beds. In 18 sanatoria for children with tuberculosis there are 837 beds, a total of less than 13,000 beds. In the United States there are over 300 sanatoria with over 15,000 beds, showing that this country is in the lead in the Anti-Tuberculosis war. France has only 12 sanatoria for adult consumptives, with a total capacity of 148 beds. All of these institutions are private except the sanatorium at Agincourt.—*Ohio State Med. Journal.*

The United States government operates three tuberculosis sanatoriums, one for soldiers and officers of the regular army at Fort Bayard, N. M.; one for seamen in the merchant marine, and others employed in coast service of the government, not in the navy, located at Fort Stanton, N. M.; and one for officers and enlisted men in the navy at Los Animas, Cal. The first hospital

is conducted by the Department of War; the second by the United States Public Health and Marine Hospital Service, and the latter by the Navy Department.—*Ohio State Med. Journal.*

THE FIRST PHYSICIAN.—The first physician of whom we have any definite record is evidently I-em-Hetep, who lived in the reign of King Tchser, a monarch of the Third Dynasty of Egypt, the date of whose reign is somewhat uncertain, but is probably not later than 4500 B. C. In the light of recently awakened interest in psychotherapeutics and the use of the mind to influence the body, it is extremely interesting to note that his name, I-em-Hetep, means "the bringer of peace." According to tradition, he had two other titles, one of which was "The Master of Secrets," and the other "The Scribe of Numbers." The reference embodied in the first of these titles is easy to understand. The second is less easy of comprehension. Perhaps the writing of his prescriptions required an unusual knowledge of numbers in those days, for even at that time the Egyptians had a great many remedies that they employed for diseases of various kinds and many methods of administering them. He seems to have been held in high honor by his generation and to have received ample rewards for his professional work, for the well-known "step pyramid" at Sakkara, the old cemetery near Memphis, is attributed to him, showing that he was only next to the king in honor and also very probably in revenue.

Even more interesting than this, however, is the honor that was paid to him after death. Men had learned to trust him so much, they had come

to realize how thoroughly he fulfilled his name, the "bringer of peace," and how often he had helped them in suffering, that after his death they concluded that he must have had more than human knowledge and so they made a deity of him and worshipped him. While doing this they were careful however, to maintain his humanity as the principal element for their revenue. While they made statutes of him, these never have a beard, which was the distinct mark of divinity at that time. He is represented as a placid-looking man seated with a scroll on his knees and a look of very sympathetic humanity on his face. For over four millenniums he continued to be held in high honor among the Egyptians, and the hospitals erected in various places were always placed under his protection.—Editorial in *Journal of the American Medical Association*.

Dr. Bertillon, the eminent French vital statistician, has shown that tuberculosis is twice as prevalent among the retail liquor dealers of France as among other shopkeepers. He attributes it to the fact that the alcohol which they handle and use all day long weakens their bodies and thus renders them more susceptible to the disease germ.—*Ohio State Med. Journal*.

Statistics published by the Imperial Gazette show that in recent years there has been a steady decrease in the number of deaths in Germany from tuberculosis, and especially from tuberculosis of the lungs. In urban centers the death rate per 100,000 fell from 226.6 in 1903 to 192.15 in 1908.—*Ohio State Med. Journal*.

Letters and mail-bags are frequent carriers of tuberculosis. According to testimony recently given before the Postal Commission of the British Empire, during the last twenty years, eighty per cent of the deaths among letter sorters had been due to consumption by the men after they had entered the service.—*Ohio State Med. Journal*.

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For
**AMENORRHEA
DYSMENORRHEA
MENORRHAGIA
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ERGOAPIOL (Smith) is supplied only in packages containing twenty capsules.

DOSE: One to two capsules three or four times a day. < < <

SAMPLES and LITERATURE SENT ON REQUEST.

MARTIN H. SMITH COMPANY, New York, N.Y., U.S.A.

AN APPENDICITIS DINNER.—Appendixless hosts give a banquet to Dr. Deaver, the man who made appendicitis famous.

So there is something in the fashionable appendicitis fad after all. Hitherto we had supposed it to be a pleasant little trade-trick of our friends, the doctors, whereby, in one fell swoop, they could slyly and gracefully separate us from both our little appendix and our big money, but now we know better. It is something infinitely more than this. For we've recently heard of an exalted privilege which only the select few, those relieved of their superfluous vermiform adjuncts, can ever hope to enjoy; to wit, the privilege of being eligible as guests for "appendicitis dinners."

Now and then we put ourselves on record as acknowledging much-maligned Philadelphia arouses from her perpetual slumber. She woke up a few weeks ago and startled the country by originating the idea of a feast of the aforesaid

nature. It fell about in this manner. The man who made appendicitis famous, Dr. John B. Deaver, chanced to reside in that somnambular city, albeit the gentleman himself is a very wide-awake individual. For a quarter of a century he has been surgeon-in-chief at the German Hospital, prior to which he conducted clinics at the University of Pennsylvania, where he taught budding M. D.'s just what liberties they could and could not take with other people's anatomies.

In those twenty-five hospital years the Doctor grew exceedingly learned about removing the organ that has made life a vale of tears for many a poor mortal. He is, in fact, the father of the operation, and his treatise is the world's authority on this particular disease. Its title slips our mind for the moment, but that so eminent a volume shall not go titleless we will amuse ourselves for the nonce by calling it "Appendixes I Have Met." That, no doubt, will give you some notion of its scope.

Now so great has the Doctor's fame become, and so monumental has been his service in behalf of suffering humanity, that some 150 grateful souls gave him a banquet the other day. And mark you this: every man Jack in the crowd was minus his appendix, thanks to the Doctor's skill at carving. They were for the most part physicians, leaders in their profession, and they came from almost every state in the Union just to pay homage to the guest of honor. They could, of course, very well indulge in such things as railway fares, seeing that it was probably the Doctor himself who initiated them into the secret of plucking fat fees.

A jolly and appreciative aggregation it was, and it ought to have been, considering the fact that these appendixless entertainers might all have had their careers brought to an abrupt and painful termination had not the man at the head of the table helped them over a tight place. At the affair, in addition to the 150, were a few specially invited guests, who, although they bore upon their persons marks of the Doctor's knife inflicted in some delicate operation, were still unfortunate enough to be burdened with their appendixes. These gentlemen, we are informed, spent a very unhappy evening, for they were looked down upon with ill-concealed scorn by those who had no such a useless and annoying physiological feature.

We are also informed that the occasion was one where all hands proved good trenchermen,

which was the reverse of the case in the famous story told by the late Senator Hoar. On learning that a friend had stomach trouble instead of appendicitis, as first feared, the Senator remarked, "I am glad to hear that the difficulty is in the table of contents and not in the appendix."

A physician took it into his head to go hunting, says the *Boston Herald* and started out bright and early on a beautiful October morning fully armed for game.

About four o'clock in the afternoon he returned tired out and empty-handed, telling his wife he hadn't killed a thing, whereupon she remarked triumphantly:

"I told you so," adding in the next breath, "If you had stayed at home and attended to your legitimate business you might have been more successful."

TREATMENT OF PELLAGRA.—Much interest has been aroused during the last two years in the subject of pellagra. A study of the disease in the United States has thus far shown that it is widely distributed throughout the South, and present in some localities in the North. The question of prognosis and treatment is naturally, therefore, one of much interest. Dr. C. H. Lavinder, of the Public Health and Marine Hospital Service, who for more than a year has been devoting his time to a study of the disease, has in a recent article* given a brief review of the subject.

He states that the prognosis must invariably be considered as grave, and that complete recovery can seldom be assured. Reliable statistics on the subject in the United States are practically limited to asylum cases, and give a mortality of 67 per cent. It must be borne in mind, however, that asylum cases are undoubtedly the more advanced and hopeless ones, and for that reason will give a mortality much above the average. Lombroso gives statistics of hospital cases in Italy in 1883 and 1884, showing a mortality of 13 per cent., whereas Wollenberg gives Italian statistics for 1905 showing a mortality of a little

*Public Health Reports, September 10, 1909. Copies of this article can be obtained by making request to the Surgeon-General, Public Health and Marine Hospital Service, Washington, D. C.



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over 4 per cent. The disease resembles tuberculosis, both in that it is an insidious and chronic condition, and that much depends upon early diagnosis and treatment, prognosis of early cases being far better than advanced ones. The importance of this is apparent when it is considered that the disease is an intoxication, and that it is probably associated with diseased corn or corn products used as food.

Predisposition is believed to be an important factor in this disease. Lowered physical resistance, mental worry, insufficient food, bad housing and alcoholism are supposed to render one more susceptible.

In Italy laws have been passed regulating the use and storing of corn and its derivatives, institutions have been established for the care and treatment of pellagrins, improved agricultural methods are encouraged and assistance is given to the sick in many ways by the government.†

In the treatment of patients Lombroso recommends a liberal diet; in some cases he uses baths and cold douches, believing them to be of benefit in certain cases with nerve and skin manifestations; he has found arsenic a valuable remedy, and sodium chloride of service.

Some authors have reported good results from the use of the newer arsenical preparations atoxyl and soamin.

Transfusion of blood from cured cases to the sick has been tried, and may prove of value.—*From the office of the Surgeon General, P. H. and M. H. S.*

†Public Health Reports, July 23, 1909, pp. 1053-1054.

The "Don't Spit On the Floor" signs are to be seen in the street cars of most large cities and seem to have had a measure of effect. The most repulsive effect has been observed in the recesses which admit the car window when lowered.

This is even worse than the floor and should be treated accordingly.

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RULES OF HEALTH.

(From "Poor Richard's Almanack," by Benjamin Franklin.)

Eat and drink such an exact quantity as the constitution of thy body allows of, in reference to the services of the mind.

They that study much ought not to eat as much as they that work hard, their digestion being not so good.

The exact quantity and quality being found out is to be kept to constantly.

Excess in all other things whatever, as well as in meat and drink, is also to be avoided.

Youth, age and sick require a different quantity.

And so those of contrary complexions; for that which is too much for a phlegmatic man, is not sufficient for a choleric.

The measure of food ought to be (as much as possibly may be) exactly proportionable to the quality and condition of the stomach, because the stomach digests it.

That quantity that is sufficient, the stomach can perfectly concoct and digest, and it sufficeth the due nourishment of the body.

A greater quantity of some things may be eaten than of others, some being of lighter digestion than others.

The difficulty lies in finding out an exact measure; but eat for necessity, not pleasure; for lust knows not where necessity ends.

Wouldst thou enjoy a long life, a healthy body, and a vigorous mind, and be acquainted also with the wonderful works of God, labor in the first place to bring thy appetite to reason.

HABITUAL CONSTIPATION.—Dudley Roberts, of Brooklyn, N. Y., treats constipation by finding out the causative factors and remedying them. There is no panacea for habitual constipation. The passage of the food through the bowels is accomplished by two mechanisms, reflex movements of the colon down to the sigmoid, and voluntary movements in the rectum. The stimulus to the reflex mechanism is given by the chemical irritation of the intestinal contents and the stretching of the intestine by gas and liquids. Peristalsis comes from centers in the spinal cord. Emotions may affect them. The sigmoid and rectum form a collecting reservoir;



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states of fulness cause a desire to empty the bowel. Here voluntary effort has its part. We must determine the site of failure to act in order to cure constipation. The study of the colon involves palpation of its parts and study of size, condition, and fulness of these parts. Digital examination of the rectum after a day without cathartics will show whether the mechanism of defecation is faulty by the presence of soft feces in the rectum. If the trouble is higher up the rectum will be empty. The color, form, and consistency of the stools give information, with chemical and microscopical examination of them. Disturbances of defecation may be neurotic, or they may be caused by pain in evacuation, or a tight anal muscle. Failure of the muscles of defecation may be the result of stretching of the abdominal walls. Exercises of these muscles are most valuable. Anal abnormalities, fissures, and hemorrhoids will cause constipation by pain and spasm of the muscles. The colon peristalsis may be at fault. Constipation may be the result of underfeeding, or sedentary habits, or of enteroptosis. The colon may be atonic or spastic. Each one of these conditions has its appropriate remedy, which the author outlines.—Medical Record.

The District of Columbia and seventy-four registration cities in non-registration states, together with the registration states made up the aggregate registration area for 1908, whose total estimated population for the year was 45,028,767 or over one half (51.8 per cent) of the total estimated population of the continental United States, which was 86,874,990. The addition of Ohio for the year 1909 has still further increased the percentage of the population reporting to 55.2 per cent., and other areas may be included for the calendar year 1910, for which direct comparisons of the mortality statistics can be made with the population enumerated by the Thirteenth Census.

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The death rates of the individual registration states vary for the year 1908 from 18.4 for California to 10.1 for South Dakota. Dr. Wilbur points out that the total variation is less than that among the great towns of England and that the range of mortality is not excessive.

With the exception of South Dakota, all the registration states for which data are presented for more than a single year, show lower rates for 1908 than 1907, and in several instances the rates for 1908 were the lowest on record, at least since fairly accurate registration has been in effect. For Massachusetts a comparison of the rates given in the state reports since 1851 shows that, with the single exception of the rate (16.3) in 1904, the rate (16.5) in 1908 is the lowest.

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¶ It is the same pleasant, gentle laxative, however, which for many years past physicians have entrusted to domestic use because of its non-irritant and non-debilitating character, its wide range of usefulness and its freedom from every objectionable quality. It is well and generally known that the component parts of Syrup of Figs and Elixir of Senna are as follows:—

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COMPENSATORY ALBUMINURIA: A CONTRIBUTION
TO THE STUDY OF CLINICAL ALBUMINURIAS.

Heinrich Stern of New York says that albuminuria can occur without kidney disease. Structurally sound renal membranes permit the passage of albumin from the blood under certain conditions. The kidneys endeavor to maintain a definite concentration and osmotic tension of the blood. The appearance in the urine of certain pathological substances is not due to disease, but to healthy and forcefully working organs. It is a regulatory kidney action, compensating for imperfect action of other vital organs. When the quantitatively and qualitatively normal urine contains albumin without the presence of renal inflammatory products, oil globules, shreds, casts and many renal epithelia, we have compensatory albuminuria. Only healthy and strong kidneys can eliminate unconverted albumin not sufficiently fixed in the blood. When this burden becomes too heavy the kidneys become functionally insufficient, and later structurally affected. The immediate cause of albuminuria is a surplus of circulating albumin, or the inability of the blood to attach itself to certain albuminoid material. These albuminurias should be easily differentiated from diseased kidney conditions.—*Medical Record*, June 26, 1909.

THERE are two things in life that a sage must preserve at every sacrifice, the coats of his stomach, the enamel of his teeth. Some evils admit of consolations, but there are no comforts for dyspepsia and the toothache.—*Bulwer*.

WHAT EVERY DOCTOR KNOWS.

That it is hard to collect bills.

That it is easy to make a poor perineum look like a good one.

That to look at the tongue usually tells you nothing but impresses the patient.

That eminent authorities are of the opinion that no harm would result *if* one were to practise continence.

That patients with apparently the poorest kind of hearts and kidneys often discount gloomy prognostications about 50 per cent.

That clean bills of health are sometimes given to patients who drop dead thirty minutes later.

That the older bedside methods are more or

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less neglected for the fascinating but less well tried newer methods.

That many doctors are guided by the dicta of the laboratory oligarchs as absolutely as the Russian peasant is guided by the canned theological dogmas of the Greek church.

That to make our high blood pressure patients live the way some of the "authorities" would have them live would, in many cases, make their lives not worth living.

That very successful practitioners tend to go into business more or less—that in these instances interests in real estate stocks, bonds and mines (oh, those Aladdin mines!) displace interest in livers, spleens and blood counts.

That it was never anything but tomfoolery of the sublimest kind to talk about the immediate repair of cervical lacerations under the circumstances that usually attend parturition in private practice.

That he is worse than foolish not to examine for sugar in every case and at any age where a specimen is procurable.

That he could better dispense with an ear than with the meaningless, or at least vague, term—vitality.—*Critic and Guide*.

ORIGINAL ARTICLES.

PROSTATIC OBSTRUCTION. INDICATIONS FOR OPERATION WITH A DESCRIPTION OF A METHOD OF OPERATING.*

BY

PARKER SYMS, M. D.,

New York.

It has been said that one man in every nine, after fifty years of age, is the possessor of an enlarged prostate, and that about twenty per cent. of these show decided symptoms due to this enlargement.

In these cases there are very few symptoms referable directly to the prostate itself. The symptoms are all dependent on the mechanical obstruction and on the complex conditions which it leads to. These embrace prominently, change in the structure and in the function of the bladder, impediment to the outflow from the kidneys, resulting in more or less pathic changes in the structure of the kidneys themselves, and in the wide range of symptoms which are dependent on infection, when infection has taken place. There is in many of these cases a marked auto-intoxication which tends to exaggerate the conditions associated with arteriosclerosis. In some cases there is spontaneous hemorrhage from the region of the prostate or from the bladder wall; in some cases pain is a very prominent symptom. However, the most frequent symptoms of all are referable to the impairment of the bladder function. These are retardation of the act of urination, associated with frequency. Usually some increase in frequency is the first symptom to call attention to the fact that a man has an obstructing prostate.

The size of the enlargement is not of as much importance as the relation of the lobes to the urinary canal. Sometimes a large prostate will cause but partial obstruction and may be attended with very slight symptoms. While on the other hand, a not greatly enlarged prostate may result

in complete obstruction, and there are many cases where obstruction is due not to an enlargement of the prostate but to an actual diminution in its size, dependent on a fibroid change in its structure. This is known as the prostatic collar.

The natural course of a case of prostatic obstruction is first to cause hypertrophy of the bladder muscle, just as we have hypertrophy of the heart muscle in cases of valvular obstruction. If this is long continued and the obstruction is nearly complete, degeneration of the bladder muscle will ensue, and atony and dilatation will result. This is particularly true in old and feeble men and in cases in which infection has taken place.

After a while the bladder will cease to empty itself and a varying amount of residual urine will be the result. Sooner or later, in nearly all cases, infection of the bladder will take place, so that we have not only cystitis, with its wide range of symptoms and effects, but we also have a certain amount of systemic poisoning due to absorption of morbid products in connection with the retention of a quantity of putrid and infected urine. In time the obstruction will extend its baneful effects to the kidneys by back pressure through the ureters, and there will be an interference with the proper function of the kidneys so that the patient will suffer from auto-intoxication due to the incomplete elimination through the kidneys. Of course, there is often an ascending infection so that we have a pyelitis, and this again will add to the patient's source of poisoning. When these conditions have come slowly and have lasted some time as a chronic state, there is a decided exaggeration of the symptoms of arteriosclerosis which all these patients are more or less subjects of. This is markedly proven to be the case by the great improvement in this particular which takes place in these patients after operation. Of course, obstruction may become so great that there is complete retention of urine requiring relief by catheter; in other words, the patient must either be operated on or must depend upon the catheter.

In any case where obstruction demands the habitual use of the catheter, more or less infection is sure to result, no matter how carefully or

*Read at the meeting of the Vermont State Medical Society at White River Junction, Oct. 14 and 15, 1909.

skillfully the catheter may be employed. This will vary greatly in degree, depending upon the patient's peculiar susceptibility or resistance to said infection. In many cases there will be an acute and violent infection which will result in speedy death while in some patients there is a remarkable tolerance, whereby they may use the catheter for a long period without proper precautions as to cleanliness, and yet with little more than a mild degree of cystitis and not a very purulent urine. These are the dangerous exceptions which encourage patients and physicians to place too much dependence upon the safety of the catheter life.

DIAGNOSIS.

When a patient has presented symptoms serious enough to make us feel that he is suffering from prostatic obstruction, the diagnosis should be made with as little disturbance to the patient as possible. These patients are old men, usually feeble men, and they should not be subjected to any unnecessary manipulation. It is sufficient that we should satisfy ourselves whether or not the patient requires operation. For that purpose it is only necessary to determine whether or not he has an obstructing prostate; how much, if any, residual urine and the character of the urine. It is well to ascertain the capacity of the bladder and to form an estimate of the strength of the bladder wall, which may be judged by the force with which the urine passes through the catheter. To sum up, we should examine the patient in a general way as to his appearance, strength, mental and physical vigor, heart action, etc., but all that is necessary in the way of special examination is to palpate the prostate through the rectum, and to draw off the urine with a flexible catheter. (If the patient is using the catheter habitually, I even prefer to have him introduce it himself and learn what I can thereby.) It is dangerous to introduce a metal catheter, and the same must be said of the cystoscope. In determining whether to operate or not, it makes no difference whether the prostate is very large, nor just what shape it is, nor whether stone be present. All these things can be determined and taken care of at the time of operation, if we operate. I feel very strongly that the cystoscope should not be employed as a means of examining these patients primarily. It may be employed with great advantage at the time of

operation when the danger of its use will be overcome by the coincident drainage of the bladder.

It is only fair to say that my sentiment in regard to the use of the cystoscope has not been brought about by any unfortunate experiences of my own, but it is due to my observation of the cystoscope as used in these cases by others and by men of well recognized ability. For instance, one of my patients had been examined with the cystoscope by a very eminent specialist, and as a result of the examination, a severe infection took place which confined the patient to his bed for over fourteen weeks, and put his life in most serious jeopardy. In contrast: Later I operated on this same patient and he was up and walking about the hospital forty-eight hours after the operation, and made an uninterrupted recovery.

It is worth while to remember that statistics are not kept as to the mortality attending the employment of cystoscopy, while we are very careful to keep an accurate record of the deaths following operation.

My observation along these lines also teaches me that the cystoscope is not always an instrument of precision. Another of my patients, just before I operated upon him, had been examined by a very competent specialist, and his report was that the man had a slight enlargement of the left lobe of the prostate, and that there was no stone present. Subsequent operation proved that there were fifteen stones present, and that the right and the left lobe of the prostate were unusually enlarged—so misleading was the picture which presented itself to the specialist as seen through the cystoscope! I do not mean that this reflects on the skill of the examiner, but shows the difficulties which are sometimes present.

Topical treatment by the catheter is never curative, and while it may afford relief in some cases, it is never more than palliative and there will be many more lives lost by attempting to treat these patients with a catheter than would be lost by resorting to radical cure by means of prostatectomy. However, if one accepts this view, one should not be led to the belief that every case of enlarged prostate should be operated upon. There are many cases which never call for operation, and in the majority of cases there is a period when the disease may be clearly recognized and yet not have reached a state

which would lead us to resort to operation, in other words, the time has not yet come.

INDICATIONS FOR OPERATION.

In a general way it may be said that operation should be resorted to only as a life saving procedure. We should have in our minds well defined rules which we should apply to these patients, and operation should be determined upon only when there are definite reasons for its employment.

Let us consider what these reasons may be under the following headings: Frequency; Pain; Residual Urine; Cystitis; Pyelitis, Purulent Urine and Septic Poisoning; Kidney Insufficiency; Bladder Stone; Hemorrhage; Contraction, Dilatation, Atony of the Bladder, and any condition depending upon prostatic obstruction which is markedly undermining the patient's health and strength.

Frequency. When the obstruction causes the patient to urinate with such frequency as to produce exhaustion by loss of sleep and mental distress, he should be given relief.

Pain is a very prominent symptom of prostatic obstruction, and when it leads to the undermining of the patient's strength by its consequent exhaustion, we should not hesitate to resort to operation before the patient has been too completely unnerved thereby.

Residual Urine. When the quality of residual urine is large or when it is progressively becoming greater and greater, one may know that the patient's bladder and allied organs are to suffer, and that in itself should lead us to operate.

Cystitis. Repeated attacks of acute cystitis, or a marked degree of chronic cystitis call for a permanent cure, and in this connection prostatectomy is the only means to that end.

Pyelitis—Purulent Urine—Septic Poisoning are all reasons for the removal of the prostate, when it is their cause.

Kidney Insufficiency is often produced or greatly exaggerated by prostatic obstruction, and when this is so, it is a reason for operating and not a reason against operating. It is remarkable how patients suffering from this condition improve after removing the prostate.

Bladder Stone. When the result of prostatic obstruction should call for prostatectomy and, of course, removal of the stone, it would be foolish to subject the patient to an operation for the

removal of the stone leaving the prostate, for recurrence is too likely to take place.

Hemorrhage is a symptom frequently associated with prostatic obstruction. It is due to a variety of conditions: to mere congestion, to stone, to erosions and, of course, it is very suggestive of malignant growth. Whatever its cause in this connection, it is sufficient reason for resorting to operation, if it be frequently repeated or severe in character.

Contraction—Dilatation—Atony of the Bladder are not in themselves sufficient reason for operating. But they are always associated with some of the conditions enumerated above and, of course, must have a strong influence in determining whether to operate or not.

TREATMENT.

Experience has led me to feel that operation is the only satisfactory method of dealing with these cases when they have reached such a state that relief is demanded. I mean by this that I do not believe in bladder washings, in bladder treatment, or in the habitual use of the catheter. Of course, this can not be held to as an absolute dictate; we must find exceptions to all our rules in surgery. There are some patients who are absolutely unfit for operation no matter how much they are in need of it. However, while there are a few patients too old, too feeble or too diseased to undergo the operation, there are very few patients who are strong enough to endure this disease when it has reached the critical point. The mortality from perineal prostatectomy is about five per cent. and it may almost be said that the mortality from the habitual use of the catheter is one hundred per cent., so few are the exceptions.

As said above, in the majority of cases there is a period which varies greatly as to time, during which the patient may have decided signs of prostatic obstruction and yet be lacking in symptoms or conditions which we recognize as demanding operation. These patients may be much improved, and the course of the disease retarded, by careful attention to their diet and mode of life, and by the judicious use of urinary disinfectants.

OPERATION.

Today we have had sufficient experience to place us beyond the experimental stage in the surgery of prostatic obstruction, and it is con-

ceded that prostatectomy is the only satisfactory operation for the cure of this condition. There are many advocates of the suprapubic method, and much excellent work has been done thereby, nevertheless, perineal prostatectomy is the operation of choice. There are many reasons why it should be, but one alone is sufficient and this is that in the hands of many operators it has shown about one-half the percentage of deaths as compared with the suprapubic method.

factory, and I have continued its use to the present day with very little modification. In some cases I supplement the vertical incision by a small incision on either side in front of the rectum. This operation is performed as follows:

With the patient in the extreme lithotomy position, the thighs being forcibly flexed and the buttocks slightly elevated. A lithotomy staff is introduced into the bladder, and a free vertical



FIG. 2. Showing simple median incision in perineum. There is no dissection and but a single sweep of the knife.

Perineal prostatectomy as performed through a modification of the incision of Celsus has been ably advocated by the French surgeons. It has been brought to its highest perfection by our countryman, Hugo Young, and I think that it is recognized by many as the ideal operation of the day. It certainly is the best method of exposing the prostate in the perineum, and the only objections to be urged to it are the facts, that it requires more time, entails more hemorrhage than the median incision and, in the hands of many operators, it has resulted in an unfortunate percentage of recto-urethral fistula, a most deplorable condition. The method which I described in 1900 was first performed by me in 1899. It has proved most efficient and satis-

factory. The point of the knife is introduced into the staff just behind the bulb, and the entire membranous urethra is divided down to the apex of the prostate. In other words a simple external perineal urethrotomy is performed. The finger is pushed through the prostatic urethra thoroughly dilating it, and the bladder is quickly washed with a special metal catheter. Now the "sheath" of the prostate (the posterior layer of the deep fascia) is exposed by blunt dissection; in other words, all the tissues lying in front of the rectum are pushed well backward. The special rubber tractor, collapsed, is introduced into the bladder, and is then distended by forcing water into it with a piston syringe, and the stem is clamped.

When traction is made the prostate, covered by its sheath, will be made to bulge into the wound which is spread laterally by means of metal retractors, and the sheath of the prostate is opened.

enucleated in one piece; more frequently one lobe is removed at a time. When the sheath is opened, the prostate may be readily recognized by its white glistening appearance and its lob-

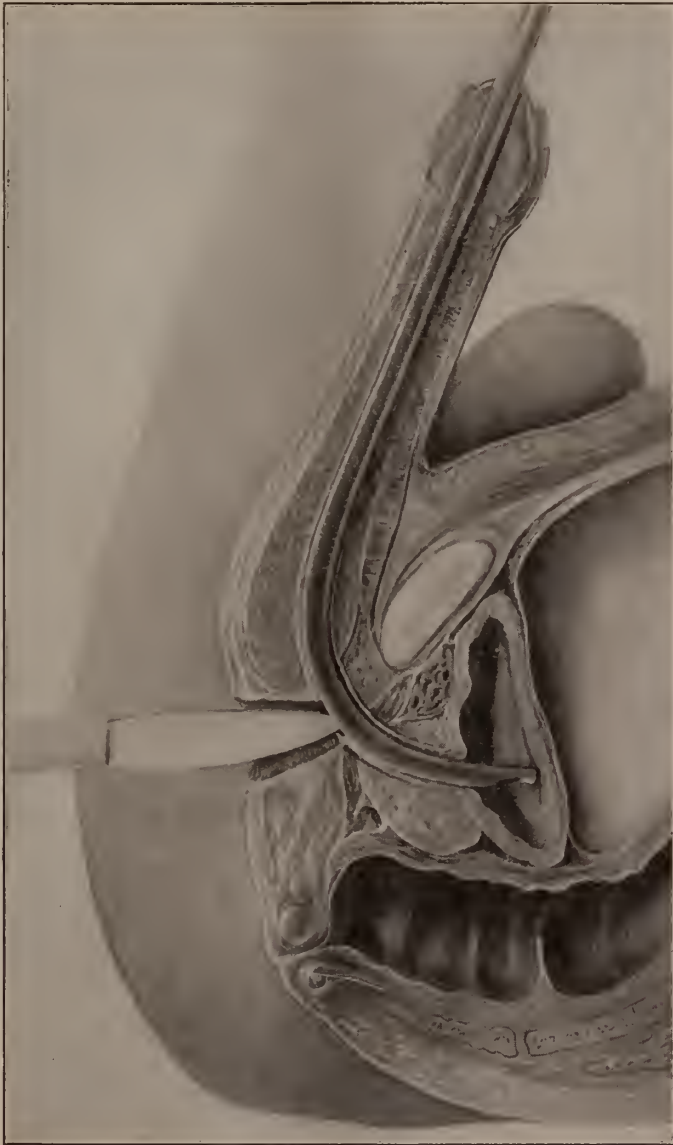


FIG. 3. Shows knife entering the lithotomy staff preparatory to the division of the membranous urethra.

I used to make a transverse incision, but for some time I have adopted the suggestion of Young, and am making two vertical incisions, one over each lateral lobe. The finger is introduced into one of these incisions, and the prostate is enucleated. Sometimes it is

enucleated in one piece. This is important for if we find the right line of cleavage, enucleation will be easy, rapid and bloodless. If not the operation will be difficult and an undue amount of mutilation will result, and there will be a degree of hemorrhage which should not exist.

Having enucleated the prostate, the tractor is removed, and the finger is introduced within the bladder sphincter and swept along its circumference, so as to be sure that we are not leaving an intravesical or aberrant lobe. Some

case as follows: The anterior urethra is thoroughly irrigated, a double drainage tube is introduced into the bladder, the wound and the space from which the prostate came are packed with iodoform gauze, and temporary sutures are



FIG. 4. Shows tractor dilated within the bladder pulling the prostate toward the surface.

pedunculated lobes are found which must be ablated and delivered through the bladder neck. Careful search should be made for stone and other abnormal conditions. If stones be present, of course they are removed. Having completed the operation, we proceed to dress the

introduced, one of which secures the drainage tubes in place. A small dressing is applied to the perineum by means of a T bandage, and the patient is ready for bed.

We used to employ a single drainage tube, but I have found the double flow a great im-

provement; continuous irrigation is kept up from the time of the operation for at least forty-eight hours. If the bladder is kept free from blood clot, the patient will be very comfortable, and there should be no bleeding. The temporary stitches are taken out and the gauze packing is removed within twenty-four hours from the time of operation. The drainage tube

tive treatment is the same as would be applied to a case of external urethrotomy.

Prostatectomy by a median perineal incision is certainly the quickest and most direct method. If properly performed it should be accomplished in from ten to twenty minutes at the most. There is the least possible hemorrhage and shock is reduced to a minimum. Practically the same method was employed by Goodfellow of San Francisco several years before the fact was actually published. His results have been particularly good.

The two stage operation has been advocated by some as a routine, I mean the idea of opening the bladder either suprapubically or through the perineum at the first sitting, and a few days later removing the prostate through the original wound. This method was employed by me in my second case and in several cases since then, and I think that it should be made use of occasionally when the patient is in such a bad condition that it would seem unwise to do the complete operation at one sitting, but it would be absurd to make a routine of such a procedure for there are many disadvantages in two operations as compared with one. Of course, any surgeon who is doing prostatectomy in two stages as a routine must charge to his prostatectomy list all deaths which occur, whether they follow the first stage of the operation or the second.

RESULTS.

By the method just described I have been able to reach and remove the prostate in all cases except one; that was in the case of a gentleman in California who had a very remarkable prostate, which I failed to reach and enucleate by the perineal method. Later I operated upon him by the suprapubic route with a most gratifying result. I do not doubt this prostate could have been successfully removed by Young's method of exposure.

I have not attempted to work up a tabulation of all my cases, but I can say that the results have been most satisfactory. By a satisfactory result I mean that the patient should be relieved of his obstruction so that he has no longer to use the catheter, and so that he no longer has residual urine and he should be relieved of the effects of his obstruction; that is to say, his cystitis should become practically cured, his in-



FIG. 5. Tractor in situ. Incision in sheath of prostate is shown, ready for enucleation.

is nearly always removed at the end of forty-eight hours, and the patient is then allowed to be up and out of bed. A full sized sound is passed a few days after the operation, but frequent dilatation by means of the sound is not necessary. Perineal prostatectomy does not result in stricture. The patient should regain his bladder function within a short time from the date of operation and, of course, the post-opera-

fection disappear, his bladder should be continent and he should be cured of frequency.

Incontinence of urine after operation was the thing we most dreaded. My reports show but two cases in which incontinence has persisted, and one of these patients had incontinence as a result of an operation which had been performed upon him by another surgeon before I operated, and this condition of incontinence continued after my operation. There have been many cases in which more or less incontinence has existed for a time, but in which recovery ultimately took place.

In a few of my patients the cure has not been ideal, I mean by this that some of the symptoms have persisted after operation, but even in these cases the improvement has been sufficient to fully warrant the operation. In the vast majority of cases the results have been most gratifying. Patients have been relieved of their distressing symptoms; in many cases the relief from pain, distress, exhaustion and auto-intoxication has been followed by an improvement amounting to regeneration. Many a man who was in his dotage, and whose active life had practically ended, has been restored to health, vigor and activity, appearing ten or fifteen years younger, and being able to resume all his former avocations.

540 Park Ave.

DISCUSSION.

Dr. J. N. Gile.—I appreciate the honor you have conferred upon me in placing my name upon your programme. It is a particular pleasure to be able to discuss a subject so important as that presented to you this morning.

As we have watched the progress of surgical procedure in various diseases that have come into the operative field in recent years, it is both surprising and interesting to note the increased readiness with which diagnosis is made in these varied conditions. Twenty years ago the diagnosis of appendicitis was decided upon with the greatest caution and hesitation, the general practitioner rarely making it without the aid of a surgeon and for many years only the acute cases were diagnosed and referred for operation. Today, not only the general practitioner but the patient himself makes a positive diagnosis not only of the acute cases but subacute and chronic.

Then the gall bladder came into the field of operative activity and while it is not as yet as readily and certainly brought to operation in its early stages of disease as is appendicitis, it is easily becoming more certainly and correctly recognized.

Disease of the prostate gland is only beginning to dawn upon us as a frequent and important surgical condition. Cases are temporized with by the general practitioner and often by the surgeon where radical operative procedure gives the only hope of relief and

cure. The most important thing that I would emphasize in this discussion is the early recognition of this definitely surgical disease. The discussion of it should be presented to our medical societies both state and local for the purpose of instruction that the cases may be referred to the surgeon at a time when hope of cure with slight danger still exists.

I feel that I can add little to the paper that has been presented regarding the advantages or the technique of the operation. I should be inclined to be a little more radical than Dr. Syms about the conditions that call for operation. I can scarcely conceive of a case of prostatic obstruction that will not give one or several of the conditions enumerated as demanding its removal. If the patient has none of these symptoms, he will not call for an examination and no diagnosis is made. Such cases, it seems to me, are practically the only ones that should go without operation. When the individual has symptoms enough to cause him to apply to the physician for aid, in the vast majority of cases, operation is demanded.

In general I should agree with Dr. Syms as regards the choice of operation, namely, that the perineal route is the one of election in the great majority of cases. I have, however, operated on cases suprapubically because, on account of the size, I did not believe it practicable or possible to remove by the perineal route and for this reason I still occasionally do a suprapubic operation.

Although general statistics point to the perineal as giving the lesser mortality, in my own hands the suprapubic is from this standpoint equally satisfactory.

The question of age at which the operation may be performed is one that cannot be answered purely in terms of years. I have operated on a man of 84 with a very large prostate and by the suprapubic method securing the promptest and most satisfactory recovery I have ever seen. The condition itself puts the patient in such a deplorable state that no operation should be more freely undertaken as an emergency procedure than that of prostatectomy.

Dr. J. B. Wheeler.—It is a great pleasure to me to be called upon to discuss such a complete paper as the one we have just listened to. Dr. Syms has given very good reasons for the operative method of treatment and has demonstrated one of the methods of operating.

If we realize that the urinary tract is a drain and if we keep that fact clearly in our minds, we can then realize the importance of having our drainage free. In prostatic obstruction the trouble is the drainage is not perfect. If you can make the drainage perfect, the conditions all improve.

If we try, in the case of an enlarged prostate, to accomplish drainage simply by the use of the catheter, we are doing much as we should be doing if the drain of a house was filled up and sewage was overflowing into the cellar. We could take a hose and pump and once in twenty-four hours run the hose into the cellar window and pump the sewage out. We should then have a filthy cellar full of sewer gas and dangerous to the inmates of the house. If we remove the obstruction to the drain, we establish free drainage and the cellar is cleaned and put in a healthy condition again.

That is about the situation a patient is in with chronic enlargement of the prostate. It is a condition that is brought about by a collection of decomposing urine, auto-intoxication and the local troubles that are produced by this decomposing urine. I don't

think most of us are aware of the dangers arising from the use of the catheter. We are alive to the dangers of operation. Old subjects we consider dangerous ones. Now advanced age per se is no contra-indication to operation. Two of the most successful cases that I have known were one where I operated on a man aged seventy-four and another upon a man aged seventy-five years, and relief to the distress of the patient was almost immediate and was permanent. They were restored to unusually good health for men of their ages.

The conditions under which the operation is performed are an important factor in the result of it. If we let a man get into a miserable state of exhaustion and sepsis before operation, he is in a much more dangerous condition than when his condition was better. The operation is not dangerous in a person in good condition.

As regards the choice of operation I would say my preference is for perineal prostatectomy. It has the lowest mortality; patients recover most quickly; have the least trouble; and have the best functional result.

A man in the habit of operating in one way will get better results than when he tries other methods of operating. As Dr. Syms has said the perineal operation is the one of choice.

I have never used the double tube drainage except where there was a very severe cystitis and the bladder seemed to need a very thorough cleansing. I have found it a little more troublesome form of drainage than the single tube but it cleanses the bladder very thoroughly.

Dr. Watson.—From the standpoint of the general practitioner, it certainly is very gratifying to us to know that there is relief for these cases. During the first fifteen years of my practice, I suppose I had the same experience that all the rest of you must have had in having lost many cases of enlarged prostate. Medicine had no curative effect whatever upon them. I can corroborate the statements made by Dr. Syms and also by Dr. Wheeler. I have had two cases operated upon by Dr. Wheeler within five years that have resulted most satisfactorily. One was a man seventy-five years of age and was in a most deplorable condition. I was skeptical with regard to the result of the operation. I am not now. I know many of these conditions can be completely cured. This man I have reference to has no trouble whatever today and his case was a typical case of prostatitis. The other man did not receive quite as satisfactory results but he is living and is practically well. It is a great satisfaction I am sure to the general practitioners when we can be assured that these cases which are so numerous and leave us so helpless, can be treated successfully in most every instance by this operation.

Dr. Lyman Allen.—I simply wish to say a word regarding when to advise operation. It seems to me when fair and intelligent medical treatment, washing the bladder, etc., and a reasonable length of time fails to remove the symptoms which would otherwise kill the patient, such as constant use of the catheter, it seems to me that patient should be relieved of his prostate.

Dr. E. R. Campbell.—I would like to inquire the causes of hypertrophy of the prostate and also the average length of time required for a patient to remain in a hospital after operation.

The By-Laws allow us to make annually two honorary members of the Vermont State Medical Society and I want to make this motion that a vote of thanks be extended to Dr. Syms and Dr. Cabot for their most able and instructive papers and that both be elected honorary members of this society. If Dr. Cabot was elected an honorary member yesterday afternoon, I would simply ask that Dr. Syms be made an honorary member of our society.

Dr. C. W. Peck.—Gentlemen, you are called upon to express your thanks to these two gentlemen, Dr. Syms and Dr. Cabot, and to also make Dr. Syms an honorary member of this society. Those who wish to express their thanks and also wish to make Dr. Syms an honorary member of this society will please stand. It was unanimous.

Dr. Wm. Lindsay.—Is it possible to diagnose the malignant form of prostatic obstruction before necrosis has taken place?

Dr. W. W. Townsend.—In Dr. Syms' remarks regarding prostatectomy and in the discussion by the other gentlemen, there was considerable said relative to toxemia and auto-intoxication and the absorption of toxic material from the bladder. I wish to say that I believe that there is very little absorption that takes place from the bladder unless there is an ulcerative condition present. The toxic condition referred to is due to a degeneration of kidney substance and the failure to eliminate the toxic products of metabolism. Dr. Syms' statement relative to the use of the cystoscope in prostatic hypertrophy I think demands a word or two of criticism. I believe that in certain classes of cases of prostatic hypertrophy it is perfectly possible to make a diagnosis without the use of the cystoscope, but the title of Dr. Syms' paper "Prostatic Obstruction" leads us at once to think of the great diagnostic value of the cystoscope in cases of middle lobe obstruction, the so-called pedunculated lobe and aberrant lobe. Dr. Young of the Johns Hopkins Hospital has advised a retrograde cystoscope that is of the utmost value in determining the obstructive condition at the neck of the bladder, whether it be a collar or pedunculated lobe. I think that Dr. Syms will agree with me that there are a great many cases of prostatic obstruction that cannot be diagnosed by rectal examination.

Another word in defense of the cystoscope, and that is that the value of the cystoscope, like a great many instruments and tools, depends upon whose hands it is in. In other words, it is the "man behind the gun," and should not be condemned, as its diagnostic value in the hands of an expert is very great.

CLOSING THE DISCUSSION.

Dr. Parker Syms.—You must allow me to thank you for the great honor you have conferred upon me in making me an honorary member of this distinguished body. I appreciate it as heartily as any good fortune that has ever come to me.

In reply to Dr. Lindsay's question: Is it possible to diagnose the malignant form of prostatic hypertrophy before necrosis has taken place? I would say that we may make a diagnosis of malignancy in a large percentage of cases, basing our opinion upon certain symptoms and conditions: First the peculiar feel of the prostate; they feel hard like stone or metal, and have an irregular surface. This must

make us more than suspicious. Then there is the spontaneous hemorrhage without stone, with association with acute congestion of the prostate. Of course, there are many cases in which we may suspect carcinoma, but in which we cannot make a positive diagnosis without operation. Recently it has been my misfortune to meet a number of cases in which I was able to make a diagnosis from a clinical standpoint. Young has reported a very large percentage of cases of malignancy on prostatetactics.

In reply to Dr. Campbell's inquiry regarding the causes of hypertrophy of the prostate, I would say: That it is pretty well conceded that it is a late manifestation of an inflammatory condition.

The cystoscope may be a very important aid, and I use it frequently at the time of operation. Then and then only, I think, is the proper time to use the cystoscope in cases of prostatic obstruction. When we have come to the conclusion that operation is called for and when we are about to operate we may use the cystoscope with great advantage and with little or no danger.

As to the length of time that a patient is confined to his home or hospital: The time varies greatly according to the local condition of the case and the general condition of the patient's health. Nearly always my patients are up and walking about at the end of forty-eight hours; some of them are able to go out of the hospital within a week. That is a very short time. I remember one patient, an admiral in our navy, who resumed his active work after two weeks in the hospital. Usually it takes from three to six weeks to put the patient in a suitable condition for leaving the hospital.

ILEUS, MECHANICAL AND DYNAMIC.*

BY

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Burlington.

Ileus may be either mechanical or dynamic. In the mechanical variety something has occluded the lumen of the gut; either there are solid masses within the bowel too large to pass along, or some twist or adhesion or pinching or kinking has obliterated the lumen. In the dynamic variety, something has paralyzed the peristaltic action. To liken the matter to what we were taught in regard to labor, we have to consider the three P's; the power, the passage and the passenger. In mechanical ileus, the passage or the passenger is at fault. In dynamic ileus, it is the power which is wanting.

This power, peristalsis, is under the control of Auerbach's plexus in the muscular layer of the bowel. The splanchnic nerves are inhibitors for peristalsis and when stimulated, they completely stop it. This stimulation may be caused clinically

by asthenia, by powerful irritation of any group of sensory nerves, by toxemia, or by direct injury to the splanchnics, such as is caused by rough handling of the gut or by peritonitis. The only other ways of stopping peristalsis are by injury to Auerbach's plexus in the walls of the gut, as may be done by *very* rough handling of it, or by injury to the muscles of the bowel, as from mesenteric thrombosis, embolism, over-distention of the bowel, or from cutting of the muscle fibres. This last cause is seen most clearly in cases of lateral anastomosis of the gut where, of necessity, many circular muscular fibres are cut across. In these cases, the peristaltic wave stops at the anastomosis and the contents of the bowel collect just above the opening until they are forced through by the peristaltic action on the upper end of the mass behind. The longitudinal fibres are apparently less necessary to peristaltic action, for in end-to-end anastomosis peristalsis is much less interfered with; few circular fibres are injured although many longitudinal fibres are.

Experimentally we find that cutting the splanchnics prevents the reflex dynamic ileus due to asthenia or to pain and probably that due to toxemia, and this is the reason for the use of *eserine* in dynamic ileus. It paralyzes the splanchnics almost as completely as if they were cut.

Cathartics in the ordinary meaning of the word have no effect upon dynamic ileus, and save in very exceptional cases, can do only harm in mechanical ileus. So why use cathartics in any class of intestinal obstruction? They have their place in constipation (and a very important place it is too) but when there is ileus, cathartics must be withheld.

The symptoms of intestinal obstruction, mechanical or dynamic, are *abdominal pain, nausea or vomiting, distention, constipation and shock*. These symptoms are not caused by the mere failure of the bowel to empty itself. Patients with severe chronic constipation, whose bowels may not have moved for a week or more, do not have these symptoms. With *ileus* the patient develops these symptoms within a few hours usually, certainly within a day or two. The symptoms are due to autointoxication or septicaemia or both. The contents of the obstructed gut are much more poisonous than those of the normal gut, because the healthy condition of the bowel wall, which of itself lessens the

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toxicity of its contents, is destroyed by whatever is causing the ileus, such as the interference with the circulation in the bowel, or its mesentery, from the thrombosis, strangulation or pressure which causes mechanical obstruction; or in dynamic ileus from the mere distention of the gut and the lack of peristalsis. For the circulation in the veins of the bowel itself depends very largely upon peristalsis as a means of forcing the blood onward towards the heart. A quiescent gut is one in which the circulation is very slow. The circular veins of the bowel are guarded by valves at the mesenteric side, and peristalsis, by its pressure on those veins, is the greatest aid to the circulation through them. Also mere distention of any hollow viscus interferes much with the circulation in its walls; and furthermore, the walls of a distended gut are much more permeable to bacteria. Thus distention directly favors septicaemia. We must remember that dilatation of the gut is of itself a most harmful condition; for, to recapitulate, it slows the circulation in the bowel wall, lowers its vitality, predisposes to thrombosis, ulceration and gangrene, favors the rapid multiplication of germs in the gut, and assists in their passage through its walls, causing local and general peritonitis and septicaemia; and lastly, distention by forcing the diaphragm upward, interferes with respiration and heart action and thus still further impedes circulation, and lowers general vitality. Thus we see why early and repeated gastric lavage and flushing of the lower bowel are of the greatest benefit in ileus, even though nothing results but the lessening of abdominal distention.

The differential diagnosis between mechanical and dynamic ileus, is very difficult, partly because an ileus which at first may be mechanical, later may become dynamic. That is, a mechanical stoppage will soon produce peritonitis, toxemia and thrombosis, one or all, which in turn cause a dynamic ileus; so that we have ileus, even after the mechanical obstacle has been removed. Only from the *early* symptoms in the case can a differential diagnosis be made. The symptoms which help in making a differential diagnosis are as follows:

Mechanical. Pain, paroxysmal; peristalsis, violent and if it stops at a special point that fixes the diagnosis; pulse, not much disturbed early; surgical spasm, not seen early; abdominal

breathing, seen; distention, may be late; local tenderness, absent early.

Dynamic. Pain, constant; peristalsis, sometimes absent; pulse, small, rapid and low tension; surgical spasm, usually seen early unless due to extra abdominal toxic cause; abdominal breathing, usually not seen; distention, usually early; local tenderness, usually present.

Diffuse tenderness generally indicates the onset of peritonitis and is a symptom of great clinical value.

If the patient has *paroxysmal pain, vomiting, and obstinate constipation*, without fever, without distention, without tenderness, there is mechanical obstruction of the bowel (if there is pain and vomiting from inflammation of the mucous membranes, there is not constipation but diarrhoea).

The ileus following immediately upon laparotomy is usually dynamic, from reflex causes; that following operation after two or three days, or even a week, is usually dynamic of toxic origin, due to peritonitis, and if the operation was not done for some acute suppurative condition, the surgeon must suspect some failure in his asepsis or possibly a forgotten sponge in the abdomen. The cases of ileus coming *late* after laparotomy are mechanical due to adhesions.

The *treatment* of mechanical obstruction is laparotomy. Do not delay. Early operation removes the obstruction before grave injury is done to the gut or its mesentery, and before the patient is in severe shock. You are operating not primarily to relieve the obstacle to the bowel movement, but to prevent injury to the gut, which will cause peritonitis and septicaemia. Do not give cathartics. Wash out the stomach and the rectum repeatedly while preparing for operation. When the patient has paroxysmal pain, vomiting and obstinate constipation, open the abdomen or send for a surgeon, if you do not yourself operate. And while you are waiting for him, use the stomach tube and the rectal tube. The diagnosis should be made before fecal vomiting, peritonitis and shock occur; and it is better in the long run to occasionally do an unnecessary laparotomy than to delay operation until the patient's chances of recovery are minimized by the onset of these late symptoms. What should be done after the abdomen is opened depends upon what is causing the mechanical obstruction. Do not handle distended gut. Find some collapsed

gut and trace it up to the obstruction. Do not allow the toxic fluids above the obstruction to pass down into the empty healthy gut below, there to be absorbed and kill your patient. It is much safer to open the distended bowel on the side away from the mesentery and above the obstruction, and empty it of its toxic contents by passing in a blunt ended trocar or even a rectal tube and slipping fold after fold of the bowel over it as each one is emptied, much as a child threads beads. The small incision will be closed with Lembert sutures. If this is not done, the alternative is to leave from six to ten ounces of castor oil in the stomach after washing it out immediately following operation, so that the bowel contents will be swept out before much absorption can take place. Do not kill the patient by trying to do at *one* operation what could more safely be done in *two*. The goal is the life of the patient, not a technically complete operation. An enterostomy at the point of greatest distention is an easy and rapid operation and will remove the toxins in the gut. These and not the obstruction to the gut are the source of the *immediate* danger. The securing of the patency of the gut can wait if need be until the patient is stronger.

Clinically, the most frequently seen forms of dynamic ileus are those which follow abdominal operation for any cause, or that seen in peritonitis. Practically every abdominal operation where the gut has been much handled will be followed by some abdominal pain, nausea, constipation and distention—a sort of very mild ileus—which may become serious. The first two or three days after a laparotomy are the most trying for the patient and for the physician in charge, and many a doctor who does not feel that he can do a laparotomy is left in charge of such a patient during this critical time. The care of the patient during these first days often requires judgment and skill of the highest order. Do not make early and strenuous efforts to move the patient's bowels by cathartics. If there is ileus, cathartics are useless and if there is no ileus, they are unnecessary at first. Make the patient as comfortable as possible. If a hypodermic of morphine and atrophine has been given before the operation, a single other hypodermic of morphine the night following will probably be sufficient. I do not hesitate to give morphine grains $\frac{1}{8}$ to $\frac{1}{4}$ or codeine gr. $\frac{1}{2}$ and repeat up to gr. 2 in all. This is better than morphine in

many cases for it quiets pain and restlessness, produces no nausea or intestinal distention and will interfere very little with peristalsis. Lavage with saline solution should be freely used and a soap-suds enema. This will relieve distention and promote peristalsis. When peristalsis is resumed, nausea ceases.

When distention becomes troublesome, in addition to these measures use a more powerful enema, such as two ounces each of glycerine, olive oil, and spirits of turpentine with one ounce of Epsom salts and water up to ten or twelve ounces. Molasses is a powerful peristaltic stimulant and may be added to the above enema in quantities of half an ounce up. The most powerful enema I know of is milk and molasses, one half to one pint each. Eserine salicylate grains 1-40 hypodermically, as recommended by Craig, is the best drug to counteract dynamic ileus, for it paralyzes the inhibitory action of the splanchnics. It rarely has to be repeated. If you will use eserine immediately after your laparotomies instead of cathartics, you will have better results and more comfortable patients. The morphine or codeine sometimes acts as a cathartic in dynamic ileus by blocking the sensory side of the reflex which is paralyzing peristalsis, especially in peritoneal injury or renal or biliary colic. The rectal tube left in position for an hour or more at frequent intervals draws off much gas and relieves the distention in the lower bowel. The Fowler position, by favoring the drainage of the peritoneal cavity into the pelvis where lymphatic absorption is slow, tends to prevent ileus, as does also the continuous rectal irrigation with salt solution.

Do not keep the patient too still on his back. Unless there is shock, there is no harm in raising his head on pillows, letting him lie on either side and assume a sitting posture or nearly so when urinating and defecating. Change of position favors respiration and circulation, relieves the terrible backache, and lessens the danger of hypostatic pneumonia. The patients sleep and eat better, and frequently catheterization is unnecessary. There is no time short of complete healing when the abdominal wall is so strong as it is immediately after operation, before the sutures have begun to weaken. If the abdominal wound is properly sutured, the patient cannot break it open. At the end of three or four days following the laparotomy a cathartic may be advisable, even though the patient may have eaten

little food to leave a residue in the bowel, for considerable material is excreted into the bowel. Here calomel followed by a saline, or castor oil is indicated.

I know that the physician always feels relieved when the laparotomy patient's bowels have freely moved; and rightly so, for it proves that there is no ileus. But I maintain that if there *were* ileus, the cathartics would not move the bowels, and I know that too early use of cathartics causes much pain and may even provoke the very condition that they are usually supposed to prevent. The stomach—and rectal—tube with a little morphine or codiene, atropine, and eserine will answer the purpose much better.

DISCUSSION.

DR. H. C. TINKHAM.

Mr. President and Gentlemen of the Society.

There is very little to say in the discussion of ileus in addition to the paper which Dr. Allen has given. I only wish to emphasize some things which Dr. Allen has said and perhaps he will pardon me if I disagree with others.

An early diagnosis is of most vital importance in either dynamic or mechanical ileus. In mechanical ileus especially, if anything is to be done it must be done early if the patient's life is to be saved.

Operations done after damage to the intestines has resulted, have a very small percentage of recovery. Early diagnosis then is of the most vital importance if we are to get the best results. The symptoms that have been looked for more frequently are pain in the abdomen, vomiting and absence of bowel movement, either faeces or gas. Cases with well-marked symptoms are very easy of diagnosis. Any one can recognize a well-marked case of mechanical obstruction of the bowel but if we wait until the diagnosis is easy, we have waited until the prognosis is very bad. The early symptoms are those which we should study sufficiently to make a diagnosis. Vomiting is a symptom which depends very largely upon the location of the mechanical obstruction. If the obstruction is high up in the intestines, vomiting is likely to occur early. On the other hand if the obstruction is low down in the intestinal canal, or in the large intestine, vomiting may be late or may be absent altogether. The presence of vomiting is a diagnostic symptom, but its absence is not significant that obstruction is absent. Pain, one of the other symptoms which we have to look to for a guide, is also variable. As a rule, as Dr. Allen has said, it is much more marked in mechanical than in dynamic ileus. It is much more marked in complete than it is in partial. Occasionally there will be a case in which it is almost entirely wanting; and occasionally there is no pain. Absence of bowel movement is perhaps important in early diagnosis although if the obstruction is high up in the small intestine, well up to the stomach, fecal matter will continue to be discharged for from twenty-four to forty-eight hours or until the large intestine has been emptied, so the bowel movements may continue for some time after a mechanical ileus is present. I believe the majority of physicians would make a diagnosis of me-

chanical ileus, in a large majority of cases if a careful examination was made. If the physician is in a hurry and does not examine his case carefully, he is very apt to make a mistake in his diagnosis. There are some cases in which I believe it is impossible to make a diagnosis in the first two or three days. Within the last year I have seen two cases where it seemed to me impossible to make a positive diagnosis early in the disease. Both were peculiar; one was strangulated hernia which went on to the fourth day without any nausea or vomiting; no pain or distention; small bowel movements during the first two days. On operation, eight inches of gangrenous gut was found. I believe it is possible to make an early diagnosis in the majority of cases. If a physician has some suspicion that he is treating a case of ileus, it is much better for him to seek advice than to risk the life of the patient in order to see what will happen.

I will not take your time to discuss my opinion of post-operative cases. I simply will refer you to what I said before you three years ago in Barre.

I believe early in the discussion Dr. Allen said sepsis was one of the important causes of dynamic ileus but later argues against catharsis. My idea resulting from several years' experience has convinced me that early catharsis in abdominal operations does not do harm but does do good. It will get rid of septic material which if left may cause dynamic ileus.

Dr. Lyman Allen.—I want to say in reply to what Dr. Tinkham has just said that my remarks apply to the use of eserine and not cathartics in all laparotomies unless there is mechanical obstruction remaining. I believe just as thoroughly in the early emptying of the bowel in cases of abdominal sepsis as he does, but I know that we can get that emptying of the bowel more satisfactorily by eserine, gastric lavage and rectal irrigation with the patient in the Fowler position than we can by the use of cathartics. That is to say I am opposed to the early use of cathartics after laparotomy and not *catharsis* which is an entirely different thing.

NORMAL PREGNANCY.*

BY

C. A. PRATT, M. D.,

Enosburg Falls.

The subject for the day's discussion, viz.: Normal Pregnancy, is certainly one of much interest; very truly there is no division of the practice of medicine which is of greater interest to us as practitioners than the science of obstetrics, or one of greater importance to the weaker sex, than that we should be able to care for them properly during the period of gestation, carry them through the successive stages of labor, care and treat them during the lying-in period

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in such a manner that they may afterward regain their normal health and condition; also that they may be able to bring into the world offspring of a healthy and rugged constitution, who will be able to withstand the adversities and vicissitudes of life in after years.

That the human race is growing weaker, more nervous and of greater intellectual ability is an undisputed fact; although longevity is increasing, yet people are of a weaker constitution, and we are confronted with the question, What has brought about such a condition? As a partial answer to this question we may say that many factors enter in to bring about this condition, our present habits of living, fashions of dress, the nerve energy used in the race for distinction and combating the vicissitudes of life, the plan upon which our dwellings are built, the impure air of our sleeping chambers, instead of the pure out-door air which our grandfathers breathed, and many other conditions might be named similar to these that have been factors in bringing about this change, and last but not least, comes the care of the pregnant woman.

It seems to me paramount that we should prepare ourselves to treat this condition in the most thorough and scientific manner possible, remembering that here is a fit place to practice the Golden Rule; go forth to our work upholding the reputation of the profession of which we have become members.

In presenting this paper on the care of the pregnant woman, I will say, that in country practice we seldom see the patient before the time of confinement so that we have but small opportunities for preparing the case for the ordeal. I think we should more forcibly impress upon the minds of our patients a necessity of reporting to us for treatment as soon as they find they have become pregnant, and strive in every possible manner to break down this barrier—false modesty on their part between patient and practitioner. As I was thoroughly advised that this paper should deal with nothing except normal cases, and with the view of inviting criticism from the members of the profession, I will simply try to give you, with a few of my own personal ideas, what you already know.

First. Prophylaxis, Edgar says: "A large proportion of the women who apply to the gynecologist for the relief of crippled pelvic

organs" owe their invalid conditions to mismanagement or avoidable accidents of the pregnant parturient and lying-in states; this class of invalids, who owe their condition to careless and unclean obstetrics, can be greatly reduced if not done away with entirely if we as practitioners will stop preaching and go to practicing clean and conservative obstetrics. By a careful observance of this we may ward off many of the diseases of pregnancy, labor and the puerperium and subsequent disabilities of gynecological nature. The old maxim finds no truer application than here, "Prevention is much better than cure." Some say there is relatively little that we can do during pregnancy that will have a direct influence in the prevention of subsequent uterine and pelvic troubles. This assertion, to me, seems somewhat erroneous; we can attend to the general health, prevent constipation, and is not this very often the cause of many an illness that we are called upon to treat outside the field of obstetrics? Then any anemic condition should receive its proper treatment, exercise in open air, suitable clothing and above all no constriction about the waist. Good hygiene of pregnancy is a prophylactic measure; first, by providing the patient with healthy blood, which is one of the best germicides, and in this way, perhaps forestalling or minimizing the effects of septic infection. Second, by increasing the general and muscular nutrition—factors of undisputed importance and in the prevention of subsequent, sub-involution of the uterus and adnexa.

I think it a very wise plan to give the patient early in gestation some simple directions, printed, if we can, embracing advice relative to exercise, clothing, diet, care of the bowels, skin, kidneys, breasts, teeth, genitalia and the danger signals of approaching complications. The patients as well as their advisers often consider this state a period of invalidism rather than a physiological process. One of the results of the former view is neglect of plenty of muscular exercise; this is especially true of those patients in the higher walks of life, where there is a desire to escape observation, and the fears inspired by false ideas lead them to neglect even a little daily exercise, as walking, to which they are accustomed, thereby weakening the whole muscular system. These are the very things we should insist upon their doing; for the severe strain to which the muscular system is subjected should be prepared for long before the time of confinement, yet

we should not forget the fact, that possibly over exertion should not be practiced in our efforts to secure proper hygiene. We should strongly advise avoidance of everything which increases intrapelvic pressure and resulting pelvic congestion. Our present knowledge of the pregnant state demands that women at this time should be constantly under the observation of a competent physician. They cannot be treated by letter, telephone, second and third parties, or in any other manner except by personal observation.

Exercise. The pregnant woman is often unfitted for exercise in the early part of pregnancy on account of morning sickness, and in the last part of gestation, on account of her great increase in size, at which time she lies down frequently, and is very adverse to exercise. On the other hand the morning sickness plays an important, and often protective role in pregnancy, as a patient must rest at the very time when she would very much over exert herself. Yet a certain amount of exercise is always beneficial during the gestation. The best form is walking; this carried to the point of slight fatigue every day will put the woman as well as her child into the best possible physical condition for the period of labor. If for any possible reason she cannot avail herself of this form of exercise, riding in easy carriages will answer the purpose nicely, yet if this should cause pain of the back, or feeling of weight it should be discontinued when some form of massage should be used daily.

Diet. A mixed diet sufficient in quantity is probably the best; it must, however, be modified in cases of threatened albuminuria, vomiting and other morbid conditions. Early in pregnancy there are digestive disturbances, which by modifying the diet, readily disappear and the morning sickness in many cases is avoided by the patient taking breakfast in bed, after which she sleeps an hour or two before rising. Above all prescribe a very generous and yet simple diet, in which meats, vegetables and fruits should be included. Usually after a period of three or four months these gastric disorders will disappear and a more normal appetite returns. During the last part of gestation the patient should eat a smaller amount of food at a time, but eat oftener.

Drink. The most perfect drink in the world is good pure water; milk which may be iced, or chocolate, tea, coffee in modera-

tion and not too strong; but above all strive to have the patient drink plenty of water. Often some patients dislike water from the first; this may be overcome by using plenty of salt, which of course produces thirst.

Bowels. The bowels should be looked after very carefully. Constipation should be avoided so far as possible; here again comes in the factor diet, which should be prescribed with the idea of preventing constipation. Coarse cereals, fruit, etc., prunes of which some patients acquire a fondness should be eaten daily. Enemata or mild laxatives may be administered and glycerine, soap, gluten and cocoa butter suppositories, the aromatic cascara or the extract may be used with good results, and licorice may be combined with it; the aloin cascarin and belladonna tablet may also be used, but the habitual use of these, and enemata should be avoided. Attention to diet and the liberal use of water will usually overcome this condition. A drop or two of the tincture of podophyllin before meals, with two or three drops of the German tincture of pulsatilla after meals, is the best treatment I have ever tried. The mild chloride at night followed by saline in the morning is good practice, although occasionally olive oil in small doses answers every purpose.

Fresh Air. Abundance of fresh air is always required to keep the patient in good condition; crowded rooms, churches, theatres, etc., should be avoided. Remember the patient is breathing for two, and good ventilation of rooms occupied both by night and day is essential for her comfort and welfare.

Skin and its care. The skin being an eliminating organ must be made to do its part. This is even of more importance toward the last of gestation so that the kidneys may be relieved as far as possible from any extra work. Bathing should be continued the same as before becoming pregnant, but hot or cold baths or any shock, as sea-bathing, should be avoided, yet some patients are very fond of this pastime, and in these cases no bad results follow the practice. Tepid vaginal douches may be a source of comfort when properly used.

Care of the Teeth. One of the first duties of the physician toward his patient in pregnancy is to examine the teeth, and if he discovers any carious teeth, send her at once to her dentist, also examine the throat and pharynx for mucous

patches; the carious substance should be removed, the cavity cauterized with pure carbolic acid, which is an alkali, after which a temporary gutta-percha filling may be put in. Any painful operations upon the teeth should be avoided without some local or general anesthetic, then when all the cavities have been repaired, they should be directed to use some alkaline mouth wash, such as lime water, sodium bicarbonate or the milk of magnesia after meals and at bed time or oftener. If there is vomiting a little of the latter may be swallowed to correct the acidity and relieve vomiting, and in this way prevent dental caries; treat the dyspepsia in all cases. In this way you may be able to guard against a subsequent pernicious anemia of which carious teeth is an etiological factor.

Clothing. The clothing should be adapted to the condition; corsets should be cast aside at once. I firmly believe that the use of corsets has done more towards weakening the human race than any one known factor. The reason for this is obvious when we consider the effect of displaced viscera upon the health of women in general. But of course customs and fashions must be adhered to, regardless of the misery and suffering of offspring, as well as parents. Use low-heeled shoes so that the weight may be carried evenly upon the feet, thus often times preventing stumbling and shoulder-straps to suspend the clothing, thus relieving the abdomen of weight; it should be light, warm and loosely fitted; the old fashioned circular garters should be discarded and the side supporters used instead. Warm drawers should be used as soon as the enlarged abdomen lifts the skirts from the thighs. Should the abdomen become very lax or pendulous a suitable binder should be used, yet adjusted so that it will exert no pressure.

Leucorrhœa. Any case of leucorrhœal discharge should be treated by vaginal douches under the proper precautions; bathing the external genitals is often demanded for the comfort of the patient; local treatment may be given without harm.

Breasts. There should be no pressure upon the mammary glands, and they should be warmly covered. The nipples must be kept perfectly clean. The physician should examine these organs a month before labor, when if any abnormalities, abrasions, fissures, scabs, etc., exist they

can be treated, and healed. If the nipples are small and retracted they may be drawn out every day by the patient. Some advise the exposure of the breasts to the air every day to render the epidermic secretions more active. To prevent sore nipples during lactation, they should carefully be drawn out each day of the last few weeks of pregnancy and moistened with an oily astringent such as the compound tincture of lavender, 2 oz. glycerine ʒss., or a solution of potassium permanganate, using the vaseline afterward. Tannic acid may be used the same way.

Mental Condition. Here is where every pregnant woman is up against the real thing; everything, to her, is much exaggerated. She is subject to whims of all sorts. She may have illusions, delusions, and the like; abnormal cravings for unsuitable foods, etc., and the physician and her friends are at their wits' end. These conditions should be thoroughly explained to the patient, and she should be encouraged as much as possible not to give way to these whims and fancies. Make all the allowance that is possible for the whims of the patient, trying to educate her to be cheerful and happy; never, if possible, allow her to worry about her approaching labor, assuring her of the best care and treatment, and that she will come through this critical stage as thousands have done before.

Examination of the Urine. From the third to the seventh month an examination of the urine should be made, at least, once a month; from the seventh month one should be made every week until labor begins. Warn the patient to report at once any decrease in the amount of urine passed for the twenty-four hours, and thus we may be able to ward off toxemia and eclampsia at the time of labor. I had a case of this the past summer, one of the cases where the physician was not consulted or even spoken to until labor began.

Care of the Genitals. The genitals should be kept scrupulously clean throughout gestation. A solution of boracic acid may be kept constantly on hand, and used once or twice daily, as an external wash, and if indicated, as a vaginal douche under the usual precautions, then toward the last of gestation frequent applications of olive oil to the vulva, and injections of the same within the vagina, relaxes the tissues and tends to

prevent laceration at the time of labor. Whenever a patient has used this treatment I have found that their labor was much less painful and difficult than that of those patients who did not.

Sexual Intercourse. Many diverse opinions have been expressed in regard to sexual intercourse during the period of pregnancy; but the consensus of opinion seems to be that sexual intercourse should be forbidden during the first and last months of pregnancy, also at those times which correspond with the menstrual epochs. In most women sexual intercourse is very distasteful throughout the whole period of gestation. The possibility of infection during coitus cannot be denied. This factor is even more prominent in cases of placenta previa.

Preparation of the Patient. When the pubic hair is very long or thick, it should be clipped quite short, then an enema should be given to empty the bowels, and give them a good wash even whether they have moved spontaneously or not; glycerine may be added to the enema of water with or without soap; about 1 oz. to 1 qt. of water; then a good sponge bath may be given. When the patient cannot have recourse to shower baths some mild antiseptic as boracic acid may be added to the bath water, after which a brisk rub with a coarse flesh towel is acceptable; before taking the bed the genitals and thighs should be washed with a bichloride solution, 1-2,000. Some advise also a vaginal irrigation after the genitals have been scrubbed with soap and water and washed in the bichloride solution; a sterile vulvar pad or gauze should be applied to the vulva and T bandage applied to keep it in place. We should, as obstetricians, train ourselves to diagnose our cases by external methods only, thus preventing the danger of the patient becoming infected through any uncleanness on our part.

I realize that there is much more that might be said in regard to the care of the pregnant woman, but think these few directions enough for ordinary practice, and if followed we may conscientiously feel that we have done much toward preserving the normal health of our patient.

I must acknowledge my dependence upon the work of Edgar, King and Lusk, which has made this paper a possibility.

THE FLY AS THE MAIN DISTRIBUTER OF TYPHOID FEVER.—Dr. A. L. Lincecum believes that with the evidence in hand that the human body may retain a nidus of typhoid bacilli and excrete the same at irregular intervals, even as long as forty-two years, and that this excreta, infected as it is, furnishes an incubator for the flies to propagate in and furnishes food for the young flies immediately after they are hatched, considering their natural physical fitness to carry this infection around on their feet and bodies, as well as excrete the germs in their feces, combined with their natural fondness for human companionship especially at meal time, it stands to reason that they play a most important part in the transmission of typhoid.

Let me draw in your imagination a picture, one which no doubt many of you have already seen in reality. We will suppose a case of typhoid fever in a farm house, unscreened, with a shallow well about thirty feet away, a horse lot and an open closet within 100 feet, flies present in countless numbers. The vessel containing the excreta of the patient is taken from the room, its contents carefully emptied as near the well as permissible, a little water is dashed into the vessel and it is emptied right at the well, the flies swarm over the excreta, and then over the food and the whole family takes typhoid. The attending physician puts on a long face and says: "Bill, your well is contaminated, and your whole family have taken typhoid fever from the water."—*Texas Medical Journal.*

THE NEGRO AS A FACTOR IN THE SPREAD OF TUBERCULOSIS.—Dr. T. A. Parker says that the marked tendency of the negro to migrate to the city is known to all. In its crowded factories, mills and unsanitary dwellings he becomes infected, and as soon as his disease is named, and probably at the advice of his physician, he hies him back to the country where the fear of his malady is usually not so rampant as it is in the city, and carries his infection with him. There without any one to supervise his habits, he soon grows careless, and other members of his family sooner or later succumb, but not until as cooks, washerwomen, nurses, maids, or loafers in the "general store" they have fulfilled their part in the spread of the disease.—*Virginia Medical Semi-Monthly.*

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EDITORIAL.

Perhaps the most remarkable incident in the medical history of this country of the last few years is the discovery of the prevalence in America to an alarming extent of two diseases from which we were previous to that time supposed to be free—Hook-worm disease and Pellagra. We had only commenced to recover from the shock of finding our southern states filled with the victims of the former malady when we had our eyes opened to the alarming prevalence of the latter and more fatal disease.

Pellagra is not a new disease. As early as 1735 it was prevalent in Spain and was described by Gasper Casel as *lepra asturiensis*. In 1750 it had moved to Italy and in 1820 was well known in France. In Italy the disease found its most favorable field and has steadily increased until it affects 200,000 of the Italian people today notwithstanding the fact that measures for the prevention of the spread of the disease have been most vigorously carried on. And now suddenly and without previous warning we find prevalent among us in all parts of

this country, north and south, this disease which has in the past one hundred and seventy-five years slain its thousands in the old world—a disease so unheard of in the United States that until two years ago the name conveyed but little significance to American physicians, a disease which has been to a great extent practically ignored by American text books. Osler's Modern Medicine issued in 1907-1909 makes no further mention of the disease than to differentiate it from *Melasma Suprarenalis*. Osler's Practice of Medicine dismisses the subject with about twenty-five lines. The American System of Medicine, 1898, holds that, "Pellagra is known only in these countries where on account of an uncongenial climate or from barrenness of the soil maize does not mature." Tyson, 1896 and Anders, 1905 each devote a dozen lines to the subject and Loomis ignores it entirely. Isolated imported cases of the disease were reported by Tyler and Grey in the *American Journal of Insanity* in 1864, but it was not until 1902 that the disease was definitely reported among residents of the United States. In this year a case was diagnosed and published by Harris of Georgia as a case of Pellagra associated with uncinariasis—an accidental association without doubt.

In 1906 an epidemic of the disease occurred in the Alabama State Hospital for Colored Insane at Mount Vernon and the discovery of the true nature of the disease with the publication of the facts has been followed by the detection of many other cases throughout the south and less frequently in the northern states. The Marine Hospital Service has collected reports of one thousand cases occurring in Illinois, Pennsylvania, New York and many of the southern state. So far no cases have been reported in Vermont. These reported cases are largely in institutions for the insane. If as is accepted in Italy each case in an institution means ten

more at large and the disease shows the same tendency to spread as it has evinced in Europe it will be readily seen that the occurrence of pellagra in the United States is a problem of considerable importance. The sudden finding of so many cases of a disease hitherto unknown raises interesting problems. Has it actually just appeared among us or has its presence simply remained undetected? Has it been imported from Europe and if so how? And most vital of all is it increasing? It is safe to assume that even if there may have been a few undetected cases scattered through the country, such large groups of cases as have recently been reported could never have gone long unnoticed. Undoubtedly there has been a simultaneous development of a large number of cases in different parts of the country. The description of these cases has with equal probability directed attention to the disease and resulted in the discovery of some scattering cases which would otherwise have gone undetected. From sixty to eighty cases were discovered among twenty-one hundred and fifty patients in the Peoria State Hospital, Illinois. In studying the history of this institution in view of these findings, Dr. George A. Zeller, Supt., finds records of cases as far back as 1905 which were diagnosed as sunburn at the time. These sunburn cases became very prevalent in 1908 and many were followed by diarrhoea lasting four or five days and finally terminating in death. These were undoubtedly cases of pellagra but farther back than this the records of this very carefully managed institution fail to show any such cases. The sudden appearance of so many cases can only point to some common and recently developed cause.

Pellagra is neither infectious, contagious, nor inherited. In countries where labor in the fields is accomplished chiefly by men, these suffer more than women. Elsewhere the subjects of the disease are in larger proportion women. The one chief predisposing factor in its production is

without question the asthenic condition of a poverty-stricken, poorly nourished and enfeebled class of subjects. Though not inherited, pellagra may affect children at an early age; the larger number of patients, however, develop its symptoms between the close of the second and of the fifth decade of life. That it is a disorder chiefly developed in warm countries can scarcely be doubted apart from the arguments adduced in favor of its close connection with the crops raised within certain fixed geographical limits. The southern portions of Europe have unmistakably suffered more than those in the extreme north. The probable geographical limits lie between forty and fifty degrees north latitude.

The popular if not scientific association of pellagra with Indian corn was an ancient notion. Casel himself probably suspected the relationship between the two. In 1776, the Board of Health of Venice passed resolutions to regulate the management of pellagra; these were based upon the assumption that the malady was caused by spoiled corn.

The general association of pellagra with corn was based upon these facts: 1. Pellagra had followed the introduction of corn into Spain, France, Italy and Roumania as well as Egypt and other African countries. 2. Pellagra was epidemic only in corn eating countries. But it should not be forgotten that there were vast corn growing areas where pellagra had not been recognized. 3. People who did not eat corn products were free from pellagra. 4. A diminution in the use of corn products produced a corresponding lessening of pellagra, or vice versa. Summing up the etiology of pellagra, two recent French writers, Nicholas and Jambon, said that the French school had abandoned little by little the theory of corn, sound or mouldy, and tended to consider pellagra as a syndrome of diverse origin, alcohol and poverty being of prime importance. In Italy, on the

contrary, certain writers describe pellagra as the result of an intoxication by *Penicilium Glaucum* or cryptogams allied to it, or by their toxic products developed upon corn or upon other cereals. It is difficult to explain the long immunity of this country and the sudden appearance of the disease at this time by any reference to the corn theory. The European writers place the occurrence in Europe of the disease with the importation of American corn. If this is so it is hard to understand why it did not develop with us at that time and why it should appear now when we are using domestic corn as exclusively as we were then. In attempting an explanation Professor Howard Reed has made extensive studies with a fungus, the *Diplodia*. Some of his conclusions he expresses as follows: "1. Fungi belonging to the genus *Diplodia* grow both parasitically and saprophytically upon maize and are at present known to occur over a large part of the maize producing territory in the United States, especially in portions in which pellagra, or pellagrous diseases, have also appeared. These fungi which appear to have become widely distributed more or less simultaneously with the appearance of numerous cases of pellagra, seem, on account of these facts, fully as probable of significance in the etiology of this disease as those fungi which have for years been associated with mouldy maize. 2. The maize upon which *Diplodia* has grown has altered both in physical and chemical composition. Meal infected with *Diplodia* was found toxic to mice. The isolation of alcohol soluble proteins from *Diplodia* meal yields compounds differing from the bodies isolated by the same means from sterile meal. The products obtained from *Diplodia* meal appear to resemble in every way the Pellagrozein isolated from spoiled maize and described by Lombroso, the Italian investigator."

The symptoms of the disease may be tersely expressed as dermatitis, diarrhoea and depression. The larger groups of the cases are found in insane institutions. The question of whether insanity is a symptom of pellagra or whether pellagra shows some predilection for the insane has not been satisfactorily decided. In an excellent description of the disease illustrated with plates from photographs published in the August *Monthly Bulletin of the Illinois State Board of Health* and from which quotations have been freely made the symptoms are thus described:

"The disease usually manifests itself in the spring of the year, with vague symptoms of bodily weakness, headache, depression of spirits, sleeplessness, cramps, vague but often severe pains in the spine and joints, vertigo and dyspepsia. It will be noted, in passing, that among the earliest or premonitory symptoms, those of nervous and even mental origin are manifested.

A little later the skin lesions appear, although some cases pass through their entire course without skin manifestations (*pellagra sine pellagra*). A number of the cases observed in the Peoria State Hospital have so far shown no skin eruption although they have doubtless progressed for a considerable period of time.

The eruption which is first an erythema, affects chiefly those parts ordinarily exposed to the sun, and it is quite possible that some of those cases of "sunburn" which come under the care of the general practitioner will, if observed during future time, manifest the pathognomonic symptoms of the disease.

Beginning as an erythema, dark red in color, with some edema, the patches soon become dark brown, with thickening of the skin which is associated with burning and itching and later with loss of sensibility.

The epidermis then desquamates, the under-

lying surface appearing red and at times, fissured. Vesicles and bullae may appear and breaking down, leave a condition not unlike moist or weeping eczema in appearance.

The more active skin manifestations are often followed by shrinkage and loss of elasticity of the skin, causing it to become parchment-like in appearance, or the skin may merely become thickened with pigmentation which increases with recurrent attack.

With the coming of autumn the skin symptoms greatly improve, or the lesions may entirely disappear, although, in the majority of instances, and in perhaps all of those which remain untreated, the symptoms recur with added severity the following spring.

The picture of the affected skin, wrinkled like that of a man of eighty, immediately adjacent to skin which is plump and elastic, is quite characteristic, and the more so when we note the absolute symmetry of the lesions. In the vast majority of cases, the hands appear as if encased in gloves, the line of demarcation being at almost identical places on both wrists. The 'pellagra collar' is equally defined on both sides of the neck, and, in those cases where the feet or other parts of the body are involved, the same symmetry is observed.

While the erythema may be regarded as an early symptom, and is often the first to attract attention, it is to be borne in mind that the detection of the skin symptoms does not mark the inception of the disease. The eruption of the first summer frequently attracts no attention; the premonitory symptoms may be insignificant, so that it is not until the appearance of the increased erythema of the second year that the disease is recognized or even suspected. Consequently, we find that we are dealing with a systemic infection of at least a year's standing before the diagnosis is reached; and how much

over a year, our present meagre information precludes our determination.

Early in the disease, constipation or diarrhoea may or may not occur; but in the later stages, diarrhoea is almost an invariable symptom, due, it has been contended, to irritation of the sympathetic ganglia and the plexus of Auerbach. The diarrhoea contributes to the extreme emaciation which is noted in many of those cases in the final stages of the disease.

It is interesting to note the association between the skin manifestations of pellagra with the hallucinations and delusions of the later stage. The appearance of the skin often causes the patient to believe that he is being burned, or that his skin is being stretched or peeled off and not infrequently he is moved to jump into the water to escape his imaginary tormentors. It is by these hallucinations and delusions that several writers have explained the very common suicides by drowning by the victims of pellagrous insanity."

The publication of a paper by R. C. Rosenberger of Philadelphia in *The American Journal of Medical Science* in which he reported the demonstration of tubercle bacilli in the blood of fifty cases of tuberculosis in all stages of the disease has given rise to a spirited controversy. These results, if reliable, were epoch making and immediately revolutionized our preconceived ideas of the nature of the spread of the disease within the human body and, in fact, placed the pathology of tuberculosis upon an entirely new basis. It seemed remarkable that if these observations were authentic everyone of the countless investigators who have been studying the disease for years should have failed to make the same discovery. Since the original communication, Rosenberger has increased his series to

three hundred observations. The publication of this paper immediately stimulated a great amount of research along similar lines and now at the end of the year the results of these investigations are being published. The most important of these publications are as follows: Forsyth reports a study of twelve cases with positive results in ten. Burnham and Lyons detail their observations of ten cases, negative in every instance. Schroeder and Cotton published the result of their studies of the blood of forty-eight tubercular cattle with findings uniformly negative. Mohler studied the blood of eight tubercular cattle with negative results and Ravel and Smith eighteen with similar results. Petty and Mendenhall studied ten cases, only seven of which were tuberculous and demonstrated acid-fast bacilli in all. Hewett and Sutherland made examination of twenty tubercular individuals demonstrating acid-fast organisms in one case only. Anderson examined the blood of forty-eight cases of known tuberculosis with thirteen guinea pigs and eight rabbits, experimentally infected, by Rosenberger's method. In one case only was an acid-fast bacillus found and animals inoculated with blood from this case failed to give positive results. Holmes adds fifty-six cases to this series. Five of his cases showed the presence of acid-fast bacilli in the blood. Guinea pigs were inoculated with two c.c. of blood with negative results in every instance.

The results of the work of these observers are thus seen to show a great discrepancy. In none of the cases reported, however, have animal inoculations verified the positive results found by staining methods. Brem, Burnham, Lyons and others have attempted to account for the positive results by suggesting the possibility of there being acid-fast bacilli in the distilled water used in making the preparations, the former investigator having found such organisms in dis-

tilled water at the Bryn Mawr Hospital. Rosenberger stoutly denies the possibility of error from this source in his investigations. Whatever may be true in this instance the writer can testify from his own sad experience that such an error is possible. In examining a series of specimens of cerebro-spinal fluid for tubercle bacilli positive results were obtained in every instance. This was so surprisingly contrary to previous experience that some source of error was suspected and after careful search located in the physiological salt solution used in diluting the fluid. The solution, which was made from double distilled, ammonia free water and Merck's chemically pure fused sodium chloride, was found to contain acid-fast bacteria absolutely identical to the tubercle bacillus in morphology. These were present in such numbers that a centrifugalized specimen of the shaken solution showed their presence in every slide. Efforts to cultivate these organisms were fruitless. This was not sterilized distilled water but after being made up in chemically clean glass was kept in a chemically clean glass-stoppered bottle. These results go to show that the careful bacteriological investigator must attack every problem and view every result with a spirit of skepticism. Nothing must be accepted as true until all possible sources of error have been eliminated.

Evidence is accumulating of the value of the anti-typhoid inoculation. This has been carried out in the British and German army for several years with undeniably good results and it has recently been proposed to introduce the same procedure into the United States Army. So far as we know the Massachusetts General Hospital is the first hospital to introduce this prophylactic measure among its nurses and attendants. This has been done during the last

year and the fact that there have been no cases of typhoid fever among these immunized attendants is partly at least explained by this inoculation.

The vaccine used for this purpose consists of simply a suspension of the typhoid bacilli killed by exposure to low temperature in salt solution. The inoculations are followed by very little inconvenience to the subject. Sometimes the arm into which the inoculation is made is lame for a time. The length of the period of immunization resulting is uncertain. It seems strange that this method of prophylaxis has not been used more among the people of a town in which typhoid is prevalent. In a city like Montreal where the disease is epidemic many cases could undoubtedly be prevented in this way.

There is probably no disease as much neglected by the physician as whooping cough and there is none in which the laymen recognize more clearly the inefficiency of the doctor and his medicine and yet whooping cough and its sequelae causes more deaths than diphtheria or scarlet fever. Dr. Cushing in the *Cleveland Medical Journal* discusses the disease at length insisting that for its successful treatment an early diagnosis must be made. A catarrhal cough with a blood picture showing a marked leucocytosis with a preponderance of lymphocytes should, he maintains, point strongly to whooping cough. When the diagnosis is made the patient should be put to bed and kept there through the febrile period. After this the patient should be confined to the house or grounds and should not be allowed to play vigorously. Much of the nightly paroxysm can be prevented by having the child sleep in the open air. Fresh air and a precise regime are the two main therapeutic factors. The various antispasmodic drugs have their place in quieting the cough.

NEWS ITEMS.

Every State in New England was represented at the 18th annual reunion and banquet of the Alumni Association of the University of Vermont held in Boston at Young's Hotel on the evening of January 14th. Thos. P. W. Rogers of Manchester, N. H., was toastmaster. Prof. Samuel E. Bassett of the University was the principal speaker of the evening, taking the place of President Buckham. Prof. Bassett's topic was the relation between the University of Vermont and other colleges in athletics and gave some university reminiscences. Dr. Lyman Allen of the Medical Faculty addressed the members of the association on behalf of Dr. H. C. Tinkham, dean of the department. Dr. Allen dwelt strongly upon the higher standard of the medical department and also upheld baseball and athletics generally.

Reports from the emergency hospital in Montreal indicate that typhoid fever is still spreading, not with epidemic proportions, but still with a regularity which indicates that city conditions are very far from being right. Wednesday, January 11th, there were sixty-nine cases in one hospital. The worst position was the lack of accommodation. The establishment of the emergency hospital relieved this congestion and since then the outbreak has been considerably improved. The regular hospitals are still filled to their capacity while the emergency hospital has at no time been taxed to its utmost. The disease appears to be almost confined to adults.

The State Board of Medical Registration held examinations at the State House the third week in January. The board voted to notify all medical colleges in New England that after January 1st, 1911, applicants for certificates in Vermont will not be received who have not been instructed in simple refraction, in other words, young physicians who desire certificates to practice, must after the date named have enough knowledge of the eye to be competent to fit spectacles. The next meeting of the board will be held next July in Burlington.

Dr. and Mrs. S. N. Piette of Winooski are the parents of a son born January 16th.

Dr. G. R. Davis of Bethel has been invited by the directors of the Randolph sanatorium to a place on its consulting board.

Mrs. George H. Fox, wife of Dr. G. H. Fox of Rutland, one of the oldest physicians in Rutland County, died January 16th.

The Rutland County Medical Society held a meeting January 13th at which time it was decided to organize for the purpose of conducting a dispensary where deserving poor people can go daily and receive medical attention free. Practically every physician in town has agreed to lend his assistance to the project. Each doctor will be assigned a certain time when he will be in charge, giving his services entirely free, and certain diseases will be treated at specified times. Druggists will fill prescriptions at the actual cost of the drugs. The mayor will co-operate with the medical men by providing a place at the city hall for the dispensary. —Later: The society has decided that there is no call for this dispensary service in Rutland.

In an effort to stamp out tuberculosis, the Anti-Tuberculosis League decided at a meeting held in Pittsburg, Pa., to request the superintendent of schools of all large cities to issue an order that teachers shall not wear skirts coming below their shoe tops. It is urged that if necessary, ordinances be passed making the long skirt unlawful as the long skirts of teachers now cause the dust in the class-rooms to rise, later settling in the pupils' lungs and sowing the first seeds of consumption.

Dr. R. W. Morse, who has been practicing in Worcester, Mass., for some time, has gone to Ashland, Mass.

Dr. M. W. Smaill of Mystic, Conn., class of 1893, U. V. M. College of Medicine, has returned to take post-graduate work.

Dr. H. H. Dinsmore, recently of Enfield, N. H., died January 3rd at his home in Manchester, N. H., aged thirty-six.

Dr. Henry R. Parker, former mayor of Dover, N. H., died December 19th of pneumonia.

Dr. J. H. A. Gravelle has left Terry, N. H., and gone to Manitoba to practice.

Dr. A. S. Mangurian has opened an office in Manchester, N. H., being the first Armenian physician to locate in that city.

Dr. Day of Nicholville has an appointment in New Mexico as physician for an Indian reservation.

Dr. J. M. Wheeler, U. V. M. College of Medicine, class of 19— of New York City, has received an appointment of assistant surgeon to the New York Eye and Ear Infirmary.

Dr. W. F. Minard of Waterbury is seriously ill.

A second small fire occurred at the State Hospital for the Insane at Waterbury, Vt., January 28th. The blaze was confined to the paint shop and was extinguished by the hospital force.

The Crafton County (N. H.) Medical Society at its sixth annual meeting held at Woodsville, December 14th, elected the following officers: President, Dr. F. G. Smith of Lebanon; vice-president, Dr. W. E. Laurence of North Haverhill; secretary and treasurer, Dr. Geo. G. Weaver of Warren.

The Waldo County (Me.) Medical Association held its annual meeting at Belfast, December 13, electing the following officers: President, Dr. A. E. Kilgore of Brooks; vice-president, Dr. E. L. Stevens of Belfast; secretary, Dr. C. M. Whitney of Unity, and treasurer, Dr. O. S. Vickery of Belfast.

George Edward Woodbury, M. D., Dartmouth Medical School, 1860, died at his home in Methuen, Mass., December 26th, from heart disease, aged 71 years.

Harry Rust Parker, Dartmouth Medical School, 1866, died at his home in Dover, Dec. 19th from pneumonia, aged 73 years.

Frank Colverd Bruce, M. D., University of Vermont, 1885, died in Northampton, Mass., Nov. 7th from paresis, aged 49 years.

James Thomas Kerryan, M. D., University of Vermont, 1899, died at his old home in Hudson, Mass., Dec. 9th, from abscess of the brain, aged 35 years.

The medal of the Royal Humane Society has been conferred on Dr. Leonard W. Oliver of Hampshire, England, for an act of bravery. A man descended into a large cesspit and was at once overcome by the gases at the bottom, which was being cleared. Another man descended to help him and was similarly overcome and fell. An alarm was raised and the physician was called. He burned straw in order to get rid of the gases and then prepared to

descend, when a policeman intervened and said the medical man would be of more use at the top. The policeman was roped and went down to the bottom but found the weight of the disabled men greater than he could lift. Dr. Oliver then went to his assistance and together they succeeded in bringing the men to the surface. The physician was able to resuscitate one but the other died. Medals of the Royal Humane Society (a distinction instituted for the recognition of acts of bravery in the saving of life) have been conferred on both Dr. Oliver and the policeman.

Typhoid fever still prevails in Montreal. Forty new cases have already been admitted to the emergency hospital, and others are coming in daily. A cablegram is said to have been received from Lord Strathcona in London subscribing \$25,000 to this hospital and offering \$100,000 more towards a fund for permanent eradication of the sources of the recurrent typhoid epidemics in Montreal.

The Tuberculosis Crusade of 1909, based on reports gathered from all parts of the United States, the National Association for the Study and Prevention of Tuberculosis has issued a bulletin in which it is stated that \$8,180,621.50 was expended during the year just closed by the various interests fighting consumption in the United States. The bulletin which is preliminary to a longer report, shows that in the year 1909, over 10,000,000 pieces of literature were distributed and that 117,312 patients were treated and assisted by the sanatoria, dispensaries and antituberculosis associations. By far the largest amount of money spent during the past year was for the treatment of tuberculosis patients in sanatoria and hospitals, \$5,292,289.77 being expended in this way. The antituberculosis associations spent \$975,889.56, the tuberculosis dispensaries and clinics \$640,474.64 and the various municipalities for special tuberculosis work, spent \$1,111,967.53. The antituberculosis associations distributed the most literature spreading far and wide 8,400,000 copies of circulars, pamphlets and other printed matter for the purpose of educating the public about consumption. The health department of the different cities also distributed more than 1,056,000 copies which with the work done by State departments of health, brings the number of pieces distributed during the year well over 10,000,000. The

largest number of patients treated during the year was by the dispensaries where 61,586 patients were given free treatment and advice. The sanatoria and hospitals treated 38,758 patients while antituberculosis associations assisted 16,968. New York State leads in the antituberculosis work during the past year, having spent more money, distributed more literature and treated more patients than any other state. Pennsylvania comes next and Massachusetts is third. The next seven States are Illinois, Maryland, New Jersey, California, Colorado, Connecticut and Ohio.

Vital Statistics for New York City. Statistics were issued by the Health Department of New York City, January 1, which showed that the city's birth rate is decreasing. In the last year there were 41,483 marriages, an increase of 3,984 over 1898, with 123,433 births, a decrease of 3,429 under the previous year. The figures also showed that the total number of deaths during 1909 in the city was 74,105 as against 73,073 in 1908, an increase of only 1,023. There was a decrease in the death rate to 16.23, the lowest in the history of the city.

The death rate for the city of Philadelphia for the year 1909 was 15.85 for each 100,000 of population, being the lowest in the city's history.

The annual report of the health officer of Burlington shows a total of 578 births during the year 1909. Of these children 278 were males and 300 females. The ages of the mothers ranged from 13 to 46. There were 462 deaths, including 15 still-births. Of these 242 were males and 220 females. There were 162 under one year, 34 between 1 and 10 years, 18 between 10 and 20, 26 between 20 and 30, 24 between 30 and 40, 40 between 40 and 50, 30 between 50 and 60, 37 between 60 and 70, 57 between 70 and 80, and 34 over 80 years. The principal diseases causing deaths were: Tuberculosis of the lungs, 26; apoplexy, 23; meningitis, 10; organic diseases of the heart, 19; broncho-pneumonia, 46; lobar pneumonia, 28; diarrhea and enteritis in children under 2 years of age, 66; Bright's disease, 14; premature births, 23; old age, 24; violent deaths, 16. Of contagious diseases there were 30 cases of diphtheria with 1 death; 341 cases of measles with 3 deaths; 45 cases of mumps; 14 cases of scarlet fever; 25 cases of typhoid fever with 4 deaths and 15 cases of varicella.

BOOK REVIEWS.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE.—Ninth Revised Edition. A Text-Book of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine. Medico-Chirurgical College, Philadelphia. Ninth revised edition. Octavo of 1326 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth \$5.50 net; Half Morocco, \$7.00 net. W. B. Saunders Company, Philadelphia and London.

Anders Practice is too well and favorably known to need any introduction to our readers. Suffice it to say that the newly issued ninth edition has been brought thoroughly up-to-date. All the latest additions to our diagnostic procedures are thoroughly and fairly discussed. The newer additions to the therapeutic measures, drug serum physical, etc., are all described and their value well estimated. Every one practicing medicine should own an Anders.

EXAMINATION OF THE URINE.—The New (2d) Edition. Examination of the Urine: A manual for Students and Practitioners. By G. A. DeSantos Saxe, M. D., Instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital. Second edition, enlarged and reset. 12 mo. of 448 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth \$1.75 net. W. B. Saunders Company, Philadelphia and London.

A very readable and practical book on the subject of the urine and its examination. The author's decisions of the significance of the various elements of urine both normal and pathologic are good and his descriptions of chemical tests are clear. Particularly to be commended is the section on urinary diagnosis. The questions at the end of every chapter are valuable to the student and helpful to the practitioner summing up the chapter's contents.

THE PRACTICE OF GYNECOLOGY.—New (4th) Edition, Thoroughly Revised. A Text-Book on the Practice of Gynecology. For Practitioners and Students. By W. Easterly Ashton, M. D., LL. D., Professor of Gynecology in the Medico-Chirurgical College of Philadelphia. Fourth edition, thoroughly revised. Octavo of 1099 pages, with 1058 original line drawings. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$6.50 net; Half Morocco, \$8.00 net. W. B. Saunders Company Philadelphia and London.

This work is one of careful detail in text aided by profuse illustrations. The author has avoided describing a multiplicity of operations and treatments for a single diseased condition but has selected the one which his own large experience

has convinced him to be the most valuable and this he has described with great detail.

The descriptions are clear and the illustrations excellent for the purpose for which they are intended. Of great value are the illustrations of the instruments used for every operation, placed just before the description of the technique.

A TEXT-BOOK OF PHYSIOLOGY.—Third Edition, Revised. A Text-Book of Physiology: for Medical Students and Physicians. By William H. Howell, Ph. D., M. D., LL. D., Professor of Physiology, Johns Hopkins University, Baltimore. Third edition, thoroughly revised. Octavo of 998 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$4.00 net; Half Morocco, \$5.50 net. W. B. Saunders Company, Philadelphia and London.

Great advances in our knowledge of physiology have been made as a result of research of chemical and physical physiology. In the third edition of Howells appear these results to the modification of some of the views of physiology which are so old as to be considered almost axiomatic. It comes almost as a shock to learn that the blood is not alkaline but neutral.

Howells is a thoroughly scientific and up to date treatment of the fundamental subject.

DOSE - BOOK AND PRESCRIPTION - WRITING.—Fourth Revised Edition. Dose-Book and Prescription-Writing. By E. Q. Thornton, M. D., Assistant Professor of Materia Medica, Jefferson Medical College, Philadelphia. Fourth edition revised. 12 mo. of 410 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Flexible leather, \$2.00 net. W. B. Saunders Company, Philadelphia and London.

This work has always been a popular one with students. Covering as it does a field which is too often neglected it is also useful to many practitioners. This edition amplifies the chapters of the former editions dealing with solvent incompatibilities, preparations and methods of prescribing them and adds brief articles upon dermatological pastes and salve mulls.

THE PREVENTION AND TREATMENT OF ABORTION.—By Frederick J. Taussig, A. B., M. D., Lecturer in Gynecology, Medical Department, Washington University; Obstetrician to the St. Louis Maternity Hospital; Gynecologist to the St. Louis Skin and Cancer Hospital; Fellow of the American Gynecological Society, and American Association of Anatomists. Fifty-nine illustrations. St. Louis. C. V. Mosby Company, 1910.

This is an admirable monograph of this subject based upon the consideration of the experi-

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ences of European and American obstetricians. It gives the anatomy, pathology, etiology, diagnosis and treatment of abortion together with the after treatment, operative indications, operative technique, complications, sepsis, etc. It is complete and clear without being verbose and is well illustrated. It gives the knowledge of this subject as gleaned from the literature of the world and is a valuable addition to the literature of this subject.

THERAPEUTIC NOTES.

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Abbott's Saline Laxative has two features which distinguish it from the common run of saline cathartics: First, when taken in cool (not cold) water immediately on rising, it acts *once*, in an hour or two (a clean, satisfying flush) and usually no more; whereas ordinary salines keep the patient busy all day long. The annoyance of this when one is away from home or busy in business is great. Besides, there does not seem to be any failure in the action of this saline when used continuously for long periods—no habit forming necessitating increase of dose, but rather the reverse.

In one case a physician reports that he has taken a single teaspoonful of it every morning for 12 years, and still finds that dose amply sufficient to maintain regularity in his bowels.

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THERAPEUTIC SERMONETTE.

By Dr. Geo. F. Butler.—At the onset of acute tonsillitis the bowels should be cleansed by calomel, podophyllin and bilein followed by saline laxative. Defervescent compound (No. 1 or 2 according to age), every half hour until the temperature reaches 100 degrees F. or less. If much hoarseness and soreness of throat, potassium bichromate gr. 1/67 in a teaspoonful of water should be given every two hours. As the acute symptoms subside these remedies should be replaced by calx iodata (Calcidin) gr. 1/3 given in a teaspoonful of hot water every hour or two as indicated. The throat should be sprayed three or four times a day with an antiseptic solution (Menthol Compound, Abbott, 1 tablet, glycerin ½ ounce, water 12 ounces). The urine should be frequently examined, and if there is evidence of acidemia, sodoxylin and salithia should be given in plenty of water until the condition is overcome. A light diet should be given and the child kept in a room moistened with steam or the air medicated with a vapor of cresoline or with antiseptic oils. By all means keep up free elimination through bowels, skin and kidneys.—*Therapeutic Medicine.*

ANESTHAINE A SUCCESS.

I am using Anesthaine (Abbott) with excellent results. My first experience was in the opening of a small, indurated abscess of the face. Five or six drops injected completely anesthetized the part in less than five minutes so that my little operation with scalpel, etc., did not cause the patient to complain in the least.

My second operation was the removal of a needle deeply imbedded in the hand of an old lady where a few drops produced the same result.

These were good tests. I therefore look upon Anesthaine as a success and am glad to have it brought to my attention. To know that it will keep, to know that it may be boiled for sterilization without detriment and to be able to use it without the dread that always accompanies the use of cocaine solution is to me a great comfort. Congratulations on your good work for the doctor.

S. J. McNEILL, M. D.

Chicago, Ill.

Note. A full sized 75 cent package of Anesthaine will be sent to any physician who has not used this preparation, on receipt of 25 cents. Address The Abbott Alkaloidal Co., Chicago, Ill.

WHY HE USES THE ALKALOIDS.

I use the alkaloids and I shall as long as I practice medicine. "There's a reason."

They are reliable; they are sure; they are good; they are the best. Why, Dr. Abbott, don't you know that spasmodic croup for instance has lost all its terrors for me since you introduced Calcidin? Then by using alkaloids we can abort pneumonia.

I recently had a fine case of smallpox, and I gave the patient your ½ grain pills of calcium sulphide to saturation and he made a fine recovery in a very few days.

S. W. HOPKINS, M. D.

Lodi, Calif.

A GALLSTONE OPERATION WITH H-M-C.

I have recently used H-M-C tablets (Abbott) for gallstones on a patient of 67 years, whose condition did not warrant a general anesthetic. The use of H-M-C tablets was supported by the local use of Schleich's mixture, and the operation was completed, including the removal of over 700 gall stones without any pain to the patient and no subsequent nausea. In fact several hours after the operation was performed the patient asked if we were not almost ready to take her up to the operating room. (I also find this preparation the best pain-reliever I have ever used. Its effects are excellent and usually unpleasant sequels from the use of morphine are notably absent).

C. H. BUSHNELL, M. D.

Chicago, Ill.

THE SCIENTIFIC SPIRIT.


The scientific spirit prevails in the manufacturing chemists' shops as never before. The Abbott Alkaloidal Company's physiologic and scientific laboratories are splendid examples. Quality is sought first, then quantity.—*The Lancet-Clinic.*

CENSUS COMMISSION REPORT.

Washington, D. C.—The preliminary report of the Census Commission relative to the second decennial revision of the Classification of the Causes of Death, made by the International Commission in Paris recently, together with the revised list of titles will be found in Census Bulletin No. 104 which will be published soon and copies will be sent to all of the registration officials of the United States and to the members of the American Statistical Association. A new manual of classification will be prepared for the use of the registration offices of the United States as soon as the detailed results of the revision are available, and an effort will be made to bring the revised classification to the attention of every physician and local registrar in the country as an aid to the proper reporting of causes of death.

If the Census Commission had accomplished absolutely nothing in the way of practical reform, it would have been, according to Census Chief Statistician Wilbur, well worth sending in order that the country should occupy the place to which it is entitled in the councils of the nations which employ this classification; but, as a matter of fact, very much was accomplished.

Dr. F. P. Foster, as chairman of the American Medical Association's committee and Dr. Wilmer R. Batt, as chairman of the committee of the American Public Health Association, have been engaged for over a year in cooperation with the Bureau of the Census and with committees appointed by many national medical organizations devoted to special branches of medicine, upon the question of the proper classification and nomenclature of diseases with special reference to the improvements to be made in the International Classification at the recent revision. Meetings were held by these committees at Philadelphia, New York and Washington, and important suggestions were formulated which were duly transmitted to the Secretary-General, Dr. Bertillion, and were laid before the Commission in the special book prepared for its use. A very considerable proportion of these was adopted by the International Commission. Perhaps the most important of all the measures especially recommended by the United States was the improvement in the principle of the statistical classification of deaths from violence. Dr. Bertillion, Dr. Livi of Italy,



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and Dr. Cressy L. Wilbur were appointed a special committee of the commission to adjust this portion of the classification, which they did.

Dr. Wilbur stated today that he believed the revised list will be much more acceptable to American registrars and that it will give the information in regard to the industrial causes of mortality in a more satisfactory way than any classification previously prepared. Of course all of the recommendations of the American delegates could not be adopted. There were 23 countries represented in the International Commission and conservatism is a characteristic of European officials and especially of European statisticians. It is perfectly right, he declared, that this should be so because it creates endless confusion when many changes are made in an established system of compilation. Furthermore it is hardly to be expected that a country like the United States, whose registration officials had never before joined in an international congress and whose statistics relate to only about one-half of the population of the United States should be able to prevail against the established views of the representatives of countries where complete and comprehensive vital statistics have been published for a long series of years. Nevertheless the fullest consideration was given to the American propositions and the utmost courtesy and harmony prevailed. He feels that the American delegates owe profound thanks to the Secretary-General, Dr. Bertillon, and to the French Government, and that American registrars should loyally abide by the recommendations adopted and use the International Classification without any modifications or changes, except such as are entirely permissible under its constitution, for the next ten years.

Dr. Wilbur stated that the United States starts at the beginning of a new census decade with the revised classification of causes of death, in which American registration officials and American physicians have had their say; a revised standard certificate of death, which will be adopted by the American Public Health Association at Richmond this month, and put into effect for all of the registration area beginning January 1, 1910; and with new rules and instructions recently formulated by the Director of the Census and promulgated to all reporting offices for the purpose of obtaining more complete and correct transcripts of the deaths now registered.

THE OLD OAKEN BUCKET.

As seen from a sanitary point of view in
Bulletin Kansas State Board of Health:

With what anguish of mind I remember my
childhood,

Recalled in the light of a knowledge since
gained;

The malarial farm, the wet fungus-grown wild-
wood,

The chills there contracted that since have re-
mained.

The scum-covered duck pond, the pig-sty close
by it;

The place where the sour-smelling house-
drainage fell;

The hut of my father, the barn-yard just nigh it,
But worse than all else was the horrible smell.

The old oaken bucket,
The iron-bound bucket,
The moss-covered bucket
That hung in the well.

Just think of it! Moss on the vessel that lifted
The water I drank in the days called to mind;
Ere I learned what professors and scientists
gifted,

In water of wells by analysis find.

The rotting wood fiber, the oxide of iron;

The algæ and toads of unusual size;

The water impure as the verses of Bryon,
Are things I remember with tears in my
eyes. (*Refrain.*)

How little I thought of the typhoid fever

That lurked in the water I ventured to drink;

But since I've become a devoted believer

In teachings of science, I shudder to think.

Perhaps I had boiled and afterward strained it,

Through filters of charcoal and gravel com-
bined,

And after distilling, condensed and regained it

In potable form with its filth left behind.
(*Refrain.*)

And now far removed from the scene I'm
describing,

Emotions of grief large as tea-kettles swell;

My memory reverts to my youthful imbibing,

And I gag at the thought of that horrible well.

The old oaken bucket,
The iron-bound bucket,
The moss-covered bucket
That hung in the well.

In inserting a sound or other inflexible instrument into the bladder, pain and discomfort will be eliminated to a considerable extent if gentle but firm pressure is made upward and backward on the perineum; this enables the instrument to hug the roof of the canal more easily. Conversely, in removing such an instrument, it will be surprising to see how much comfort is added to the patient, if the same firm but gentle pressure is made with the finger tips of the free hand downward and backward under the pubic arch; this brings the instrument closer to the floor of the urethra, and makes its removal much less annoying and painful.—*Wolbarst. International Journal of Surgery.*

In the course of an acute antero-posterior urethritis, with much pus in the urine and urinary symptoms, do not misinterpret the sudden clearing up of the urine passed into the second glass by the patient. This is an invariable warning of an impending epididymitis.—*Wolbarst. International Journal of Surgery.*

HOT AND COLD WATER IN EYE DISEASES.

Nance states that the principal points in the consideration of this subject may be thus briefly summarized:

1. Heat and cold are best applied to the eye by moist pads. They are more efficacious when employed in this manner than by means of the coil or bladder, in that their action is more penetrating and their effect is more germicidal.

2. The application of heat is indicated in degenerative corneal processes—interstitial and phlyctenular keratitis, corneal ulcers, pannus, infected corneal wounds, hyphemia, hypopyon, suppurative panophthalmitis, in iritis and cyclitis, in muscular spasm, and in contusion and ecchymosis of the eyelids ("black-eye") to hasten absorption of extravasated blood.

3. The applications should be of the highest temperature the patient can endure, viz., 110° to 135° F.

4. They should be employed for a period of fifteen minutes, and repeated at intervals of two or three hours, for many hours.

5. Cold is indicated in hyperemia and inflammation of the conjuncture. In traumatism, especially those of the iris and lens and in the

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early treatment of contusions of the lids, its employment is of value.

6. In purulent conjunctivitis, iced applications may be continuously used for many hours so long as the cornea remains unimpaired, in which instance they are positively contra-indicated.

7. Hot applications greatly assist the rapid absorption of various medicaments employed in ophthalmic practice and when used for this purpose should immediately precede the instillation of such conditions.—*N. A. Jour. Homo.*

THE EARLY DIAGNOSIS OF LEAD POISONING.

In the diagnosis of plumbism, in addition to the other ordinary diagnostic methods discussed in the text-books, there is another simple measure which is of no small value. If a small portion of the surface of the skin be painted with a solution of sodium sulphide, or, for that mat-

ter, any other alkaline sulphide, it will immediately turn black or gray because of the presence of the lead which is being eliminated by the skin. This is of considerable diagnostic importance, because this appears very frequently before any other manifestation and sometimes long before the characteristic blue line is seen on the gum. This should be of value to the physician, as it will not only corroborate other findings, but will also enable him to make a diagnosis very much earlier than otherwise.—*Practical Therapeutics*.

IN acute gonorrhoeal urethritis, the presence of a small meatus urinarius predisposes to an increased severity of the inflammation. Meatotomy is imperative, in spite of the profuse discharge. The wound is not usually affected in the least degree by the gonococcus infection in the urethra. During the healing stage it is well to keep a small pledget of absorbent cotton soaked in bichlorid solution between the lips of the meatus constantly. This prevents unduly rapid closure of the wound with contraction, and keeps it clean at the same time.—*Wolbarst. International Journal of Surgery*.

MASSAGE of the prostate should always be followed by an intravesical irrigation of a mild antiseptic solution; otherwise, the patient may develop a new infection, produced by depositing the germs that have lain dormant in the prostate upon the new and susceptible soil of the urethra.—*Wolbarst. International Journal of Surgery*.

OSTEOPATHS MAY NOT ISSUE DEATH CERTIFICATES IN NEW YORK.

The Court of Appeals of the State of New York rendered a decision some months ago to the effect that a licensed osteopath was a physician under the existing sanitary code and was authorized to grant death certificates. In handing down this decision the Court suggested that the health authorities might amend the sanitary code so as to distinguish between physicians. Following this the State Board of Health last March adopted an amendment to the code requiring death certificates to be signed by physicians having the degree of doctor of medicine. Dr. Charles F. Bandel, an osteopath, residing in Brooklyn, asked for an injunction restraining the board from requiring the degree of M. D.

pending a final decision of the matter in the higher court. Justice Crane, in denying this injunction, said that "the intimation of the Court of Appeals is so pointed that I could not hold otherwise than that this restriction or regulation of the Board of Health is legal."—*Med. Rev. of Reviews*.

THE PHYSIOLOGICAL ASPECTS OF VENTILATION.

Dr. Theodore Hough, of the University of Virginia, said there was no argument against the hygienic importance of ventilation. The history of the subject showed that it was not so simple as often supposed. The poisonous material in the air of the room did not come from the lungs, but from the skin, clothing, decaying food particles in the mouth, or catarrhal exudates from the air passage. It was important to distinguish between the acute effects which were produced by prolonged exposure. The toxic material, so far as it was a factor, did harm chiefly when it acted over a comparatively long period, and they must seek elsewhere the explanation of the acute effect. While the introduction of fresh air was of great importance in removing the unfavorable physiological factors, it was even of more importance to maintain an even temperature of 68° to 70° since at that temperature the humidity was almost negligible, while the other ill effects, especially on the nervous system seemed to be less noticeable and less important.

TRAUMATIC AMNESIA.

An account of the case of Endrukut, who shot a woman with whom he was in love, afterward lodging a bullet in his own brain, and who was acquitted of the murder upon the ground that having suffered a complete amnesia from the brain trauma he was "without sufficient knowledge and memory of the facts and circumstances attending the alleged crime to make a defense thereto," hence was "a lunatic and mentally incompetent to advise with counsel and prepare his defense." These points being included in the charge of the court, the jury found the prisoner guilty of murder but "now a lunatic." After spending two months in prison he was sent to Norristown, where the physicians found themselves unable to fit his case in with any heretofore described type of traumatic insanity, but



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considered him a mentally alert and rather unusually intelligent patient, while his general health remained good. It was at no time claimed that he was insane prior to committing the crime. The author thinks that the establishments of traumatic amnesia as a defense for crime may constitute a dangerous precedent.—*The Journal of Nervous and Mental Diseases.*

THE FIRST HOSPITAL IN AMERICA.

From the scholarly pen of Dr. James J. Walsh, in the *Medical Record*, we learn that the first American hospital was built in the City of Mexico and is now called "The Hospital of Jesus."

Dr. Walsh says: "The first American hospital still in existence was built by Cortez, the Conqueror of Mexico, before 1524. The site chosen for it was that whereon Cortez and his followers first met Montezuma and his Mexicans. * * * Perhaps the most interesting thing about the hospital is the fact that Cortez so arranged the endowment for it that it has continued to be paid down to the present day. It was never given over to the State, but is a special corporation under a superintendent, and so it has survived the changes of government and the revolutions of Mexico. Cortez's principal descendants are the Italian Dukes of Terranova é Montaleone, and they have still the right to name an agent to supervise the hospital. This they do regularly so that the institution has been kept to its original intention and usefulness. The whole foundation, from the beautiful building—the finest of its kind on the continent—to the method of the management of the endowment, appeals to this generation of ours which is trying to accomplish just such results as Cortez, by due consideration, found it possible to secure in the first quarter of the sixteenth century."

Dr. Walsh says the second American hospital was built at Santa Fe, in Mexico, and the third at Quebec, Canada—the Hotel Dieu—on the same spot where now stands the present Hotel Dieu.—*Chicago Medical Recorder.*

EXTRACT OF CORPUS LUTEUM IN DISTURBANCES OF MENOPAUSE.

Morley, in the November number of the *Journal of the Michigan State Medical Society*, reports his results in eighteen cases. This report is a continuation of the one that appeared in the August number of the *Detroit Medical Journal*. The author used an extract made from the corpora lutea of beef ovaries rather than an extract of the entire ovary, as the consensus of opinion seems to be that the internal secretion of the ovary is produced by the yellow body. The extract is given in five-grain doses, three times a day, one-half to one hour before meals. His results in eighteen cases may be summed up as follows:

Five were cured, twelve were improved and one obtained no relief. Included in the twelve cases that were improved are grouped those that are still taking the extract.

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A permanent cure may result in a few of the cases under treatment. Of the eighteen cases, fourteen suffered from disturbances of operative or artificial and four from those of natural or physiologic menopause. While the results obtained in so small a group of cases do not warrant the drawing of any definite conclusions, still the author thinks that the results are favorable enough to justify a continuance of the treatment in other cases where there is a disturbance incident to artificial or physiologic menopause.

A REMARKABLE PROPHECY.

The following, which is known as "Mother Shipton's Prophecy," was first published in 1488, and was republished in 1641. It will be noticed that all the events predicted in it, except that mentioned in the last two lines—which is still in the future—have already come to pass:

Carriages without horses shall go,
And accidents fill the world with woe.
Around the world thoughts shall fly.
In the twinkling of an eye.
Waters shall yet more wonders do;
Now strange, but shall be true.

The world upside down shall be,
And gold be found at root of tree.
Through hills men shall ride,
And no horse or ass be at his side.
Under water men shall walk;
Shall ride, shall sleep, shall talk.
In the air men shall be seen,
In white, in black, in green.
Iron in the water shall float,
As easy as a wooden boat.
Gold shall be found and found
In a land that's not now known.
Fire and water shall wonders do,
England shall at least admit a Jew.
The world to an end shall come
In eighteen hundred and eighty-one.

—Exchange.

WITHIN the past month the city of New York has appropriated \$2,500,000 for hospitals for the treatment of tuberculosis on Staten and Blackwell's islands. When these hospitals are completed, the city will have 2,500 beds in special tuberculosis hospitals.



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THE prize for medical research was this year conferred on Theodor Kocher of Berne, where he has been professor of surgery since 1872. He was born at Berne, August 25, 1841, and is thus 68 years old. His fame rests mainly on his research on the physiology and pathology of the thyroid gland, although he is eminent as a surgeon and his "Manual of Surgery" is a classic text-book.

A FAVOR.

Little Dorothy's papa had been very ill with appendicitis, but at last she was permitted to see him. When the nurse came to take her away she hung back a moment.

"Haven't I been very quiet, pa?"

"Yes," whispered the parent.

"Then won't you do me a big favor, papa?"

"Certainly, what is it, my child?"

"Let me see the baby."—*Des Moines Register and Leader.*

FOR SALE.—Unopposed practice in Central Asthenia. Purchaser should be experienced in the treatment of pernicious malaria, pellagra and hook-worm disease. The factory of the Invisible Motor car is situated in Asthenia. Must know how to handle a gun and speak the Bulgarian language fluently. Doctor died suddenly and left his practice. Windmill will operate static machine, compressed air apparatus, centrifuge, fans, etc. For sale by administrator. Rigid investigation invited and references required. Large barn may be converted into sanitarium. No triflers.—*Critic and Guide.*

ANNOUNCEMENT was made December 20, 1909, by the trustees of the University of Pennsylvania that Henry Phipps, founder of the Phipps Institute in Philadelphia, had presented to the university \$500,000 to be used in the campaign against tuberculosis. The management of the Phipps institute will fall upon the university

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trustees, and the study, treatment, prevention of the disease will be continued in a new hospital to be erected.

GEORGE CROCKER's gift to Columbia University to be used for the investigation of cancer will amount to at least \$1,500,000, according to the terms of his will, made public recently. This sum will be realized by the sale of the city home and country estate.

RURAL AUNT TO CITY NEPHEW: "And what do you work at when you are at home?" Nephew: "Why, I attend a medical school; I am studying for a doctor." Aunt: "Do tell; ain't the doctor able to do his own studying?"

A Delightful Revelation.

¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

¶ It is the same pleasant, gentle laxative, however, which for many years past physicians have entrusted to domestic use because of its non-irritant and non-debilitating character, its wide range of usefulness and its freedom from every objectionable quality. It is well and generally known that the component parts of Syrup of Figs and Elixir of Senna are as follows:—

Syrup of Californian Figs	75 parts
Aromatic Elixir of Senna, manufactured by our original method, known to the California Fig Syrup Company only	25 parts

¶ Its production satisfied the demand of the profession for an elegant pharmaceutical laxative of agreeable quality and high standard, and it is, therefore, a scientific accomplishment of value, as our method ensures that perfect purity and uniformity of product required by the careful physician. It is a laxative which physicians may sanction for family use because its constituents are known to the profession and the remedy itself proven to be prompt and reliable in its action, acceptable to the taste and never followed by the slightest debilitation.

ITS ETHICAL CHARACTER.

¶ Syrup of Figs and Elixir of Senna is an ethical proprietary remedy and has been mentioned favorably, as a laxative, in the medical literature of the age, by some of the most eminent living authorities. The method of manufacture is known to us only, but we have always informed the profession fully, as to its component parts. It is, therefore, not a secret remedy, and we make no empirical claims for it. The value of senna, as a laxative, is too well known to physicians to call for any special comment, but in this scientific age, it is important to get it in its best and most acceptable form and of the choicest quality, which we are enabled to offer in Syrup of Figs and Elixir of Senna, as our facilities and equipment are exceptional and our best efforts devoted to the one purpose.

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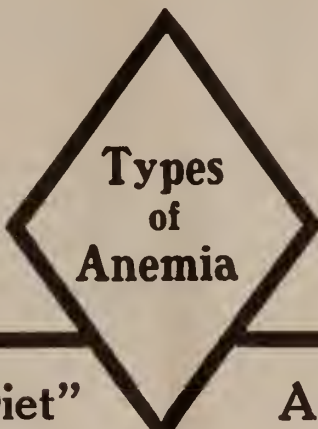
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ORIGINAL ARTICLES.

PARANOIA.*

BY

DR. W. L. WASSON,

Waterbury, Vt.

There have been so many thorough and comprehensive monographs on the disease of paranoia that I suppose I should hesitate to engage your attention on that subject unless I have something new to offer. However, I have assumed that, owing to certain very widely known cases, recently before the public, there may be an unusual interest in this disease, accordingly it has become the subject of this paper.

Paranoia is a Greek word which was used originally to indicate insanity, but later took on a number of different applications, according to the conceptions of different writers and observers. Without discussing at present any of these differences of use, we advance the following definition: "Paranoia is the chronic form of mental disorder, on a more or less pronounced degenerative basis, characterized especially by systematized delusive conceptions without essential involvement of the affective nature, other than may be due to the character of the intellectual aberrations, and not ordinarily accompanied by any rapid or general failure of the reasoning faculties." (Brower-Bannister).

Diefendorf says, "Paranoia is a chronic progressive psychosis occurring mostly in adult life, characterized by the gradual development of a stable progressive system of delusions, without marked mental deterioration, clouding of consciousness or disorder of thought, will or conduct."

Paranoia as a term finds little favor in England, the condition being there designated as chronic delusional insanity, or progressive systematized insanity. In America and on the continent, however, paranoia is pretty generally recognized as a distinct entity, not worked out to its finest details by any means, but still suf-

ficiently clear in well marked cases so as to afford little trouble in making a diagnosis.

Etiology: This disease constitutes somewhere about 2 or 3% of the insane, and arises on a defective or degenerate basis. The degeneracy generally is the result of defective progenitors,—alcoholics, eccentrics, neuropaths, or insane. It develops most commonly between the ages of twenty-five and forty-five, although in many cases patients have exhibited marked characteristics from early life, being moody, eccentric, reserved, suspicious, etc.; on the other hand some exhibit marked mental ability in some special line of endeavor. The physical degeneracy is made manifest by various stigmata. The exciting cause may be physical or mental,—some severe illness, shock, or mental stress.

Pathologically there is nothing characteristic.

Symptomology: The onset is insidious and the individual generally is not recognized as insane for a long time, even years. It was perhaps noticed that the patient had undergone a change in disposition, become irritable, suspicious, and disposed to complain over trifles such as ordinarily would pass unnoticed.

The development of delusions of persecution are very gradual. It is noticed by patient that his fellow workmen are less friendly, his work is destroyed by them during the night, the foreman is down on him. At home things are no better, his wife neglects him, is untrue, his children have ceased to care for him, and so it goes on from one thing to another till he is convinced by constant watchfulness that he is the object of a conspiracy or plot to ruin him. The false interpretation of events is further assisted by hallucinations of hearing, which may be present, although not invariably so. At first the hallucinations may be vague noises, but soon voices are heard. The voices are generally of an unpleasant character and consist of abusive phrases, or he may even hear enemies plotting about him and planning for his downfall. One patient heard obscene and profane remarks directed toward her as she rode on the street cars. At other times on the street she became the subject of adverse discussion. Some cases go on for years evolving delusions of persecution which they weave into an elaborate system, and they may never pass beyond this stage. The ma-

*Read at the annual meeting of the Vermont State Medical Society at White River Jct., Oct. 14-15, 1909.

jority, however, sooner or later develop delusions of an expansive character. They begin to wonder why it is that they should become the object of so much attention and persecution. Some find an explanation in the vast wealth of which they imagine themselves possessed; others wake up to the fact that they are destined to perform some special mission—a second Elijah,—another is followed about by spies who try to kill her and poison her, who offer a reward for her head,—she being a descendant of the royal families of England, France, Spain, Denmark, etc.—all this time, while heatedly relating her wrongs and detailing her royal descent, she sits mending and patching industriously the clothing of the other patients, and sees nothing incongruous in so doing with her exalted birth. Some become so exalted in feeling that a change of personality results. The favorite title to assume is that of king, queen or even God. One old lady believed herself to be “Queen of all nations,” and had a plausible explanation as to how she became rightful ruler over each country. Expansive delusions of this character are frequently encountered in other psychosis, as a general rule they are present whenever there is an exaltation of the feelings, as may happen in mania or in general paralysis. Here the delusions are changeable, transitory, and lack the system so well marked in paranoia.

It will be well to emphasize at this point that all delusions of persecution and of expansive character are clung to with great persistency and progressively elaborated into a coherent system. Argument only serves to irritate them or to excite derision. The most innocent or trivial occurrences are interpreted as proofs of their delusions,—a cough becomes a direct insult,—a gesture is a confirmation of their apprehensions, a spot on the sheet indicates that an attempt has been made to poison them, etc.

Another prominent symptom which is exhibited sooner or later in most cases is falsification of memory and which consists of a false interpretation of many occurrences in the history of their past, in such a manner as to add to and confirm their present delusions. They recollect many things, now, which show that even years before they were the objects of much secret plotting; certain mysterious proceedings demonstrate their high birth, etc. These are added to and help to swell the grand total of their delusions.

Owing to the development of delusions of a special character, different types of paranoia are sometimes designated,—a strong erotic element leads to delusions dealing with sexual matters. In others the delusions may deal with matters of a religious nature and constitute religious paranoia, and so on. The character of the delusions held by any individual naturally is determined by a number of different factors. His hereditary endowment, his education and training, his nationality, and the state of civilization in which he lives. So many times do we see in the insane many morbid symptoms which in reality are but an accentuation of characteristics seen in the every day healthy life of the individual;—and right here let us not forget that the mental processes of the insane are the mental processes of the sane—in the one they are incoordinated or perverted, in the other coordinated and harmonized by the light of experience and reason.

Insight in this disease is never present. It is simply a waste of breath and energy to attempt to enlighten them as to their actual condition. Not long since as I was sitting in one of the halls writing, an old lady patient, who was reading a newspaper, suddenly asked me the meaning of the word paranoia, and kept at me until I had given her quite an extended explanation. When I had finished she observed with some heat that they were people who were persecuted and that it wasn't paranoia either. Thus started she proceeded to string out a long chain of connected and absurd delusions of persecution and poisoning, mingled with numerous hallucinations of hearing and of smell. When she had finished, I then proceeded something like this, “Jane, you wished a moment ago to know what form of insanity was meant by paranoia, now you just told me a long list of persecutions and attempted poisonings associated with any number of false voices and odors,—of all this you have been the victim—I'm afraid I must say that a state of mind like that constitutes paranoia.” Her indignation was of several days' duration. In the course of an ordinary conversation oftentimes nothing whatever of abnormal character is noticeable. However, if the right string be pulled, a flood of delusions will gush forth. This is not always the case, as it is frequently noticed that paranoiacs conceal their delusions for a long time and resent with marked aggressiveness any attempt to engage them in

conversation relative to them. The memory is well preserved, in fact it is wonderful how accurately many of these cases can recall events which happened years before. Confusion or clouded consciousness is likewise not a part of the disease picture.

Emotionally at first when the suspicious and hypochondriacal complaints are prominent, a more or less depressed attitude is maintained. The emotions as a rule are consistent with the content of the delusions. This is largely determined many times by the particular temperament of the individual. Later on when a slight degree of dementia ensues and when habit has reduced the sense of wrong, a more or less tranquil state is reached, which is broken from time to time by short exacerbations.

In conduct these patients vary much depending on the individual and on the stage of the disease. Owing to the prominence of delusions of persecution these patients are very dangerous to be at large and often, after seeking in vain legal redress, take the law into their own hands. Seven patients who have committed homicides now in the hospital are of this class. Others content themselves with moving about from place to place in order to escape their persecutors, by eventually traveling from one extreme of the country to another in a vain attempt to free themselves; still others appeal to the public by writing to newspapers and publishing pamphlets. One of our patients writes each week to King Edward of England citing his abuses and demanding an accounting of the millions due him.* As a rule these patients bear their confinement with great restiveness and are constantly agitating for their release or making attempts at escape.

The course of the disease is long and protracted. The onset is of very gradual development and is not recognized by associates or relatives oftentimes, for years. At first there is a period characterized by the development of doubts, suspicions, peculiarities of conduct, etc. This period may last for months or even years and is followed by the period of persecutory delusions, which develops gradually from the suspicions of the first stage. These delusions often accompanied by hallucinations, particularly auditory, are closely related and dove tailed one into another, ever growing with changes in the environment until a very complex and harmonious system has been elaborated. Some cases

may not progress beyond this stage, the disease process appearing to rest here without going on to the stage of expansiveness which characterizes the majority of cases sooner or later. This last named period is marked by the elaboration of delusions of an expansive nature, and an accompanying feature is the profound change of personality that commonly occurs and which leads these unfortunates to believe themselves to be great and most exalted personages. At no time in the vast majority of cases is there observable mental deterioration or dementia to any great extent. Paranoiacs are subject to exacerbations from time to time, and at these times seem under considerable emotional stress and react in a much more lively manner to their delusions. Again, we may expect rarely to encounter a condition of mania or general paralysis complicating paranoia, and producing characteristic changes in the disease picture.

In making a diagnosis we have to keep in mind a disease of insidious onset, characterized by a slow and progressive development of a system of persecutory delusions, generally accompanied by hallucinations, and with clear consciousness, good memory and no mental deterioration. One should not, however, rush into a diagnosis of paranoia because of the presence of a fairly well systematized delusion. A number of other mental diseases may at some stage display delusions apparently well systematized and some cases even so for years,—as in the paranoid form of dementia praecox. The whole picture must be taken into consideration, the entire course reviewed before it is safe to attempt a diagnosis. Of course in this disease complex as in most others, there are cases which are ill defined and imperfect, but the typical case can give but little trouble in diagnosis.

Another feature I would like to emphasize is the stubborn way in which some paranoiacs conceal their delusions. They evade every attempt to draw them out and even deny the presence of

*Mr. Como, Please tell Sir Wilferd Lauria, the Prime Minister of Can. that a Student of the University Cambrensis is held illegally at Waterbury, Vermont. That he is the inventor of an electrical machine which he is confident will accomplish great results for Canada and other northern countries. He claims to be the discoverer of a great Power in connection with the study of light and heat. That he solicits the aid of Canada to release him from prison, that he is yet in the prime of life.

Yours truly,

J. H. Joanis.

any such beliefs. Prolonged observation, however, will generally enable one to detect the presence of delusions and hallucinations more by the attitude of the patients than by what they may say.

The prognosis is a well developed case of paranoia is hopeless as none such have been known to recover.

The treatment resolves itself into the custodial life within an institution. There are practically no physical symptoms which need treatment. Rarely because of delusions of poisoning, or of hallucinations patients may refuse food even to the point of starvation. In such cases the obvious remedy is to "tube-feed."

Confinement in a hospital is a necessary procedure, owing to the danger of having individuals at large whose impulses are actuated by delusions of persecution and hallucinations of hearing. Such people should be inside an institution where opportunity to indulge their morbid impulses is at a minimum. Even in an institution the danger is none the less, and a number of physicians and attendants have paid with their lives a failure to guard against the delusions of these patients. Sometimes the regular routine life serves to soften down the activity of their delusions and they get along very comfortably. Some may be employed at various tasks, and they do well oftentimes, their interest in the work tending to keep their thoughts away from their delusions and hallucinations.

One of our painters at the present time is a paranoiac, he is very skillful and works under surveillance nearly every day. However, he is considered one of our most dangerous men and, consequently, is an inmate of the violent ward. The danger of suicide is another matter which should not be forgotten, one case of ours, who was a very skillful blacksmith, and really of a very engaging and lovable disposition, did the blacksmith work at the hospital for a year or more in a most efficient manner. He was allowed a parole of the grounds and never manifested any desire to break it. One night he came up missing and the next morning was found dead. He had suffered so in mind from his delusions that life to him was no longer worth living.

Not all paranoiacs are confined or even recognized as such, although insane for years. There is no question but what many of the originators

of the various religious sects which spring up every now and then belong among the paranoiacs.

I would here call your attention briefly to a well marked variety of paranoia, known as the litigious or querulent type. Doubtless you all have known of certain individuals in your own neighborhoods, who seem to have a special capacity for getting into trouble with those who live about them and who consequently are continually involved in litigation. The same tendency accentuated to a morbid degree constitutes this special type of mental disease. The starting point in most cases is some real injustice done them, while maybe an adverse and unjust court decision, or an uncalled for caricature in the daily press. A chain of law suits is started which keeps up during the rest of the natural life of the individual, unless the state of insanity be recognized and the insane person confined.

They are very egotistic and vain, especially of their knowledge of law, and will quote rules and precedents on every available occasion. Many times they even insist on handling their own cases in court. They are on the qui vive for opportunities to air their grievances or contend in argument. In fact, to them there is no other argument than theirs, and this fact calls attention to the very narrow horizon of their thoughts, which are confined to the limited circle of their delusions. They seem to have no power or inclination to think of anything else than their delusions. Many cases issue pamphlets setting forth at great length the intricate network of wrongs which they have suffered and the vain attempts they have made to have justice done them.

It is useless to reply in any way to their contentions; they utterly disregard the rights of others, and interpret the slightest opposition of their delusions as a sign that they who oppose have also joined the ranks of their enemies.

It is impossible to put the finger on any one factor and say that this is the sole and only cause of this condition. In very few if in any cases of insanity, can any given single cause be given the preponderance of weight.

Insanity in its different forms is due to a multiplicity of interacting factors and not to single isolated forces. The germ of the querulent exists from birth,—a congenitally deficient individual, who breaks down mentally under the slight stresses of a normal existence.

Deeds of violence frequently happen as a result of their exasperation over the retardation of the wheels of justice. Scarcely a month passes but what we read of a murder or assault having been made by a lunatic upon some person, an utter stranger to him, in response to some delusion or other.

Following is a note taken in the words of a rather typical case of paranoia, in a woman aged fifty-seven, and who recites her delusions freely when questioned in reference to them.

"I came to Boston Dec. 14, 1900 from the west and went to taking orders for pictures, I got orders for pupils. I did something in landscape work and in flowers. Then I got orders in tapestries and figure paintings. I never had any trouble until I commenced to go over to Malden by the elevated and surface cars. Then they commenced to point me out and call me names,— a thief, and a vile woman. That is why I wrote to the superintendent of the elevated road. I had letters from him and went to his office and called on him. They would put up those names, and the starters at Harvard Square would call me names. I had their numbers. First I went to the priest and spoke to him about the west end boys and what they were doing, and asked him if he would not use his influence to stop it. Afterwards I went to the police and asked Capt. G—— to put a stop to the trouble. I reported to him who they were. When I went onto the street the policeman said, 'that is the woman who has appealed for protection. The trouble is, the priest has looked her up,' and that was when I wrote to the priest. I asked the priest if he had heard anything derogatory to my character, and I said to him, I not only have the right to ask the charge of you, but I have the right to demand it. After a while it got so I could not go anywhere on the street, but I could hear the men and boys talking on the corners. They would say, 'that is the woman, isn't it a shame,' and they would talk in a vile way. I appealed to the police station to have it stopped. It was injuring my trade, for I was a woman and alone and all I had was my reputation. People began to take notice the way I was being pointed out. On June 19th, I wrote a letter to the Archbishop, knowing this trouble was in the church, I said to the Archbishop, for defamation of character. I do not think one could find a more pronounced case, but before taking action in the matter or making the affair public, I deem

it my duty as a woman to appraise you of the trouble and beg of you that you will see justice done. I would not think a priest would condemn without a trial in defiance of all laws.

I think it was a lot of fellows who put me down as a low degraded creature. I heard people tell of it. I heard it when I was passing along. It was the Irish boys, and that was why I went to see the priest. If I hadn't gone near probably it wouldn't have been so bad, but after it started, it kept growing.

I couldn't start to go anywhere but what everybody knew it, the cab drivers and everybody. The news boys on the corners of the streets would call out in the morning before I was out of bed. They would call out, the Herald, the Globe, Post and curse and call me vile names and a thief, and the officers knew it, and the boys would say they would murder me. One day I heard a news boy say to a priest who came along, 'I have killed that woman, by calling her names,' the priest took him by the hand and said, 'you did well my boy, you did well.' I can't see for my life why they should want my life, unless it was because I took it up. I told the priest that I should cause an investigation, but he said, 'the officers will never testify for you,' and I said, they will testify for me to save themselves.' The plot went all through the church, because when I wrote to the Archbishop and went to register the letter, the man in the office said, 'do you think you can go over father's head,' as much as to say that if the priest wished to put me down or ruin me, I could not help myself. My land! if I would go out forty miles I would hear about that letter. I can tell you, sometime, just how that whole business has followed me up to Vermont, I can follow the circle right around.

Doctor, I haven't any ill feeling against anyone, I can outlive those troubles in a way, but the question is, how am I to get along? If I have to die, I am not afraid to do so. Now, let me tell you, I lived over on the west end of Boston, and at night my windows would be open, but my blinds would be closed. A number of men came along and I heard them talking, I heard one man say, 'here is where that artist lives. I guess we have ruined her all right. We have tried to put down the trouble and get rid of the fellows who used to do that work so much.' He said he would take a fellow in to have a drink, which was probably drugged, and then he would

take him down to the river and stab him and throw him in. I went up to the headquarters of the police and reported what they said about the murders."

Patient's conversation and conduct ordinarily show nothing abnormal, and to the casual observer, there would be nothing to indicate a degraded mental state.

DISCUSSION.

Dr. D. D. Grout.—There is nothing quite so disheartening as giving up your time and energy in writing such a paper, better and more satisfactory than you will find in any text books, and I want to congratulate Dr. Wasson on his ability shown in writing the same, and then to have it look as though it had fallen flat.

My friend, Dr. Tinkham, has just said what was the use in writing a paper no one knows anything about?

Four years ago soon after I went into the hospital I had a letter regarding an observation case sent by the Court of Windham County, wanting to know the mental status of the patient. Knowing practically nothing about the case myself, I thought I would have the benefit of the members of the staff who had seen him, but I did not feel that I was doing my duty unless I made a personal examination of the man. I knew nothing about the line of his insanity at all. He was a fairly intelligent man. I went to his room and spent an hour. I pulled every string I could. I asked him every question I could and every answer he made was as straight an answer as could be made by anyone. I went into the office and said: "Boys, perhaps you can see that that man is insane, but I can't." Dr. Bone went with me to the patient's room and asked him two or three questions and that man talked a straight line for a half hour. You are often called upon to make an examination of a patient and perhaps make out a certificate of insanity. You talk with the patient and you are not able to elicit a thing and you say—this man is not insane—and later a suicide or a homicide happens, on account of your inability in understanding the condition of the patient and not being able to elicit the information required. The case just referred to by Dr. Wasson was a gentleman in every respect. He went regularly to the shop and worked as regularly as any employee. After we had him there a while, it did seem as though that man could go home. He seemed rational in every respect. He had never begged to be allowed to return to his home. During the three years he was at the hospital, I had several prolonged conversations with him and he only alluded to his delusion once. It came out unguarded. Perhaps for a half minute he alluded to that delusion. He was sent home once and then returned to the hospital. Conditions at home were such that he was returned to us. The doctor spoke to me about how nice it would be to have a clinical exhibit of cases of this sort because it is decidedly interesting to see the flight of imagination. The doctor could exhibit the delusions all right. He could pull the right string and the music would play just as long as you wanted it to. What benefit would that be to you? It is of no practical benefit only it shows just what the delusions are. The point is, when you see a patient at home, unless it is a pronounced case, you may not be able to elicit the delusion and you say the man is sane and disaster is the result.

Dr. W. H. Lane, Brattleboro, Vt.—I would like to inquire what percentage of the patients at Waterbury are classified as paranoia?

"As delusions of grandeur characterize certain forms of insanity a very good illustration comes to my mind which you will pardon me for reviewing. The man was confined to the State Hospital in Taunton, Mass. He was a barber by trade and was once fairly intelligent. Two or three days previous to his being transferred to the Medfield Asylum I said to him 'Robert, you are going to leave us.' 'Where am I going?' he inquired. 'To the Asylum at Medfield,' I replied. 'Before I go,' he remarked, 'I am going to make you a beautiful present. It will cost a million dollars.' I said, 'Robert, are you aware of the fact that you are a pauper, that you are dependent upon the state for your daily bread, that you haven't a penny in the world? How can you get a million dollars?' He replied, 'That is easy. I will get one hundred Chinamen and insure each one of them for a million dollars and shoot them all. There will be 100,000,000 right there won't there?'"

Dr. H. C. Tinkham.—I don't know anything about the subject. I made the remark Dr. Grout said I did, but I was in about the same position as a man who had commented favorably upon the death of his brother's wife and her sister came to him and said: "I don't believe that you ever could have said such a thing about my sister's death." "Yes, I said it, but that is all I could do about it," he replied. I made the remark alluded to by Dr. Grout but that is all I can do about it.

As I sat here I had this thought. How little I know of this subject and how little perhaps, it is understood by the general practitioners and still how great a responsibility we as general practitioners are taking in committing the insane to asylums or hospitals. After this, I think I shall be excused from such a task. I shall not pose as an expert on insanity and commit people to an insane hospital. In suspicious cases it would be an extremely proper thing to have a consultation with experts before the commitment was made. I for one shall be very loth to decide upon a subject which is so important and about which I know so little.

PELVIC INFLAMMATION.

BY

DR. GEORGE M. SABIN,

Burlington, Vt.

I fully realize I cannot give you any new facts on the old subject of pelvic inflammation, so I will attempt only to review it as we meet it in our daily practice.

First I will take the acute condition. In this the inflammatory process may be in the Fallopian tubes, ovaries, peritoneum or connective tissue. The cause of the acute inflammation is infection. This infection may be the ordinary pus germs staphylococcus or streptococcus, or the gonococcus.

Practically every case of acute pelvic inflammation can be traced to infection from labor, abortion, instrumentation or gonorrhoea.

The fact that every case of pelvic inflammation is due to an infected endometrium, emphasizes the importance of checking endometritis at once when present, and of preventing it whenever possible.

Pathological changes in acute pelvic inflammation are varied. There are hardly two cases alike and the same case presents a different picture at different periods. I will divide the cases into classes as follows:

1. MILD SALPINGITIS.

The inflammation is very slight. There is some round cell infiltration of the wall of the tube, with slight thickening and hardening and a few fimbriae bound together. Both ends of the tube are open.

This is the mildest form of pelvic inflammation and as a rule gives few symptoms.

A more severe type of the same class is that in which both ends of the tube are occluded and the tube distorted and often adherent to the ovary or some other structure. The wall is thickened but the cavity contains no appreciable amount of fluid.

2. SALPINGITIS WITH EXUDATE.

In cases of this class there is a large amount of exudate binding together the tubes, ovaries, intestines and uterus. There is no distinct collection of pus.

3. PYO SALPINX.

The tube or tubes are distended with pus and there are the usual evidences of inflammation without the tube. There may or may not be a large mass of exudate.

4. DIFFUSE SUPPURATION IN THE PELVIS.

Here the pus has extended outside the tube, the fibrinous exudate extending before it shutting it off from the general peritoneal cavity. This may result simply in an abscess low in the pelvis which can be easily reached and evacuated from below or the inflammation may extend until all the pelvic organs are bound together in a mass with the pus lying in the spaces between them and burrowing into the connective tissue.

In such a case there are present all the lesions of pelvic inflammation, salpingitis, ovaritis, peritonitis and cellulitis.

5. ACUTE DIFFUSE PERITONITIS.

In cases of this class the infection is so virulent and spreads so rapidly that but little limiting exudate is formed. The infection quickly involves the peritoneal cavity and causes fatal peritonitis. This is a rather rare form of pelvic inflammation and is found principally in cases of severe sepsis following labor or abortion.

6. CELLULITIS.

This is inflammation of the connective tissue about the uterus.

It is really a lymphangitis of the broad ligament. It causes an inflammatory infiltration of the tissues, both serous and cellular with resulting swelling and boggy. It runs a rapid course and ends in resolution, abscess formation or general sepsis.

SYMPTOMS AND DIAGNOSIS.

A patient with acute pelvic inflammation complains of pain in the lower abdomen, increased by walking or sitting up. She is usually confined to the bed. There may be moderate temperature, the higher temperatures being found most frequently in the cases following labor or miscarriage. There is usually a vaginal discharge, due to inflammation of the endometrium, a history of recent labor or abortion, instrumentation, gonorrhoea or a chronic endometritis due to one of these causes.

The lower abdomen is tender on pressure, the tenderness being confined to one or both tubal regions or extending over the entire lower abdomen. Rigidity of muscles may be present. The tenderness on bimanual palpation is found in the body of the uterus and about one or both tubes. If a mass of exudate is present it may be felt to one side, behind or entirely around the uterus fixing that organ as though plaster of paris had been poured into the pelvis and hardened there. If there is a collection of pus of considerable size fluctuation may be detected.

The diseases that might be confused with acute pelvic inflammation are: Acute endometritis, tubal pregnancy, appendicitis, tumor with a twisted pedicle and a suppurating tumor as dermoid cyst or necrotic fibroid.

TREATMENT CONSISTS OF

Rest in bed, large hot vaginal douches every 4 to 6 hours, laxatives and sedatives as needed.

Hot applications over the lower abdomen aid in relieving pain.

Some special measures are indicated in certain cases, as cleaning the interior of the uterus of retained membranes in cases of abortion and labor, making free drainage from the cervical canal and irrigating the uterine cavity as each individual case requires. If the inflammation is spreading rapidly to the general peritoneum the peritoneal cavity may be opened and drained both through the abdomen and vagina if necessary.

Such severe cases are principally seen in pelvic inflammation following labor or miscarriage and constitute the most severe cases of puerperal sepsis. Immediately following the drainage operation the patient should be put in the Fowler position. The introduction of normal saline solution into the system gives important aid to the heart and kidneys and facilitates the elimination of septic material.

If the inflammation is not spreading, let it alone and avoid radical operating in the acute attack unless the patient's life is threatened by the severity of the inflammation.

When the diagnosis is doubtful operation may be indicated on account of the probability or possibility of some condition requiring operation at once, as appendicitis, tubal pregnancy or suppurating tumor.

CHRONIC PELVIC INFLAMMATIONS.

The chronic inflammatory process may be located principally in the Fallopian tubes, ovaries, pelvic peritoneum or pelvic connective tissue. The separate forms are more distinct than in the acute variety. The cases may be divided into distinct groups representing the different localizations of the inflammatory process and differing considerably in pathology and symptoms.

1. CHRONIC SALPINGITIS WITH COMPLICATING CHRONIC PELVIC PERITONITIS CAUSING PERITONEAL EXUDATE AND ADHESIONS.

This lesion may consist of a mild salpingitis, a hydro salpinx, a salpingitis with exudate, a pyo salpinx, a diffuse pelvic suppuration or old adhesions.

2. CHRONIC OVARITIS.

The ovaries may be large and cystic and prolapsed or may be cirrhotic.

3. CHRONIC PELVIC CELLULITIS.

In this condition the cellular infiltration is in the connective tissue areas and therefore principally about the cervix.

SYMPTOMS AND DIAGNOSIS.

The symptoms of chronic pelvic inflammation are backache and pain in the pelvis, increased by walking or working; tenderness in the lower abdomen, usually over one or both tubes. There are decided menstrual disturbances, consisting of painful menstruation, prolonged menstruation and an increase of all the troublesome symptoms at the menstrual periods. The woman may complain of weakness and a loss of weight and an inability to stand walking or working as she formerly did. Vaginal discharge is usually present due to the accompanying endometritis.

In the salpingitis cases, exacerbations occur, in which the woman has sharp pain and some fever and is sick in bed from a few days to several weeks.

On vaginal examination there is tenderness in the tubal region of one or both sides and in most cases a mass in the same region.

If the inflammation is slight there may be no mass but simply a thickening of the affected tube. The amount of fixation or limitation of motion depends on the extent of the exudate and adhesions.

The cases of salpingitis frequently present complications, as lacerations of the cervix and perineum, retroversions of the uterus and endometritis. These conditions must be noted for they must be taken into consideration in the treatment.

The diseases which may be confounded with chronic pelvic inflammation and which must be remembered in the differential diagnosis are, chronic endometritis, fibroid of the uterus, tubal pregnancy with chronic symptoms, tuberculosis of the tubes and peritoneum, ovarian and broad ligament tumors, chronic appendicitis, pelvic neuralgia, neurasthenia and hysteria.

TREATMENT.

In the treatment of chronic pelvic inflammation there are certain measures applicable to practically all cases and special measures that apply to special conditions only.

The measures applying to all cases are: attention to the bowels, general health, rest at

menstrual periods, hot vaginal douches, and applications to the vault of the vagina by means of tampons, all of which aid in relieving pain and absorption of the exudate.

After the trial of palliative measures as indicated by each individual case without satisfactory results, the abdomen should be opened and pathological structures removed if possible as indicated by the existing conditions.

Careful study should be made of each case generally, for in some cases it will be found that the principal trouble is some general disease or some local disease in another part of the body, the pelvic disorder being of secondary importance. Then if nothing is found outside the pelvis to account for the patient's symptoms and all other measures fail to relieve the pelvic distress, exploratory operation is warranted.

In operative cases when the patient is under forty years of age and the pathological conditions will admit, preserve as much ovarian tissues as possible, to continue menstruation and for the influence of its internal secretion.

ANTERIOR POLIOMYELITIS.*

BY

E. J. MELVILLE, M. D.,

St. Albans, Vt.

Anterior poliomyelitis, essential paralysis of children, atrophic spinal paralysis, infantile paralysis, organic infantile paralysis, is a disease associated with more or less motor paralysis, followed by atrophy of the muscles supplied by the nerves springing from the segment of the spinal cord affected. This disease is more common in children under three years of age, but in the five cases which I had an opportunity of studying more or less closely for a period ranging from three to seventeen years, the youngest of my patients was five years and the oldest fifty-one years.

PATHOLOGY.

The pathological anatomy of this disease is not very clear on account of the low death rate and the consequent dearth of post-mortem material. Yet the consensus of opinion is that the anterior lateral columns are atrophied, and atrophy, de-

formity and sclerosis of the anterior horns of grey matter in those parts of the cord from which emanated the nerves going to the affected muscles. The multipolar ganglion cells of the anterior horns of grey matter are destroyed and in their place are found increase of connective tissue, enlarged and congested vessels.

The gross appearance of the paralyzed muscles present simple atrophy even after five years. Hayem says "proliferation of nuclei occurs in the perimysium and sarcolemma and this accumulation renders the muscular fibres friable without modifying the appearance of the striae to any appreciable extent.

The whole substance of the limb or limbs involved, including the bones, nerves and blood vessels as well as the muscular tissue not only does not show growth corresponding to the rest of the body, but undergoes atrophy.

As the centres for the motor filaments are in the anterior horns of gray matter, their degeneration begins with the inception of the disease but as shown in experiments on the lower animals their excitability does not disappear until about four days after. Thus the paralysis does not make its appearance with the initial symptoms.

Many observers and writers on this subject now believe that infectious material (an infectious embolus) reaches the anterior spinal artery and the commissural branch thereof, which passes to the anterior horn. Whether the medium of invasion of the microorganisms is through the blood vessels which supply the parts or whether a soluble toxin is secreted which finds its way to the spinal centres, like the toxin of tetanus, is not known.

The etiology of this disease is obscure. The epidemic of 1894, on the banks of Otter Creek reported at length by Dr. C. S. Caverly, the epidemic of 1907 and of the epidemic of this summer have been studied by different authorities without throwing any light upon the cause. It is probably caused by an infection. Exposure to cold, heat, over fatigue, injury and the like have been brought forward as causes.

The cause of the paralysis has been proven to be an embolus of the spinal arteries supplying the anterior cornua of gray matter, of the cord. The disease affects the sexes in about equal proportion. It is more common during the warm months than at other seasons. The lower extremities are more often paralyzed than

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the upper, in the proportion of about 80 per cent. In my five cases the upper extremities were paralyzed in one, the lower extremities in two and all four extremities in two.

SYMPTOMS.

The stage of onset is not in any way different from any of the common diseases of childhood. There is elevation of temperature, stomach and intestinal disturbance, followed in a few hours or a few days by paralysis which at once marks the disease. The duration of the first stage may last from a few hours to a week.

Then follows a stationary period lasting from a week to a month, where the constitutional symptoms cease, but where the paralysis persists. This is succeeded by the stage of partial recovery, where the muscles that were paralyzed because of the secondary congestion and exudation about the local myelitis recover their power in whole or in part, while those muscles supplied from the area in the cord in which the nerve cells have been destroyed waste away. This stage lasts from one to six months or longer and it is at this time that the contractions and distortions in the paralyzed limbs appear.

Some cases undoubtedly entirely recover, but in my experience with the two cases where the paralysis occurred in the lower extremities there has been no appreciable improvement after periods of seven and fourteen years; in the case which had paralysis of the right arm almost complete recovery took place with the exception of the adductors and extensors of the thumb, which are still affected after seven years. In the two cases where paralysis occurred in all four extremities there has been an ataxic gait and weakness of all of the muscular system. These latter two cases were adults and have enjoyed fairly good health for the past fifteen years.

The sensation of the paralyzed limb is not affected in the majority of cases. The temperature is always lower in the paralyzed limb, sometimes amounting to several degrees.

The parts are cold, congested and blue, caused primarily by the interference with the vasomotor system, and later by the atrophy of the muscles and by the permanent contraction of the blood vessels.

In most cases the degree of paralysis corresponds to the retardation of growth, atrophy and shortening, and lowered temperature, but this does not always correspond.

The symptoms of the later stages of this disease depend in a great measure upon the activity, the persistence and the intelligence of the treatment.

DIAGNOSIS.

Poliomyelitis may be confounded with cerebral paralysis, Pott's paraplegia, spastic spinal paraplegia, multiple neuritis, diphtheritic paralysis, pseudoparalysis, obstetrical paralysis, rheumatism and joint disease. However a careful study of the above diseases, and careful analysis of the symptoms will make the differential diagnosis easy.

Many authors class progressive muscular and hereditary or family type of progressive muscular atrophy of spinal origin as the same disease as chronic poliomyelitis. However it is the consensus of opinion that they are separate diseases. Mayer says "Chronic anterior poliomyelitis develops more rapidly, a number of muscles are involved at the onset, even a whole limb and paralysis occurs first, the atrophy following. The paralysis often starts in the lower limbs or in the shoulder region and alterations in electrical excitability are observable, before there is any noticeable atrophy. There are however, transitional forms in which it is difficult to make a diagnosis." The pathological anatomy of both diseases shows an alteration of the anterior gray columns, but in one the paralysis comes on suddenly and in the other gradually. The muscles in one disease atrophy from disuse, in the other the muscular atrophy is the cause of their disuse, and their fibres change to a fatty or granular matter.

Amyotrophic lateral sclerosis is often confounded with chronic anterior poliomyelitis, and in only typical cases can the diagnosis be made. The former disease is rare in children, comes on slowly with weakness and atrophy in the upper or weakness and stiffness in the lower extremities, and the paralysis does not reach its height for months.

TREATMENT.

In the early stage of the disease, that is, for such constitutional symptoms as fever, malaise and soreness of the muscular system, an initial dose of calomel and some antipyretic and analgesic remedy may do no harm. However, when the disease is definitely diagnosed medicines usually do harm. The use of ergot, iodides and

strychnine can do nothing more than to disturb the digestion. Most parents will demand some form of medicines and to fulfill such indications we may best give the patient some form of a good appetizing tonic. However we should remember that medicines have no direct effect upon this disease. All therapeutic indications are rest in the open air, a generous easily assimilable diet, strict attention to the skin, kidneys and bowels, and passive motion of the paralyzed limbs begun at once and continued faithfully for years if necessary, irrespective of improvement.

It is well as soon as the diagnosis of the disease is made to have a plain talk with the parents of the patient, explaining to them the serious aspects of the case as perhaps there is no disease where the physician gets more undeserved censure than in this.

The three great remedies in the treatment of poliomyelitis are: Electricity, massage and hydrotherapy. Undoubtedly the static, high frequency and the brush discharge will give the best results, but in my cases and in the majority of the cases these currents are not available and we must resort to some portable battery. I have found a McIntosh 24 cell combined galvanic and faradic battery very useful and giving all the current the patient could stand. The seances should be given twice a day, begun at once as soon as the fever subsides and continued for at least a year, or until complete recovery takes place. Even if there is no electrical reaction to the faradic or to the galvanic current we should still persist, as many times muscles completely paralyzed for months, may receive motor innervation from the old nerve that has become regenerated or from some other nerve that has taken up the function or work of the one destroyed. By the persistent and continuous use of the different electrical currents, the circulation is kept up and atrophy is prevented from taking place in the muscle, at least to any great extent.

Undoubtedly in many cases the cells in the spinal cord may regain their functional activity at least partially months after their apparent extinction, and the paralysis continue because of the degeneration that has taken place in the muscle fibres.

Massage: Since the time of Celsus it has been demonstrated that bodily temperature is increased by kneading the muscles and I know

of no better way to overcome the lowered vitality of the paralyzed limbs than by deep and superficial kneading. After 10 minutes vigorous kneading of the muscles of the paralyzed parts, it is nothing unusual to find the surface thermometer registering from 2 to 4 degrees higher than before. When a muscle is inactive the blood goes around it in a great measure instead of through it. The moment activity of a muscle begins, whether the motion be active or passive, there is a great increase in its blood supply even before any acceleration in heart activity has occurred. The manipulations of massage act upon the muscles in such a way as to produce a suction or pumping effect, pressing onwards the contents of the veins and lymph channels, and thus creating a vacuum to be filled by a fresh supply of fluid derived from the capillaries and the tissues. While exercise cannot be had, as for this we need the whole motor mechanism—nerve centre, nerve and muscle, the muscle may be increased in size, its fibres may be made more firm and elastic even when the motor nerve to that muscle is inactive by the continued use of massage.

Numerous experiments have been made which clearly demonstrate that massage increases the electro-excitability of a muscle as indicated by the fact that a smaller number of milliamperes is required to cause a contraction of the muscle after massage than before. This effect of massage may be advantageously utilized as a preparation for application of electricity in cases in which the electro-excitability of a muscle is diminished by trophic changes as in infantile paralysis.

The good effect of massage upon the muscles is shared equally by the bones, ligaments and all similar structures attached to or working with said muscles. Without going into the physiology of massage very deeply it might not be out of place to say that under the influence of massage the white corpuscles are increased to a great extent and the red corpuscles to a lesser extent. Thus it will be evident that the resistive powers of the patient are greatly increased.

The procedures of massage that I have found most useful in the treatment of the paralysis following anterior poliomyelitis are: kneading, vibration, percussion, joint movements. Kneading may be either superficial or deep. Superficial kneading is applied by pinching or fulling, while deep kneading may be applied in a variety

of ways as suits the individual case, as petrissage, rolling, wringing, chucking palmar kneading, fist kneading and digital kneading.

Vibration may best be administered by means of some mechanical apparatus, many forms of which are on the market. Personally I have no experience with any except the Victor, which seems to fulfill every indication, giving either the long or the short stroke by means of a sliding arm. In the absence of such an apparatus or where no electric power can be had, or where the patient cannot come to the office, vibration may be administered by means of fine vibratory, or shaking movements, communicated to the paralyzed parts by and through the hand of the masseur. Under the influence of vibration the activity of the circulation increases, the blood vessels dilate, the temperature of the part rises and a pleasurable glow and sensation of well being pervades the part.

Percussion should always be given with a flexible wrist, and with springy blows and consists in tapping, spitting, clapping, hacking, beating and in many other modes that the operator may devise. The well known knee jerk is an illustration of the effect of even so gentle a percussion, as a slight tap with the finger tips in provoking a reflex action, which of course involves the stimulation of a nerve centre and nerve trunk as well as of the acting muscle. Percussion of any part of the body doubtless gives rise to reflex activities of varying degrees, but the most pronounced effects necessarily follow the application of this procedure to those surfaces which are in most direct relation to definite centers in the spinal cord.

The physiological effects of percussion are too well known to need more than passing mention. Suffice it to say that by means of this very valuable procedure all the nerve centers of the different segments of the cord may be stimulated either directly or by means of reflex percussion. The principal joint movements are flexion, extension, abduction, adduction, pronation, supination, circumduction and stretching. The joints involved in the paralysis can only receive passive motion, but the other joints of the body for obvious reasons should receive not only passive motion, but also resistive motion as well. Sometimes the movements of the patient may be assistive rather than resistive and by careful teaching on the part of the operator joints and muscles weakened by the disease may be en-

couraged as it were to begin to perform their forgotten function. Sometimes the patient fails to move a limb as requested because he contracts both the extensors and flexors at the same time, producing a trembling oscillation between flexion and extension instead of a definite movement. Through the direct influence of movements upon joints their nutrition is maintained and subluxation is very uncommon.

In most of the text books consulted by me in the preparation of this paper little mention is made of this most important part of the treatment of this disease. In my small experience with this malady I have had more rapid and lasting results from massage than from all of the other methods combined. As even the trained nurse is ignorant of this art we are in a measure thrown on our own resources to see that it is systematically, regularly and intelligently given. A good text book and a few words of explanation each day will soon teach even the ordinary mother or nurse to administer massage well and I will again reiterate that with this form of treatment alone will you get brilliant results, but in order to get these results patience and perseverance are necessary on the part of physician, nurse and friends of the patient through many, many weary months.

Hydrotherapy when used intelligently is undoubtedly one of the most useful adjuvants in the treatment of poliomyelitis. However, in order to carry it out properly an intelligent third person must be available. There is a great prejudice especially amongst the lower and middle classes against the use of water in general and cold water in particular, and it has been only after great difficulty that I have been able to convince the friends of the value of this procedure. The most useful measure in my experience is the alternative or Scotch douche. This is given by allowing a stream of water at a temperature of about 110 degrees to be thrown against the spine and followed by a cold douche to the muscles affected, if we wish to get a local effect, or to the spine over the segment of the cord affected if we wish to get a central effect. Another valuable procedure when the paralysis is in the extremities is to fill two pails about three-quarters full, one with cold and the other with warm water, and place the feet or arms of the patient, one into each pail. In about five minutes have the patient remove the limbs from their respective pails and place them in the other one. This

simple method of alternating from hot to cold or vice versa acts very well, especially when the paralysis is in the lower extremities.

The very hot bath 140 degrees is a very useful measure, but should be always followed by a brisk rubbing with a coarse towel until the skin appears to be normal as a reaction with chilly sensations is likely to result if this precaution is omitted.

Hot fomentations are very valuable, but when given daily it is best to give the part to be treated a coating with vaseline or cocoa butter to avoid irritation of a sensitive skin. The flannel cloths should be wrung out of water which is very hot and changed at intervals of five minutes and continued for at least one-half hour twice a day. The most important part of the fomentation is that when the treatment is finished, the part should be sponged off with cold water for a second or two and then covered with a warm flannel.

The beneficial effects of treatment by any and all of the above methods merely consists in exercising those parts no longer under voluntary control and maintaining their circulation and nutrition. For the different flexion and contraction deformities we must depend on corrective force, manipulation, plaster bandages, braces and orthopedic surgery. Tenotomy, tendon transplantation, muscle transplantation, arthrodesis, or removal of the cartilages from the opposing surfaces of bones, for the purpose of forming an ankylosed joint to improve a deformity, osteotomy and nerve grafting will often be indicated and will give good results, although my practical experience has been limited to a very few cases.

Undoubtedly many cases of clubfoot have been caused by this disease and should be treated surgically. In most cases we must not only correct the deformity, but also do muscle and tendon transplantation. In short our aim should be to restore to the paralyzed muscles their functional activity at least in part, and our only proof that our apparently never ending treatment has been repaid is to contrast the development and symmetry, the muscular power and practical utility of a limb that has received such care and treatment with one that has been neglected.

Two cases that I have not included in my reference to the five cases of this disease that have come under my notice were late cases and only showed the late deformities. One girl aged eight

had the disease from infancy and only showed atrophy of the right leg from the fact that she had always walked on the external malleolus. Dr. Gibson and myself did the operation for equino-varus with the result that she walks on the sole of the foot with the aid of an external brace from the sole of the shoe to the knee and held there by a leather strap.

The other patient, a little girl of two and one-half years, suffered from practically the same deformity first discovered when she began to walk. This case showed much less deformity and is at present, three years after initial treatment, almost well. To one who knows the case, it will be noticed that she is inclined to walk on the side of the foot at times when fatigued. My treatment in this latter case was massage, high frequency and the brush discharge. Although I have not included these two cases in my list, I believe them to be neglected or unnoticed cases of poliomyelitis. As one writer very aptly says, "No disease of childhood gives to life's perspective a more sombre shading." Nevertheless with the advent of so many laboratories equipped with all the apparatus that the wealth of a millionaire can buy and manned by the leaders of our profession whose remuneration gives them ample time for research; possibly in the next few years this malady will have lost its terrors.

FEVERS FROM COLD.

BY

WALLACE C. ABBOTT, M. D.,

Chicago, Ill.

The febrile attacks induced by exposure to the influence of cold and wet have much in common, we well know. The precise direction the morbid sequence may take depends largely on the individual. If he has a special aptitude for rheumatism, he will show the results of exposure by an arthritic attack. If he is liable to coryza, pleurisy, pneumonia, dysentery or other malady, this will be the local manifestation of the general vital depression. So well is this understood in Europe that such maladies are frequently termed "rheumatism," not as being arthritic but as resulting from a "rheum," or cold.

Prof. Laura records several cases of especial interest. A woman of 30, after a severe and obstinate cold, was seized with fever, intense prolonged chills, cough, pains in the limbs, intense aching in the head and back, temperature 102.2°.

She took a little aconitine. Next morning the fever was 101.8°, skin dry, eyes brilliant, agitation, pulse 95, cough, rales sibilant and disseminated rhonchi, very severe pains in the limbs, severe frontal headache, pains along the spine increased by motion or pressure, intense thirst. Gave a granule of aconitine gr. 1/134 every quarter hour. At 10 p. m., temperature 100.7° F.; headache worse, inguinal pains more acute and insupportable. Aconitine and morphine hydrobromide (gr. 1/67) a granule each every quarter hour, until easier. By 1 a. m. she was in a tranquil slumber.

At 9 a. m. the fever was gone, pains had ceased in the legs and were better in the head and back. Cicutine gr. 1/67 a granule every hour. At noon the backache had nearly stopped, the headache was much better. The night was tranquil; next morning there was only left a little cerebral heaviness. She then took a full dose of laxative saline and was cured, taking a little codeine for the remaining cough.

This lady's husband, exposing himself to cold while sweating, was suddenly seized with acute rheumatism, his third attack. Temperature 103.6°, pulse 110, severe headache, photophobia, somnolence, pains in the trunk and members. He was given aconitine one granule with three of quinine gr. 1/67 every ¼ hour. On the following day the apyrexia was complete; the night had been tranquil, pulse 65, sweating freely. Continued quinine.

A man aged 62 had been rheumatic in his youth. Exposure while sweating brought on an attack, with headache, chills, pains and intense fever. He had difficulty in swallowing, acute pains in the right ear, tonsils swollen, throat red and puffy. He took aconitine a granule every quarter hour. The evening visit found him slightly better, the throat condition improved. Quinine, three granules, added to each dose. This was followed by a tranquil night, some sweating; deglutition almost normal, headache and earache gone, pulse 67, temperature 98.9°. Doses given hourly. This with a laxative saline completed the cure.

An army officer, aged 55, subject to migraines, after a long trip in the cold morning air was seized with chills, general malaise, pains in the members and intense occipitofrontal headache, worse than ever before experienced. He lay in bed one day, taking a gram of quinine, without relief. Pulse 95, temperature 103.6°,

intolerant of light and noise. Aconitine, a granule every quarter hour, continued during sleep, until urine and sweat came freely and the fever fell to 100.4°. The night was calm and by morning the headache had stopped, to the joy of the patient. Only a sense of fatigue in the legs remained; pulse 67.

These four cases demonstrate the control over acute febrile attacks excited by aconitine, when given methodically and pushed to effect. This is especially shown in acute attacks due to catching cold, so surely that Laura makes of it a therapeutic axiom.

Aconitine in these cases acts with marvelous promptitude, as well against the pathologic conditions of acute forms, as against the manifestations of inveterate or chronic cases. These illustrations show the necessity of proportioning the remedy to the morbid entity. The higher the fever, the more acute the morbid manifestations, the more robust the patient, the graver and more imminent the menace of circulatory alterations especially in the principal viscera, the more prompt and energetic must be our treatment and the closer together the doses.

Here the dose of eight milligrams (gr. 1/8) of amorphous aconitine is not dangerous, for the contrary has been demonstrated by abundant experience. Hundreds and hundreds of times it has been found that when administered by cumulative dosage this quantity is admirably tolerated in pyrexias, with incontestable benefit, and not the shadow of inconvenience. The benefit is more decided when aconitine is thus given during the early hours of the disease, and convalescence is the better established as the forces of the body have been the less impaired by the malady. As the need subsides the doses are spaced further apart, the thermometer furnishing the surest guide.

It is especially in the cases submitted to treatment very early that one can rely on aconitine alone. Veratrine may be added when local foci of inflammation have been formed, with very sthenic fever and active arterial excitement. A notable feature of the aconitine action is the quick amelioration of the headache, which is not only painful but may indicate the approach of a grave peril.

The addition of quinine depends on the element of periodicity, often present in fevers not malarial. Cicutine hydrobromide especially relieves the backache, visceralgia and neuralgias

of the peripheral terminations of the sensory nerves. Aconitine induces diuresis and diaphoresis with certainty, favoring apyrexia and the occurrence of crisis.

Administered in the sugar of milk granule, aconitine demonstrates its action within five minutes, and its elimination is well under way within a quarter hour; so that the repetition of doses within that period is justified and safe. The maxim of its specific applicability in all febrile attacks due to catching cold, has been established by the experience of many practitioners. This extends even to cases where menstruation has been checked and fever results. Here it is of advantage to add cicutine hydrobromide, and it is probable that in other cases where pain is acute, with fever of this type and from this cause, the combination of aconitine and cicutine would prove superior in efficacy to either agent alone.

FEES ARE ALWAYS OF INTEREST.—The fee is the life-blood of practice. There are physicians whose usefulness is somewhat obscured because they think too much of the mezumma and are too exacting in the collection of their fees. They are, however, far in the minority, and too many do not practice their profession on anything like business principles. It is an old story, yet an ever vital one because it concerns our bread and butter. Two things are of paramount concern in the matter of fees. The first question is, How much shall I charge? and the other is, How shall I proceed to collect it? It is a very difficult matter to get medical fees on a cash basis for the reason that the doctor must necessarily deal with those who are in indigent circumstances, or at least those who do not provide for the proverbial rainy day. Cash collections or short credits should be encouraged so far as possible. As an encouragement to pay cash it is a good rule to make a special rate to those who pay promptly. Getting your fee is, generally speaking, a matter that concerns only the doctor and his debtor. If we were practicing amidst ideal people and conditions the code of ethics would be of much service and inspiration to us. As matters exist, however, there can be formulated no fee-scale that can be consistently and conscientiously lived up to. The fee should be neither too large nor too small; it should be just right, or as nearly so as the circumstances in the case will admit. It is among the unwritten laws that people must

be charged according to their ability to pay. This must be done, in fairness to all persons concerned. The well-to-do should not as a penalty for their having economized and prospered, be victims of a hold-up. The whole clientele should be educated to know that medical service is of equal value to rich and poor, with a certain lenient attitude toward the latter in the matter of collecting the fee.

Dr. Robert T. Morris, writing on the subject of fees and collections, in Medical Council, states that he has a fixed fee of fifty thousand dollars for every surgical operation of any consequence. If an individual cannot pay that amount, it is easy enough to present him the difference between that amount and what he can comfortably pay. He says: "It is best to ask for dignified compensation of some sort, even if people are poor. Some years ago I removed an ovarian tumor from a patient, and found later that she had mortgaged her cow in order to pay me twenty-five dollars. I made her take all of the money back. She should have been charged ten dollars. Another woman brought me three beautifully dressed fowls in lieu of payment, and it was learned later that she had stolen them. Just what advice to give under these circumstances I do not know, because not ten per cent. of patients will steal in order to pay their doctor's bills. Recently I separated peritoneal adhesions for a woman and sent her a bill for one thousand dollars. A relative came to see me and said that she was dependent upon him for all expenses, and whatever was paid would be in the nature of a charity on his part. He said he would be willing to pay me five hundred dollars, and I accepted it with thanks."

It has been my experience that collection agencies are only trouble makers, and expensive to the doctor into the bargain. Perhaps there are many good and honest agencies, but it is hard to sift the good from the bad, just as it is a difficult matter to know bogus mining stock from the real thing. The bad of both these enterprises is far in the ascendancy. If you cannot collect your tough debts it is better to employ home people to help you. The assistance will come more nearly being genuine, and it will cost you less money to prosecute your claims than when turned over to people who live a distance from you and of whom you know nothing commendable.—*Medical Times.*

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EDITORIAL.

The Annual Conference of the Council on Medical Education of the American Medical Association, and the Annual Conference of the Committee on Medical Legislation of the Association of American Medical Colleges were held in Chicago, February 28th and March 1st and 2nd.

These conferences have been held for some time with the object of discussing the general questions of:

First, the standards of medical education which should be maintained by medical schools, and

Second, the organization of State Examining Boards to bring about more practical examinations and a greater conformity of standards by these boards.

Much has been accomplished in unifying the standard of medical education as represented by the curriculum of medical schools, but there is as great a diversity of standards of requirement by state examining boards now as there ever was

in standards of medical education. Whatever may have been the need or the excuse for the commercial medical school the need has passed and the commercial medical school as such, simply is discontinued to very soon become a thing of history.

The standard of medical education is such that medical schools cannot provide the necessary instruction from the income from students' fees alone. They must have endowment and while some medical schools not a part of colleges or universities may secure sufficient endowment to provide satisfactory teaching facilities, yet the fact remains that most medical schools must have affiliation with universities in order to secure satisfactory conditions.

Much emphasis was made this year on the greater number of medical schools in existence in this country than was necessary to provide all the medical graduates the country needed, and that there were altogether too many medical graduates.

This argument savors too much of trade's union ideas to have force from the standpoint of the consumer. It is difficult to see how a large number of reliable, thoroughly qualified physicians could be a detriment to the public health, or an inconvenience to the people in securing medical services.

It does not seem to us a question of the number of medical schools or the number of medical graduates, but rather the efficiency of teaching maintained by medical schools and the qualification of medical graduates. The common law of supply and demand will take care of the rest.

Our attention is being called repeatedly to the fact that there are more medical schools in the United States than there are in all Europe and many more physicians per capita. What principles of public health or of the best interests

of the people are endangered by this condition if the standards of medical education are satisfactory?

Would the laboring people of this country be willing to accept the medical conditions which now exist among the laboring people of Europe any more than they are willing to accept similar conditions of labor? We are afraid not, and if the people wish more medical service in this country what is the objection to their having it? There can be no question, however, as to the advisability of protecting them from imposition by demanding a reasonable qualification for graduation in medicine.

The use of vaccines in many infective conditions seems to be growing and in general, the results are such as to justify its use. Certain facts should be borne in mind in its use, however. First, that vaccines act by stimulating an active immunizing process within the body. In this way, vaccines are diametrically opposite the serums in action. Serum immunity is always a passive immunity. There is no logical basis in the use of vaccines in cases of general blood infection. In these cases the presence of living bacteria everywhere in the circulation is stimulating the organisms to produce all the antibodies which it is capable of producing and the addition of a large number of dead bacteria is likely not only to be of no use but may be a dangerous load to the already heavily taxed system. This does not hold true of any localized infective process produced by an intra-cellular toxin organism. In these cases the absence of bacteria, except at the locus of infection, fails to stimulate the general production of anti-bodies and hence the full defensive resources of the body. Our vaccine does reach the more distant portions of the system and starts the general anti-body production, in other words calls in the reserves.

The second fact which should be remembered is that the anti-body produced, may in some cases be a bacteriolysin rather than an opsonin and may result in the solution of large numbers of bacteria and the consequent liberation of much poisonous material. Thus the use of vaccines in all cases is not without its dangers. It is a powerful agent and should be used only in selected cases and always guardedly.

The Vermont State Board of Health Anti-Tuberculosis campaign has again started. It is planned to make a tour of the entire state stopping two days in a place. The daytimes are given up to an explanation of the exhibit and charts which are arranged in as graphic a way as possible. The general interest in the subject is shown by the large attendance. The halls are usually packed. If education is of any value in the control of the disease, these meetings must accomplish much. The results of these campaigns may not be seen in a year or two but we confidently feel that by the end of the five year period, a considerable reduction in the mortality of the disease will be evident.

Perhaps one of the most common ways aside from the genital route in which syphilis is innocently contracted, is through the common drinking cup. It is an interesting study to sit in some public place and watch the different people who will follow each other in drinking from the common cup. These same people would never think of eating from a common plate or with a common knife which had remained unwashed. Yet from long habit they will drink from a filthy drinking cup. An investigation conducted by Prof. Alvin Davidson presents these dangers in such a plain light that we will quote the words:

"During the past six months I have investigated, by means of direct microscopic examina-

tion, by cultures and by guinea pig injections, the deposits present on various public drinking vessels. Cup No. 1, which had been in use nine days in a school, was a clear thin glass. It was broken into a number of pieces and properly stained for examination with a microscope magnifying 1,000 diameters. The human cells scraped from the lips of the drinkers were so numerous on the upper third of the glass that the head of a pin could not be placed anywhere without touching several of these bits of skin. The saliva, by running down on the inside of the glass, had carried cells and bacteria to the bottom. Here, however, they were less than one-third as abundant as at the brim.

By counting the cells present on fifty different areas on the glass as seen under the microscope, it was estimated that the cup contained over 20,000 human cells, or bits of dead skin. As many as 150 germs were seen clinging to a single cell, and very few cells showed less than 10 germs. Between the cells were thousands of germs, left there by the smears of saliva deposited by the drinkers. Not less than 100,000 bacteria were present on every square inch of the glass. Most of these were of the harmless kind, abundant in the mouth, but some were apparently the germs of decay, feeding upon the bits of the human body adhering to the cup.

In order to determine how much material each drinker is likely to leave on the cup, I requested 10 boys to apply the upper lip to pieces of clean flat glass in the same way as they touched the cup in drinking. These glass slips thus soiled were properly stained for microscopic examination, which showed an average of about 100 cells and 75,000 bacteria to each slip.

The results of the examination of cups Nos. 2 and 3, taken from a schoolroom, were similar to those of No. 1. Cup No. 4, which had been apparently in use for several months without being washed, was secured from a

high school. It was lined inside with a thin brownish deposit. This was washed off with 10 cubic centimeters of sterile water and a sterile swab, and the washings were then placed in a conical tube, which was put into a centrifuge and rotated rapidly until all the solid matter settled to the bottom. By spreading this sediment over a half-square inch of each of twenty-two slides, and staining it, the characteristic features were easily made out under the microscope. Particles of mud, thousands of pieces of skin from the mouth, and millions of bacteria constituted the mass. To determine whether any of these germs belonged to the disease-producing group, ten of the slides were treated with the stain and acid, serving to show the characteristics of bacillus tuberculosis. On one of these slides was clearly shown a clump of scores of germs corresponding in all details to those of tuberculosis. As occasionally other germs are met with having the same staining qualities and microscopic appearance as those of tuberculosis, I procured another cup from the same school to apply the final test for detecting those relentless enemies which prey upon human flesh and add daily to the city of the dead in our own land victims to the number of 400.

The washings from this cup were sedimented in the centrifuge tube. One-third of the sediment was injected under the skin of a healthy guinea pig, and another third was used in inoculating a second guinea pig. The first animal died forty hours after receiving the injection. A microscopic examination of the blood in the heart revealed the presence of numerous pneumonia germs, which, when planted on blood serum and agar kept in an incubator at body temperature for two days, developed the characteristic growth of Fraenkel's pneumococcus. This experiment gave undoubted evidence that the germs of pneumonia had been present in sufficient numbers in the cup to cause blood

poisoning or septicemic pneumonia in the animal.

The second guinea pig injected with the cup sediment was killed five weeks later. The autopsy revealed numerous tubercular foci in the liver and several much enlarged tubercular lymph glands. Microscopic examination of the diseased tissues proved the presence of the true bacillus tuberculosis. By careful inquiry it was learned that several pupils in the school from which the tubercle-bearing cups were secured were then sufferers from tuberculosis. In the light of recent discoveries, showing that tuberculosis is not usually acquired by inhaling the germs but by receiving them with food or by mouth contact with objects soiled with tubercular deposits, does it not seem probable that the drinking cup may very often serve as the transmitter of the white plague? Doctor Anders of Philadelphia by means of guinea pig inoculations demonstrated the presence of tubercle bacilli in two out of five specimens from the dregs of common communion cups.

In order to make a further study of the germs, a third portion of the sediment from cup No. 5 was planted in culture media serving to isolate the various kinds of bacteria so that the characters of each might be observed. Ten different species were thus separated and examined. Streptococci apparently the same as those occurring in sore throat, and tonsilitis were present, as was also the common pus germ staphylococcus aureus. Doctor Anders has reported the discovery on the communion cups from a Philadelphia church of numerous pus germs as well as pus cells.

The microscopical examination of cups Nos. 6 and 7 secured from a railway station and a club-house, showed numerous cells from the lips, and thousands of bacteria present in the upper portion of the vessels, although they appeared quite clean to the naked eye. Cup No. 8 taken from a railway station, was the only

vessel examined that could be called reasonably clean. Its surface carried only two or three human cells to the square inch and upon the same area were less than 500 bacteria."

NEWS ITEMS.

Dr. William Robb has removed from Keene, N. H., to Boston, Mass.

Dr. J. J. Osterhaut has gone to Keene, N. H., from Gilsum, N. H.

Dr. L. A. Heidell has returned to his home in Rutland after a five months' vacation spent in England and Europe.

Dr. R. W. Prentiss has removed to Middlebury from East Middlebury.

Dr. R. C. Flagg has removed from Westford to Essex Junction.

Dr. Smith has taken the practice left vacant by Dr. Flagg at Westford.

Dr. C. K. Johnson who has recently been practicing in Middlesex has removed to Burlington.

Dr. Gilbert Rist has gone to the Ear and Eye Infirmary, New York, as assistant.

Dr. Francis Riley of the Fanny Allen Hospital is receiving congratulations from his friends for having received the highest marks in the written examination before the Vermont State Board of Medical Registration, recently held in Montpelier.

Dr. and Mrs. M. C. Twitchell have gone to San Diego, Cal., to spend the remainder of the winter.

Charles Paine Thayer, M. D., University of Vermont, 1865, died in Atlantic City, N. J., Feb. 1st, aged 67 years. Dr. Thayer served in the capacity of hospital steward during the Civil War; was health officer and city physician of Burlington from 1874 to 1878; from 1893 to 1906, dean and professor of anatomy of the Tufts College Medical School, Boston, and thereafter emeritus professor.

Charles Herbert Mason, M. D., Rutland, Vermont Medical College, 1889, died at his

home near Chatham, New York, January 27th, from nephritis, aged 83 years.

Hippocrates is the title of a new medical journal of Constantinople, the first one published in Greek language in Turkey. To students of medical history this new periodical will be of interest, because part of it is to be especially devoted to ancient Greek medical literature, publishing original studies and researches in this field made by physicians of Greece, Turkey and Egypt.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

In the *International Clinics* (Vol. IV, Series 19), SIMON FLENNER considers the results of the employment of antimeningitis serum. The serum possesses direct and indirect bactericidal power and may be regarded as producing its beneficial therapeutic effects through: (a) its power to act directly upon and to inhibit the growth of, or to destroy outright, the meningococcus; (b) its property of increasing phagocytosis and promoting intracellular digestion of the diplococcus; and (c) its power of neutralizing the soluble toxic products set free by disintegration of the meningococcus. The successful employment of the antiserum in human beings is dependent upon its injection into the subdural space. Along with the destructive influences of the antiserum on the diplococci go certain favorable changes in the inflammatory exudate, through which it loses turbidity, irrespective of whether it is only cloudy or whether it is already purulent. The rapidity with which the purulent exudate may clear up under the influence of the serum injections is very striking. The employment of the antiserum is indicated in all forms of meningococcal infection, but its use is indicated chiefly in epidemic cerebrospinal meningitis. Other localized meningococcal infections may also be subject to treatment by the antiserum, especially the metastatic joint infections not infrequently attending epidemic meningitis. After aspiration of the inflammatory exudate, the direct injection of the antiserum into the inflamed joint has been followed, as reported by Ladd, by rapid improvement in the condition. Since the efficacy of the serum depends largely upon the degree of its concentration at the seat of the disease, it should be employed only by subdural injection. The antiserum is readily injected into the subdural space; the risk of producing a dangerous increase of intradural pressure from the injection is so small as to be negligible, especially as in practise cerebrospinal fluid is withdrawn before the serum injections are made. The evidence at hand indicates that the earlier in the course of the disease the injections of the antiserum are made, the better the results. A safe rule is to inject the antiserum at once if a suspicion of meningococcal meningitis exists, without waiting to complete the bacteriologic diagnosis by film preparation or culture. The occurrence of a turbid or purulent fluid at lumbar puncture is always suspicious, and should call for immediate injection of the antiserum. The minimum dose for a single injection may be regarded as 15 to 45 c.c., except in young infants in which smaller doses may be used with equal effects. As a rule the serum passes readily into the spinal

membranes when injected with a syringe, or by means of gravity through a funnel and rubber tube attached to the puncture needle. It is desirable to remove as much cerebrospinal fluid as possible before introducing the serum, in order first, to make space for the serum and to avoid unnecessary dilution of it, and next, to facilitate its passage quickly into the ventricles and subarachnoid space of the brain. The spread of the antiserum into the brain is also favored by raising the foot of the bed after the injection is completed. In view of the various considerations presented, the conclusion may be drawn that the antimeningitis serum, when used by the subdural method of injection in suitable doses and at proper intervals, is capable of reducing the period of illness; of preventing in large measure, the chronic lesions and types of the infection; of bringing about complete restoration of health in all but a very small number of the recovered, thus lessening the serious deforming and permanent consequences of meningitis; and of greatly diminishing the fatalities due to the disease.

GROSSE (*California State Journal of Medicine*, Feb., 1910), concludes an article on "The Use of Coli and Streptococcal Vaccine in Urinary Disease" in which he quotes a number of cases as follows:

1. That autogenous vaccines have a definite place as therapeutic agents in urinary diseases.
2. That vaccines must be prepared by a proficient bacteriologist, and that a well-equipped laboratory in conjunction with treatment rooms is essential.
3. That fresh vaccines are necessary, as vaccines deteriorate much more rapidly than is generally conceded.
4. That cases of enlarged prostate with an infected bladder, in which a fair sized Nelaton catheter enters the bladder easily, should not be operated upon, until vaccines have been given a thorough trial.
5. That in infected and encapsulated organs or where chronic inflammatory infiltrates surround the infected areas, vaccines should be supplemented by the Bier treatment to enhance the blood supply.

BARBIER (*Folio Therapeutica*, Jan., 1910), sums up the results of an article on salicylic acid and its derivatives, a comparison of their respective therapeutic value as follows:

- (1) As sodium salicylate only reacts by virtue of the salicylic acid which it liberates in inflamed tissues, it seems more logical to have recourse to salicylic acid itself as recommended by Stricker.
- (2) In view of the susceptibility of the digestive tract towards salicylic acid, it seems desirable to substitute derivatives of this acid (such as aspirin and diposal) which are more easily tolerated, yet possess the same activity.
- (3) Diposal, possessing on the one hand the great advantage of not decomposing until it reaches the intestine (whence its perfect tolerance by the digestive tract) and on the other hand not giving rise to profuse perspiration, as does aspirin, must undoubtedly be preferred to the last-named drug.
- (4) In acute forms of rheumatism the action of diposal, as regards efficacy and rapidity, may be regarded as truly remarkable. In chronic forms diposal, though less active, is undoubtedly destined to render excellent service, generally superior to that rendered by drugs hitherto known.

ADVANTAGES OF OPENING THE ANTRUM AS THE INITIAL STEP IN THE MASTOID OPERATION.

As a result of the experience gained from experiments on the temporal bone and the cases reported above, the following advantages may be claimed for the operation of opening the antrum through the meatus as the initial step in the mastoid operation.

(1) The procedure is justified on anatomic grounds, since the anterior inferior wall of the antrum is very thin, and no important structure intervenes between the meatus and the antrum.

(2) The antrum may be readily and rapidly opened through the meatus, no matter what its depth from the surface, and the burr is kept in full view throughout the operation.

(3) The exposure of the antral cavity early in the operation gives valuable information concerning the condition of the mastoid bone.

(4) With the antrum fully exposed to view the remaining steps of the mastoid operation are much simplified.

(5) In cases complicated with a forward-lying sinus, it often becomes imperative to work from within outward, and the direct method through the meatus does away with the necessity of introducing instruments into the middle ear, a procedure not unattended with danger.

(6) In cases in which the simple operation has been performed, the healing process may be hastened if a portion of the posterior bony meatus is removed at the time of operation. (Macewen, Plummer, Hopkins.)

(7) The electric burr is a safe instrument in mastoid surgery, since it is not apt to penetrate the dura mater and stimulates the facial nerve before endangering its integrity.

THE DIAGNOSIS OF ANGINA PECTORIS.

G. R. Butler (*The Archives of Diagnosis*, October, 1909) gives us the following points:

The diagnosis of angina pectoris, at least in its milder forms, cannot be made from the history alone. The other forms of cardiac pain, of toxic or neurotic origin, the latter especially in women, may exactly simulate a true angina pectoris. After allowing due weight to the age, sex and detailed history of the patient, it is necessary to ascertain the presence or absence of signs of organic disease at the root of the aorta. On this hangs an enormously important decision. In most instances the accessible arteries, the radial, temporal, carotid, femoral and post-tibial, are so palpable or so thickened that a ready diagnosis of general arteriosclerosis can be made. Such widespread changes involve, well-nigh of necessity, the root of the aorta. Possibly, but much more rarely, there may be found the signs of aortic aneurism, aortic insufficiency or adherent pericardium, with either of which true angina may be associated.

When such plain signs of general arterial or aortic disease coexist with a history of precordial pain, there need be no hesitation in making a positive diagnosis of true angina pectoris. But it is otherwise in patients with cardiac pain in whom, as may happen, the accessible arteries are soft, and who do not present signs of gross aortic or pericardial lesions. In the election between true and false, organic or functional, there is one physical sign which, I believe, casts the controlling vote. It is so slight, and apparently so insignificant, that one almost hesitates to mention it. It is simply a slight clicking sound, of a harsh or rough quality, accompanying or follow-

ing at a barely perceptible interval the sound of aortic closure. I do not refer to an accentuation of the closure sound of the valve, such as the loud, clean, "cork and bottle" aortic second sound, which is significant of high arterial tension. Nor is it to be confused with a reduplication of the second sound. The slight harsh click to which I refer suggests to the ear a definite roughening or thickening of the edges of the aortic cusps. When autopsies have been obtained the findings have justified such an interpretation of this auscultatory sign. If, then, the aortic cusps are roughened, it is certainly a fair inference that the root of the aorta shares in the diseased process.—*Medical Review of Reviews*.

THE TREATMENT OF SENILE DYSPEPSIA.

W. S. Fenwick (*The Lancet*, November 6, 1909) states that the treatment of this condition is essentially that of achylia gastrica and atrophy of the stomach. Mastication must be performed in an efficient manner, and new teeth should be inserted when necessary. The state of the mouth requires careful attention, and a wash composed of Condy's fluid, boric acid or other antiseptic should be employed after each meal. Special precautions must be taken to protect the patient from exposure to cold, and it is advisable that a woolen or flannel belt be worn next to the skin of the abdomen, both summer and winter. Fluids always increase the tendency to flatulence, and consequently beef tea, broths and soups should be avoided, and only a small quantity of hot water be allowed at the end of the principal meal. Tea always disagrees, and the various sweet preparations of cocoa are apt to excite gastric fermentation, but a palatable beverage may be prepared from the cocoa nibs or husks. Some individuals are able to take coffee without discomfort. The addition of a tablespoonful of brandy or whisky to the hot water taken after meals is often of value in allaying the epigastric distension, but wines, malt liquors and effervescent drinks must be avoided. Raw milk should be prescribed with caution, and in most cases it requires to be diluted with lime water, mixed with citrate of sodium or peptonized, before the patient can digest it. The fact that subacidity always exists renders it necessary to restrict the diet to finely-minced white fish, chicken, game, brains, tripe, sweetbreads, calves' feet, eggs and scraped or pounded raw meat. Green vegetables and raw fruits always increase indigestion, but cauliflower, sea-kale, stewed celery and asparagus may be given in moderation, or a baked apple may be taken with the midday meal. Toast is preferable to bread, while buns, cake and pastry must be prohibited. Fats may be allowed in mild cases, and codliver oil is often of much benefit, but in advanced cases fatty substances are apt to produce nausea and diarrhoea. The various digested and semi-digested cereal foods, maltine and sanotogen help to vary the diet, but barley, oatmeal and rice must be given with caution.

The main indications for medicinal treatment are to correct the subacidity and to relieve the flatulence and constipation. For deficient digestive power of the stomach it is customary to prescribe dilute hydrochloric acid after meals in combination with pepsin, papain or other artificial digestives, but when given in the ordinary way the mineral acid seldom produces any good effect, while pepsin and its allies are useless. A better plan is to administer 6 ounces or more of a 0.05 per cent. solution of hydrochloric acid, combined

with one and a half drams of glycerine, twice a day after the principal meals. As a rule, the best aid to gastric digestion is to be found in the administration of lactic acid bacilli in the form of Metchnikoff's sour milk. If this is properly prepared and a tumblerful be taken with the meals each day, many of the dyspeptic phenomena vanish after about a fortnight, and the flatulence is greatly relieved.—*Medical Review of Reviews.*

CLINICAL OBSERVATIONS OF FOUR CASES OF PELLAGRA.*

By Rea Parker, Ph. B., M. D., First Assistant Physician, Eastern State Hospital, Williamsburg, Va.

Since 1735 pellagra has baffled the skill of many of the most eminent scientists of the world; first occurring in Spain, then in Italy, where it followed shortly upon the introduction of maize into that country, and thence from first one country to another it has slowly but persistently spread its wings of terror until its shadow threatens practically every nation of the world. The combined efforts of nearly every nation have accomplished but little and the malady is now in practically the same chaotic state that surrounded it a hundred years ago. With the exception of the occurrence in this country of a sporadic case reported in 1902, and one or two doubtful cases previously reported, America was singularly free from this disease until 1906 when we suddenly found ourselves the victim of this dreaded disease which has proved a veritable scourge to portions of Europe and other countries.

It is earnestly hoped that we, ourselves, may be able to do something to check the progress of this disease, or to stimulate others to a speedy solution of the problem.

In presenting a clinical report of some of the cases that have come under my personal observation, it is not with the idea of contributing anything new on the subject, but rather to give the profession at large a general idea of the disease as it exists in Virginia. The following report is fairly representative of the malady as it is seen in that State.

In September, 1908, pellagra first appeared in Virginia in the Central State Hospital on the wards of the writer. Today there are about thirty cases reported, with doubtless twice as many more either unrecognized or not reported to the Board of Health; of this number twenty occurred, or were first recognized, in the State Hospitals for the insane.

Case III.—Geo. M. (508) Admitted from Accomac County, April 10th, 1887; white; age 46; single; occupation farmer; habits not given; no history of heredity; suicidal tendency. Duration of insanity previous to admission four months; cause unknown. Upon admission mental symptoms indicated dementia praecox. There was nothing of special interest in his history since admission except a chronic ulcer over left mastoid region until last Spring at which time dementia became more marked. During June and July the irregular diarrhoea became worse, appetite fickle and the skin on back of hands red and indurated. Over the forehead and portions of the face the skin was covered with dirty brownish scales

about $\frac{1}{8}$ inch in diameter. The removal of these scales with soap and antiseptic solutions left that portion of the skin covered with dark liver-colored spots over which new scales soon formed. The sebaceous glands were hypertrophied and occasionally covered with a fine mealy looking substance. The patient was mute most of the time and it was with difficulty that he could be induced to reply to questions. Treatment had no effect and his condition remained pretty much the same throughout August and September. The reflexes were diminished, pupils sluggish, gums red and spongy while the flow of saliva became increased. About this time a systolic murmur could be heard over the mitral area. The patient had become very weak refusing both food and medicine. On October 5th the abdomen became distended. Three days later there was positive evidence of fluid in the abdominal cavity. I tapped him withdrawing about 95 ounces of fluid which showed nothing unusual under the microscope. The patient, though shocked for several hours before operation, seemed to be relieved for awhile but continued to grow weaker dying at 11.30 P. M. Post mortem not obtained.

Case I. History obtained from son and commitment papers. Family history negative. Personal history: J. E.; white; male; Virginian; age 55; farmer; education fair; married, with several children, all of whom are healthy. Patient has lived in country all his life; early habits regular; *ate largely of corn.* In the Spring of 1902 his health began to fail; showed indisposition to work; suffered with headache and vague pains throughout the body; intermittent diarrhoea; slight reddening of back of hands, forehead and neck; insomnia developed, followed by train of mental symptoms, refusing to see his best friends; claiming he was lost and failing to recognize family; committed to Southwestern State Hospital 1903. Diagnosis: melancholia; discharged in few months as recovered. Each succeeding spring brought a return of the symptoms, the physical predominating—diarrhoea, and skin lesions with increased severity. Moved to Prince George County, Eastern Virginia, 1906. Drank heavily a part of 1907. With the exception of a slight mental depression the symptoms cleared up during the Winter. In the early Spring of 1909 the trouble reappeared in a greatly exaggerated form.

Admitted to the Eastern State Hospital, July 26, 1909. Upon admission examination showed the following:

Nervous and Mental Symptoms: Speech slow but slurring; unsteady gait; Romberg symptom; Argyll-Robertson pupil; patella reflexes diminished. Patient said he slept but little. There was marked depression with some irritability. He was apprehensive, though had but little insight into his condition and showed defective judgment.

Physical Symptoms: Slight mitral lesion; pulse 95, small and irregular; arteries somewhat atheromatous.

Respiratory System: Negative.

Alimentary System: Tongue coated; breath offensive; appetite poor; stomach, liver and spleen showed nothing of interest; slight serous diarrhoea.

Skin: The skin over forehead was very red and rough. The back of the neck and suprascapular regions were red and indurated, and to a certain extent extending around the neck. The back of the hands extending from the junction of the first and second joint of the fingers to a point about one inch above the styloid process of the ulna, showed dry, furred scales, beneath which the skin was dark red. The dorsal

*Read before the National Conference on Pellagra at Columbia, S. C., Nov. 3rd and 4th, 1909.

surface of the forearms presented the appearance that the skin would show about two days after a superficial scald.

Course of the Disease: For the first week his condition remained about the same as upon admission. The diarrhoea became worse and not amendable to treatment. Salivation also began about this time. The tongue became red and slightly swollen. These conditions gradually grew worse, and at the beginning of the third week after admission nausea and vomiting set in, at the same time the reddened tongue became denuded. The skin condition on the back of the neck and suprascapular regions gradually cleared up during this and the preceding week and the skin over the chest and elbows began to show evolvment. The perineal region became red and edematous. During the fourth week conditions remained practically the same as third week with added loss of appetite—the patient refusing food, but craved acids, which he refused when offered him. At the beginning of the fifth week the evolvment of the skin over the breast, which began about the middle of the fourth week, became more prominent, and by the end of this week it involved the supraclavicular regions, having a triangular shape, the base of the triangle being formed by the clavicles with the apex extending to the epigastric notch. While this was the area involved it did not show a well defined line of demarcation until the latter part of the week and the beginning of the sixth week. The skin on his forearms during this time had become dry and scaly. Physical decline and general weakness was more rapid during the last few days of this week. At the beginning of the sixth week the skin condition over chest showed a line of well marked demarcation, the skin being thickened, pigmented and somewhat roughened. The diarrheal condition remained unchanged. He became so weak that he was unable to raise himself in bed. Tongue remained red and denuded. About this time the patient began to show marked dementia which became continuously pronounced. The perineal condition improved, while the other skin conditions remained as last stated. At this time he was taking nourishment better.

On the morning of the thirty-eighth day he had a mild convulsion, pupils becoming irregular, dilating and contracting alternately without any external stimuli. This phenomenon was irregular in its behavior—one pupil contracting while the other dilated or remained inactive. The condition is one which, so far as I have been able to find, is not recorded by any writer on the subject. During the afternoon the patient was, at times, excited. The next day he began showing hallucinations, both auditory and visual, also expressing some few delusions. Patient continued in a delirious condition this and the next day, dying at 3.45 o'clock the following morning.

Repeated urinary examinations showed acid reaction, specific gravity varying from 1017 to 1020, indican, few epithelial cells and an occasional hyaline cast. Explanation of feces showed no evidence of hook-worm. Several blood counts made during the third and fourth weeks showed polynuclear neutrophils, 88 per cent.; lymphocytes, 12 per cent.; large mononuclear, 4 per cent.; transitional, 3 per cent.; polynuclear eosinophiles, absent; mast cells, 2.5 per cent.

In conclusion I wish to enter a plea in behalf of those already affected and of those who are liable at any time to become the victims of this disease, that this Conference, representing as it does nearly every State in the Union and many countries, request that

the pure-food law shall apply especially to maize. Each State should pass and rigidly enforce laws relative to the method of cultivating, harvesting, maturing, protecting and milling Indian corn.

I do not, gentlemen, wish to appear an alarmist but why defer adopting the example set us by other countries that have contended with this malady for centuries, until thousands and millions of useful lives are sacrificed and the *influence of heredity* defies the nation for hundreds of years?

NOTE:—It is a most difficult problem to estimate the prevalence of pellagra in Virginia at this time, being at that season of the year when the most commonly looked for symptom (skin lesion) is either absent or not typical and many other symptoms are undergoing a remission. Too, the physicians are trying to be conservative for fear undue alarm be created by the report of false cases. For this reason, if no other, such sensational accounts of the disease as appear in magazines and daily papers, should be discouraged in every way possible.

The writer has under observation several doubtful cases of pellagra which he fears will develop typical symptoms with the approach of Spring.

Lavinder (*Virginia Medical Semi-Monthly*, January, 12) concludes regarding the Hematology of pellagra as follows:

I. That there seems to be present in pellagrins a fairly constant secondary anemia, usually not of a severe type, with corresponding qualitative changes in the red blood cells.

II. That leucocytosis is rarely seen in pellagra, and that this is probably not a phenomenon of uncomplicated pellagra.

III. That the results obtained by various workers on differential leucocyte counts are very discordant, and that conclusions should be drawn therefrom with much hesitation.

IV. That nothing resembling a protozoal parasite had been reported as observed in the blood of pellagrins.

V. That I have found, in a limited experience, the blood of pellagrins in South Carolina uniformly sterile in cultural work and not infective for ordinary laboratory animals; and that I have not been able to isolate Tizzoni's microorganism.

Strauss and Huntoon (*N. Y. Med. Journal*, Jan. 8) draw the following conclusion from their studies on the Aetiology of Acute Poliomyelitis:

I. Acute poliomyelitis can be procured in a *Macacus Rhesus* by intraperitoneal inoculation of the cord of a fatal human case.

II. Unsuccessful attempts to transfer acute poliomyelitis from one monkey to another by intraperitoneal inoculation have been made twice by Pandsteiner and Popper and twice by us and warrant the assumption that successful subinoculation by this method is an uncertain procedure.

III. The cerebrospinal fluid of acute cases does not contain the virus in an infective state, and the reported bacterial findings in the cerebrospinal fluid are either contaminations or secondary invaders.

IV. When the disease is clinically recognizable, namely, after the onset of the paralysis, the virus is probably no longer present in the blood or at least cannot be used to produce infection in the monkey by intraperitoneal and intradural inoculation.

V. Histologically the lesion in poliomyelitis is very similar to that in rabies. Furthermore, there occurs in rabies a type of ascending paralysis which is clinically identical with the ascending paralysis (Landry type) of acute poliomyelitis. The method of inoculation of animals with an emulsion of the cord which is employed in producing experimental poliomyelitis. These facts point to possible analogy between the infective agent in both conditions and to the fact that the virus is probably not of bacterial but may possibly be of protozoan nature.

VI. Acute poliomyelitis must now be classed among the infectious diseases. The character of its clinical symptoms and the facts which have been ascertained from a study of its epidemiology have for some time led to its being regarded as infectious. But the repeatedly successful inoculations of a lower animal has now demonstrated this beyond doubt. The only objection which can be made to this conclusion is that the disease may be of toxic origin. However, the lesions which the central nervous system presents both in man and monkey are of an inflammatory rather than of a purely degenerative nature such as toxins (diphtheria and tetanus) produce. Moreover, were the disease due to toxæmia, it would be difficult to explain the occurrence of a long and variable period of incubation after intra-peritoneal inoculation.

THE THERAPEUTIC UTILIZATION OF BILIARY FISTULAS.

L. L. McArthur, Chicago (*Journal A. M. A.*, January 1), having noticed the loss of water in irrigating biliary fistulas, conceived the idea of studying the effects of various fluids introduced through this route into the duodenum. First, as a means of deluging the system with water, he found that a temporary fistula may often be utilized with surprisingly good effects. He has repeatedly injected in such cases, by continuous irrigation of a warm salt solution up to 3,000 c.c. of fluid as a means of flushing out the kidneys, clearing up a jaundice or filling up the blood vessels, and in one case even, added dextrose as supplying the food calories most readily assimilable. He is not recommending a cholecystotomy as a therapeutic measure for other ailments than those for which it was originally designed, but simply the utilization of already existing fistulas for indications similar to those mentioned.

APPENDICITIS.

L. G. Guerry, Columbus, S. C. (*Journal A. M. A.*, January 1), reports his experiences with a consecutive series of 545 cases of appendicitis operations with only 2 deaths, these occurring in the first 100 patients operated on. This experience proves, in his opinion, that there is a factor in the surgical mortality that is not fully appreciated or provided against. In this total of 545 there were 240 chronic cases calling for an interval operation, with no deaths as might have been expected. Of acute cases, 92 patients were operated on within 36 hours. His rule so far as he has one, is, he says, to operate as soon as the diagnosis is made, provided it can be made within 36 hours. After that the pathologic conditions are different; the third and fourth day cases are the ones that furnish the mortality statistics. Guerry holds that there is a definite tendency to localization in cases of appendicitis complicated with supuration; there were 213 cases of this kind in the series; 68 of these were

first seen on the third or fourth day of the disease. The pulse in most cases was 135, temperature 104F., vomiting, distention, pinched features and some delirium were also present. None of these patients was operated on at once, but all were treated according to the Ochsner method which he thinks is life saving at least in the practice of the ordinary surgeon and practitioner. Guerry emphasizes the fact that none of these patients was operated on immediately and none died. It must, he says, have been genuine insight in Ochsner to recognize that the chief factor in dissemination of the peritoneal infection is the vermicular movement of the small intestine and that physiologic rest is the rational treatment of the diseased process, thus enabling Nature the chance she seeks to localize the disease. Gastric lavage, also, is rational as it carries off the regurgitated contents of the small intestine and favors the attainment of physiologic rest of both organs. Guerry does not wish to be considered extreme but he desires to emphasize the importance of utilizing and aiding the natural forces, and of using surgical discrimination and judgment in these cases. In almost all cases, he operated through the McBurney incision; when drainage is needed he drains through a stab wound to one side. The rule is to remove the appendix; but there are exceptions to this rule. He believes it better to enter the peritoneal cavity by Ware's modification of McBurney's method, pack off the infected area and remove the diseased tissue. One of his patients who died had renal tuberculosis and succumbed on the eighth day with postoperative anuria. The other fatal case was that of a child who had been ill 10 days and died of a continuation of the peritonitis.

ACUTE INTESTINAL OBSTRUCTION.

J. W. D. Maury, New York (*Journal A. M. A.*, January 1), distinguishes between pathologic death, particularly that induced by bacterial agents, and physiologic death, that form of dissolution of somatic energy that follows parathyroidectomy and that associated with adrenal and pituitary lesions, and takes up the latter including in it that dissolution of somatic life brought about by the mechanical interference with the detoxication of the normal secretions of the body. Such, he says, seems to him, after careful thought, to be the probable condition which obtains in the duodenum when the normal current of the intestines is blocked. It has been suggested by Welch, when commenting on the preliminary reports of the investigation, that the experiments strongly suggest an actual internal secretion from the duodenum. It may take years to make the conclusion to which he thinks his experiments may lead scientifically acceptable, and he submits his present account of his work more for the importance of the idea than for other reasons. He asks to be allowed to start with the hypothesis that the obstruction causes no ill effect save through an interference with the physiologic balance of the duodenojejunal secretions and is purely physiologic. The nervous shock, which is more pronounced from cutting the intestine at this point than further down, is transitory, and experience has shown that it is not dangerous. It is therefore, he thinks, negligible as a cause of death. The bacterial infection causing pathologic death from wounds of the intestine is not frequent when the injury is in the duodenojejunal region. Bacteria are not found in the blood as a result of obstruction in this part. This is because the bacterial flora of the

duodenum is very slight and because death usually occurs before there is much if any impairment of the intestinal wall in these cases. Much has been attributed to the decomposition of food but experience has shown that if the stomach and duodenum had been emptied death occurs just the same. It was accidentally noticed in a series of experiments for creating a delayed gastroenterostomy, that closure of the oral portion of the intestine (duodenum) almost always caused death before the cutting through of the delayed enterostomy by the McGraw ligature employed. Somewhere between the thirty-sixth and seventy-second hour the experimental animals were seized with symptoms peculiarly resembling those of parathyreopriva and frequently died in less than eighteen hours, the course from postoperative seeming health to death being usually very short. It was found that death would not occur in a medium-sized dog if the obstruction lay more than thirty-five cm. aboral to the pylorus, the addition of a relatively short portion of the jejunum to the oral loop sufficing to prevent the dogs from dying within this short period. It would seem either that the jejunum mucosa had the property of absorbing the poisonous products from the duodenal region and in some way rendering them harmless, or else it secreted an enzyme which acted as an antibody for the poisonous products. His experiments also proved that the bile did not enter as a factor into this physiologic death, but that, quite irrespective of this, a large proportion of the dogs lived when the pancreatic secretions drained aborally and that they died under stoma control when it was confined in the oral loop. We must however not forget that the secretions of the gastric mucosa may also be toxic and that this toxicity may be greatly increased by an oral intestinal obstruction, but he thinks it fairly established that a toxemia developing from a disturbance of the duct-bearing portion of the duodenum contains poisons of an exceedingly grave nature. Without suggesting that trypsin alone is responsible for this physiologic death, he mentions it as one of a class occurring in the duct-bearing portion of the duodenum, the antibodies to which have been definitely found. The hypothesis offered in this paper is that duodenal secretions of either intraenteric or extraenteric origin were, in their disturbed function, responsible for the death following duodenojejunal obstruction. Some such hypothesis is needed to explain the singular syndrome of symptoms as well as the singular protective power of the first thirty-five centimeters of the intestine, the presence of which in the oral loop suffices to prevent death before the opening of the stoma control. Two therapeutic considerations are offered. One is, that the lesion is an outer toxic one and the source of the toxemia is in the duodenum. The second is, that the blood must be filled with the toxic products whatever they are, and that the modern method of bleeding followed by transfusion from a healthy individual is indicated. He also suggests a third, namely, that a protective serum may possibly be developed from the long loop dogs, *i. e.* when the obstruction is lower than the duodenum in the intestine. The paper concludes with several references to other investigations which may be taken as supporting or favorable to the hypothesis here offered.

ANIMAL EXPERIMENTATION.

M. J. Rosenau, Washington, D. C. (*Journal A. M. A.* January 9), shows the value of animal experimenta-

tion in the diagnosis of disease and cites a number of disorders in which it is essential. First as regards tuberculosis, in which we have often to resort to animal experimentation in order to establish the early diagnosis which is requisite for successful treatment. The sacrifice of one guinea-pig will often save a human life by the recognition of the disease. In typhoid, the ultimate recognition of the typhoid bacillus depends on the use of the specific agglutinins. These are usually obtained from the horse or the rabbit and laboratories now use large quantities of the serum thus derived to enable the physician to make an early diagnosis of the disease. The only positive method of typhoid recognition rests on animal experimentation. With cholera it is the same story. It is impossible to recognize mild cases clinically, and bacilli-carriers are common. A single one may infect a whole community and for successful prevention the specific serum is an absolute necessity. In rabies the early diagnosis is life-saving and neglect fatal. The more experienced one becomes in the diagnosis of this disorder, the more does he depend on and recognize the value of animal experiments. In plague the diagnosis of the disease with certainty is constantly being made by this method and is indispensable. The preventive measures are entirely based on it. In diphtheria and tetanus it is often useful as there is a whole group of organisms closely resembling the diphtheria bacillus and their true nature cannot be determined without experiments on animals. The shape and growth of the tetanus bacillus is not sufficiently characteristic to be final. Other diseases mentioned in which this method is often required are septicemia, glanders, anthrax, etc., and a large class of animal parasitic disorders.

SURGERY OF THE SPLEEN.

From our inability to recognize diseased conditions in their early stages, says W. J. Mayo, Rochester, Minn. (*Journal A. M. A.*, January 1), the surgery of the spleen has necessarily been of a destructive character. Recent investigations lead to the surmise that many of the anemias and associated blood stains may ultimately be best treated by operative procedure on the spleen and other blood-forming organs. He describes the anatomy and known functions of the spleen, before birth and during life, and says that its protected situation overlain by the other important organs, makes it exceedingly difficult to ascertain moderate enlargements. He questions our ability to mark out accurately any moderate enlargements by percussion, but he believes that surgeons can do a great deal to increase our understanding of conditions by routine examinations of the organ during abdominal operations when an altered blood state exists. He puts the classification of splenic enlargement in three classes: First, leukemias in which the spleen produces white corpuscles of the ancestral type, a probable reversion to the fetal form of blood. Second, splenic anemia with a diminution and change of character of the red blood corpuscles which are pathologically destroyed to some extent. Third, splenomegaly, an enlargement without blood changes and only mechanically affecting the general health. In addition to these classes there are two conservative types of enlargement of the spleen. One, the compensatory splenic hypertrophy and second, the enlargements after infectious diseases. Unless the spleen is more or less movable its surgical approach is difficult.

The Mayos have usually used an incision through the left semilunar line carrying, if necessary, the upper end along the costal margin to the ensiform cartilage. He has not found Myer's procedure of cutting the costal cartilages necessary as yet, but in some cases a left transversal incision joining the longitudinal is convenient. In advanced disease, adhesions, especially to the diaphragm, are occasionally difficult to separate until after the splenic pedicle has been secured. To grasp this vascular pedicle temporarily in rubber covered elastic clamps is the most important step in the operation if the vessels are fairly sound. This must be very carefully done on account of the delicacy of the splenic vein. To grasp the pedicle securely the organ should be turned over, at least enough to grasp the vessels in the hand. With the fingers and blunt dissection, a passage way is made around the pedicle and a clamp applied and tightened enough to control the circulation until the spleen can be entirely separated and delivered outside the wound. If extirpation is the object of the operation the pedicle can be secured at any time after the application of the elastic clamp which is applied as close to the root as possible so as to leave distal to it, ample space for ligation. If partial resection is to be done, temporary compression of the pedicle seems harmless if there are no gross vessel-wall changes and after the use of the clamp the desired amount can be resected and the hemorrhage controlled by buttonhole catgut suturing with a round needle, as in liver resection. "It has been shown experimentally that reduction of the artificial supply by ligation results in atrophy of the spleen, and so long as the veins are left intact, necrosis does not occur. If the splenic artery divides in the hilum, ligation of branches would appear to be an active competitor of partial splenectomy. We have not found the marked alterations in the walls of the blood vessels which have been shown to be often present at post-mortem and which probably represent a terminal condition." Mayo analyzes his experience with thirteen cases, three conservative operations and ten splenectomies. Brief histories of all these cases are given. The article is illustrated.

CUTANEOUS SYPHILIS.

A. Ravogli, Cincinnati (*Journal A. M. A.*, January 1), publishes the results of his studies, microscopic and otherwise, of the proliferating growths of syphilis. He remarks that in a short article on elephantiasis (*Jour. Cutan. Dis.*, 1906) presented to the American Dermatological Association, he had maintained the luetic origin of this condition when occurring in the genitals, in many instances. He also held that all cases of elephantiasis are started by the pressure of infectious germs or of parasites causing irritation and lymph stasis. He goes at length into showing how the germ of syphilis acts in producing vegetating papillary growths, etc. His microscopic findings are illustrated and he comes to the conclusion that the proliferating masses of the tertiary syphilitic ulcers show no special characteristics but have common characters with the proliferations of other morbid processes. The imbibition of the tissues from the lymph stasis, the hyper-nutrition of the connective tissue corpuscles, cause their division and their proliferation. The normally

limiting elastic fibers are gradually lost and the collagenous elements are left free to proliferate without restraint. That the spirochete is a starting point cannot be doubted, as they are shown in the secondary vegetating patches. In the tertiary they were not found but this does not disprove the above assertion. It is possible they are not so readily stained or may be concealed in the deeper tissues. As regards treatment, it is not difficult to cure the secondary proliferated patches by internal constitutional treatment with external application of calomel or solution of mercurial chlorid, one to five hundred. In some cases strong caustics may be necessary. In some cases, other measures like the use of iodid, local bathing with bichlorid solution, one to one thousand, and local applications of mercurial plasters have been satisfactory, while in others, extensive curetting was required.

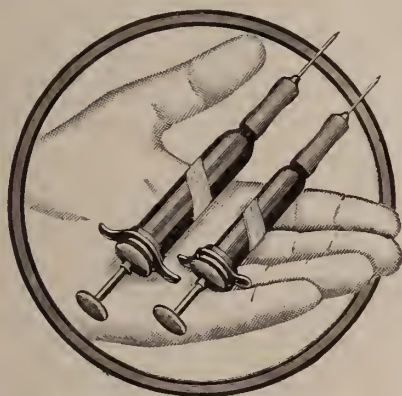
EPIDEMIC POLIOMYELITIS.

The following are the latest findings announced of the studies of epidemic poliomyelitis in monkeys, by SIMON FLEXNER and PAUL A. LEWIS, New York (*Journal A. M. A.*, January 1). They have found the virus in lymphatic glands as well as in the brain and cord. In studying the degree of resistance of the virus, they found that the spinal cord from a human case retains its virulence apparently unimpaired after being kept frozen in a temperature of from 2 to 4° C. for at least 40 days, and also when kept at least 50 days at a temperature of plus 4° C. during which time it had become mouldy and softened. These facts indicate that the cessation of the disease in cold weather does not depend on the destruction of the virus though it may effect its multiplication. The spinal cord of an affected monkey still transmits the disease after desiccation over caustic potash for at least 7 days. The activity of filtrates has been confirmed and the possibility of their toxic action being due to soluble toxic properties and not to living organisms has been excluded by transferring the disease by means of the spinal cord obtained from the monkey that succumbed to a filtrate. The possibility of the artificial cultivation of the virus has been demonstrated. In two cases where parallel injections were made into the subcutaneous tissues and the brain, the monkeys inoculated in the first way developed paralysis and the other escaped infection. Some evidence of immunity to reinoculation in monkeys that have recovered from paralysis has been obtained. The injection of an emulsion of virus-containing spinal cord, which had been warmed to 55 to 57 C. for one hour, or to 60 C. for half an hour, under the skin at the same time that the usual intracerebral injection of virus was given, in two monkeys, did not prevent the regular development of the paralysis. As regards other animals and their immunity to the disease, the authors state, that, besides many rabbits and guinea-pigs, 1 horse, 2 calves, 3 goats, 3 pigs, 3 sheep, 6 rats, 6 mice, 6 dogs, and 4 cats have had active virus introduced into their brains without any effect whatever, though they have been under observation for many weeks. The authors have found lesions in the intervertebral ganglia of paralyzed monkeys similar to those in the cord and brain, in every instance in which they have looked for them.

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THERAPEUTIC NOTES.

RELIEF OF ACUTE NASAL CATARRHS.

Few minor diseased conditions are provocative of such inconvenience as an acute nasal catarrh, and an agent that will check it and bring about a cure is worthy the widest use. Douches of *Katharmon* in diluted strength will accomplish this end by reducing the turgescence of the mucosa and checking the inflammatory process.

CHRONIC ILL HEALTH.

Scarcely a day passes, in the life of the busy physician, during which he is not consulted by at least one patient who is the unfortunate subject of chronic ill health, from one cause or another. The different factors responsible for long continued invalidism are varied and diverse, but if we exclude organic disease, such as carcinoma, tuberculosis, syphilis, etc., the large majority are neurasthenics and dyspeptics. Of course every physician realizes that the term "neurasthenic" is unscientific and that it is employed, for want of a better name, for the well-known group of symptoms most often noted in the city dweller, who has "burned the candle at both ends" or whose occupation and environment is such as to produce general as well as nervous devitalization. The chronic dyspeptic is usually a neurasthenic, in whom the digestive symptoms predominate, and who generally requires the same reconstructive treatment and regimen. Nerve tonics, stimulants, "pick-me-ups," etc., are usually not only useless, but harmful, and so-called "nerve foods" are but therapeutic "will o' the wisps." Nutrition and blood glandular re-enforcement is the essential indication and there is no general reconstructive and reconstituent that shows more prompt and potent effects than Pepto-Mangan (Gude) a ferruginous and manganic restorative and blood-builder of proved and undoubted efficiency, entirely free from the irritant, corrosive, astringent and constipating effect of the ordinary preparations of metallic iron.

SYMPTOMATIC OR COMPLICATING ANEMIA

Is that form or condition of blood poverty which results from various constitutional infections and diatheses. Prominent among such causes are, Syphilis, Rheumatism, Paludal, Poisoning, Tuberculosis, Carcinoma, etc. In many instances, such an anemia is due to some obscure, latent metabolic perversion, or a slow but persistent intestinal auto-intoxication of gastro-intestinal origin. While it is an axiomatic principle that successful therapy depends upon the removal of the causative factor, it is more than often wise and eminently judicious to adopt direct hematonic treatment while the underlying cause is being sought for and combated. Pepto-Mangan (Gude) being bland, non-irritant and readily tolerable, can almost always be given, with distinct advantage to appetite, digestion, nutrition and general well-being, while causative therapy is under way. Neither constipation nor digestive disturbance results from its steady use, and a general hematic gain is practically a certainty, if its use is persisted in.

BROMALBIN IN EPILEPSY.

The defects of the inorganic bromides in the treatment of epilepsy and other convulsive disorders have long been recognized by medical practitioners. While the bromides have been extensively prescribed—because nothing better had been devised to take their place—their proneness to derange the stomach and to produce systemic disturbances has militated against their usefulness.

The "something better" appears now to be at hand. Reference is made to Bromalbin, an organic compound in which bromine is chemically combined with albumen. Bromalbin contains approximately 15 per cent of bromine. It is in the form of a light-yellow powder and is odorless and practically tasteless. It is insoluble in water, alcohol, acids and the ordinary solvents, but is slowly soluble in alkaline solutions.

Bromalbin was evolved in the chemical laboratories of Parke, Davis & Co. Before being offered to the medical profession at large it was subjected to thorough clinical test by leading practitioners throughout the country in a large number of cases in which bromine medication was indicated. Reports of its use in the treatment of epilepsy were highly encouraging, and the belief is expressed that it will prove equally efficacious in hysteria, neurasthenia, reflex headache, insomnia, migraine, and other nervous affections.

The chief advantage of Bromalbin over the inorganic bromides appears to be in its adaptation to long-continued treatment. It passes through the stomach practically unchanged, consequently does not produce the gastric irritation common to the alkaline bromides. Slowly dissolving in the intestinal secretions, it is then absorbed, producing a gentle, prolonged systemic effect. Other advantages are: its more complete absorption, its comparative tastelessness, and the small likelihood that it will produce acne, dizziness, or other symptoms of bromism. It is marketed in powder form (ounce vials) and may be given in water, coffee, chocolate, syrups, wines or any beverage not alkaline in character. It is also supplied in 5-grain capsules (bottle of 100), in which form, perhaps, it is likely to be most commonly used. There is wide need of a sedative such as Bromalbin promises to be, and fuller reports on the new agent will be awaited with interest by the profession.

THE THERAPEUTIC VALUE OF IODINE AND LIME.

The value of iodine as a remedy for many diseases of the respiratory organs has long been recognized but unfortunately this drug when given for any length of time or in effective doses is apt to cause marked systemic disturbances. The individual suffering from phthisis, chronic or other diseases of the respiratory organs affecting unfavorably oxygenation, particularly of the blood, requires iodine, it is true, but he also needs to be well nourished, and heretofore, the anorexia, sub-acute gastritis and other disturbances following its exhibition more than counter-balanced the beneficial results obtained.

In many individuals intolerance of the drug is extreme, "iodism" making its appearance after a few doses. For these and other well-recognized reasons, iodine had, to a great extent, been dropped from the *materia medica* of a large number of physicians, until the introduction of *Calx Iodata* (*Calcidin*, Abbott) some few years ago enabled them to secure all its desirable effects without producing at the same time

undesirable symptoms. Calx Iodata, as the name indicates, is a definite substance containing 15% of available iodine with 85% of calcium compounds (hydrate and carbonate). In the system the lime and iodine, modified, are acted upon conjointly and produce therapeutic results entirely different from those obtained from iodine alone in any known form. As our knowledge of the body chemistry increases we are able to understand *why* certain drugs produce definite results when given under similar conditions.

We know now that iodine has proven beneficial in phthisis, not only because it exerts an inhibitive action upon the growth of bacteria themselves but because its products combine with oxygen and cause increased activity of the cells. Destruction of low-grade tissue goes on more rapidly and—provided elimination is maintained meanwhile—the system rids itself of an immense amount of effete (toxic) matter. While iodine hastens and increases the *destructive* processes it does not supply the material necessary for cell repair and its unfortunate action upon the gastric mucosa lessens the supply ordinarily received in the natural manner—from the food. Calcium affords just the material necessary for the reproduction of the normal cell. Moreover when combined intimately with iodine (as in Calx Iodata) it causes the latter to enter the system in an acceptable form and large doses may be given for a considerable time without in any way deranging the digestion or causing the slightest sign of "iodine sufficiency."

Theoretically Calx Iodata should be one of the most positively useful remedial agents in the phthisis pulmonalis and the hundreds of clinical reports received during the past two years convert theory into *fact*. Calcidin, guaiacol and nuclein may perhaps be regarded as the three remedies capable of controlling the pathological conditions existent in pulmonary tuberculosis, and their combination, in nuguaiacol, Abbott, is producing excellent results.

The value of Calx Iodata in the treatment of croup (non-membranous) is too well known to need mention, but sometimes the physician who relies upon Calcidin in such cases fails to realize its efficacy in acute coryza, bronchitis and other catarrhal conditions of the upper respiratory tract. As a matter of fact, a trial will prove it the most effective of all the remedies lauded for these and allied disorders.

Some particularly interesting and timely literature on Calx Iodata, also on Nuguaiacol, can be obtained from the Abbott Alkaloidal Co., Ravenswood Sta., Chicago. Samples await your request.

HYPERTHERMAL MEDICATION.

By Barthe de Sandfort, M. D., of Paris, Surgeon of the French Navy, First Class, Retired; Fellow de la Societe de Medicine et Chirurgie de Paris; Fellow de L'Institut de Pathologie Comparee de France, etc.

Abstract of a paper read before the Society of Comparative Pathology of France, and published in *La Revue de Pathologie Comparee*, January, 1908.

What is meant by hyperthermal medication? The word thermal at once reminds one of mineral springs, and in using it the intention was to indicate the precise starting point of this article which, in a measure, is the continuation of my former studies at the Mud Baths in Dax, France.

In thermal medication the highest temperature tolerated in the shape of baths or topical applications (mineral mud) is never higher than 113°, and we



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Intestinal

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know that Professor Reclus, one of the most eminent protagonists of hot water, has often expressed his regret at not being able to exceed 122° in the hot water dressings from which he derived such marvelous results.

The extreme heat limit, therefore, in thermal medication is 122°; beyond that hyperthermal medication commences. Employed already in the times of remote antiquity in the vaporia and tepidoria of the ancients, it has today acquired novel attractions, since the firewood of by-gone days and the alcohol of our forefathers have been replaced by gas and electricity; and especially since those famous hot air boxes, manufactured abroad and imported here, appeal to the patient by reason of their magnificent high degrees of heat. It seems that the 300° to 392° of superheated air which they achieve exert a mysterious effect. I have neither the time nor intention to show how old this alleged novelty is, and it will suffice to state that this cumbersome heating apparatus cannot be applied in the ordinary conditions of life.

If it is possible to apply air heated up to 200° to the skin without injuring it, it is due to the well known mechanical effects of perspiration, and the treated part is merely subjected to circumambient heat. In those boxes as well as in steam baths the effect resolves itself into a peripheral stimulation at a distance from the exposed region, which is no greater than if humidity were absent. Quite different is the action of hot epithems, such as sand bags, thermal mud baths, hot compresses or cataplasms, because here there is direct contact between the generated heat and the tissues, and since up to now the medium was always aqueous, the limit of tolerance of the skin was necessarily restricted to 122°.

Hyperthermal is a mixture, which in its cold state is solid, becomes fluid when subjected to heat either direct or in a waterbath, and it can be applied like an epithem or by spraying it like water on the tissues themselves.

Hyperthermine is characterized by three distinct properties:

(1) It is tolerated without causing changes, at temperatures varying between 180° and 220°, according to whether it is applied to a corium or not.

(2) It keeps up the temperature of the application at a much higher degree and for an infinitely longer time, than anything observed before.

(3) It contracts in cooling; and it is this property, by far the most interesting, which gives it a unique place and really constitutes the originality of the method, which I will now proceed to explain.

(1) The tolerance of the tissues to the influence of Hyperthermine is certainly what strikes one most at first; you may dip the finger into the substance at 280° without burning; you may apply to the skin successive layers of liquefied Hyperthermine which when tested by the thermometer, would register 180° to 220°. This would be astonishing but for the well known phenomenon of calefaction, and it will be understood that the physiologic and therapeutic effects of such a heat wave must be considerable.

(2) The equally important question as to whether this heat is retained can be easily decided by putting into a test glass 125 grams of hot water with 7 grams of cotton wool, which is the proportion of water absorbed by a pad of cotton wool; and into another similar glass 125 grams of hot Hyperthermine together with 7 grams of cotton wool. Let the temperature of each glass, as registered by the thermometer, be 122° (the maximum tolerance for a cotton pad) and at the end of 25 minutes it will be seen that the temperature

of the water has dropped to below 104°, which means that it has no longer any thermic effect, while the Hyperthermine in the other glass will have a temperature of about 113° after a lapse of 2 hours and a half.

Thus, it is an established fact that a dressing made with Hyperthermine will retain a temperature of over 104° longer than one made with water, and also that we may bandage the skin with this substance at a very much greater temperature without causing burns. This then is certainly a hyperthermic application.

(3) But these properties which experience has shown to exist would, in spite of their practical advantages, not have appealed to me sufficiently to claim superiority for them over ordinary local calefaction but for the additional advantage of contractility. A limb enveloped in successive layers of Hyperthermine and cotton, forming a thickness of about 3 cm., soon manifests a distinct sensation of constriction, and this results from the contraction taking place during the solidification of the substance while cooling down from its initial 180° or 220°, to 110° or 115°, which it will now retain in its lowest layer.

There is thus greater heat, combined with the advantages of a slow, gentle, uniformly progressive compression, the mechanical importance of which in articular, glandular, testicular and especially phlebotic and varicose engorgements is too evident to require argument. Its physiological importance is equally great, and it assures for Hyperthermine both a novel and exceptional position.

Up to the present the study of hot applications and their effects on the circulation and the other functions has never taken into account anything except temperature. Now, however, is added automatic compression which, in accordance with the effects observed, entitles us to make the following aphorismic statement: The heat formerly utilized in therapeutics, in whatever form, was a "passive" heat, if we may be pardoned for so calling it, while now we possess an "active" heat. As a matter of fact, a cotton pad or a hot compress are only vehicles of heat and nothing else, as they cannot of themselves exert a mechanical effect, while Hyperthermine, besides being a vehicle of heat, acts at the same time as a mechanical agent of compression.

Ordinary applications of heat can only produce a passive dilatation of the peripheral net, which after they have ceased to act, will contract progressively, but passively; in our method the action of Hyperthermine produces intense hyperemia of the skin, which means that there is not only dilatation of the peripheral net, as in the other process, but also that under the influence of its contractility the blood of the peripheral net is mechanically returned by the continued pressure towards the deeper net, so that the local circulation, the circulatory elasticity, is powerfully activated.

But this contractility has other very interesting effects, because Hyperthermine is also used in the dressing of wounds. Having, by heating, become as fluid as water, it may be handled exactly like it, which means it may be injected into a cavity which it will fill precisely as would an injection of water. After the tissues have thus been bathed for a few minutes in this strictly aseptic fluid at a temperature in the vicinity of 200°, an intense stimulation of the blood supplying this region will have been produced, thus increasing phagocytosis. Soon, however, the substance will cool down to about body temperature; it contracts, occupying less space than before.

and as it has become moulded upon the walls of the wound, it forms a real wax cone, leaving between it and the traumatic walls a space for drainage, as the cone will not adhere to the tissues, but will remain suspended in the middle of the cavity. The presence of this internal mould has two effects; in the first place, as the Hyperthermine solidifies it engulfs, and therefore, isolates all foreign matter, such as detritus and necrosed matter which may be infecting the wound. Next, owing to its shape, it forces the granulating ends to follow each other with uniform intensity over the entire internal surface of the wound. This impulse, which is likewise brought to bear mechanically on the physiologic action, regulates the progress of cicatrization, forces the successive stratifications of fibrous tissue to proceed uniformly through the wound from depth to surface, and thus explains the suppleness of the scar obtained.

Thus, Hyperthermine is a physico-mechanical means to obtain automatically (by elevated temperature) complete asepsis, cleansing, and regularity of the scars, without any intervention on the part of the operator.

It can easily be understood what the therapeutic consequences of the physical properties will be as we have just enumerated.

Hyperthermine will give valuable aid to the physician, the surgeon or the veterinary; in fact the field is so large that we can perfectly understand the suspicion with which it is sometimes received. If, however, it is looked upon not as a medicament, *as it does not contain any medicinal substance whatever, but as a vehicle of heat, and as a mechanical means of compression and disinfection*, it represents a purely physical agent, and as such its use should not be confined to narrow limits.

Heat has been applied for all times by physicians, surgeons and veterinaries. We offer you a new method of localizing intense and painless heat in an affected region, and it makes no difference whether this agent can be used for a number of various purposes, so long as it is practically useful and applicable in all possible conditions.

NOTE—Hyperthermine has been known for the past ten years in France as L'Ambrine, and the original French literature refers to the product under the latter name. As Hyperthermine has a definite meaning, the remedial agent will be known in this country only as Hyperthermine. It is manufactured in France, and the Thermo-Chemicals Company, 6 Cliff Street, New York, is the exclusive selling agent for the United States, Canada and Mexico.

IONIZATION.—Fenwick reports two cases in which zinc ionization treatment was followed by marked success. The cases were chronic and of long standing. After drying the urethral canal, a long, straight probe was wrapped with fine lint and soaked in zinz sulphate solution (2 per cent.) and passed through a cannula inserted in the urethra. The end of the probe was connected to the positive pole of a constant current battery and the negative pad was placed

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under the loins. Two milliamperes of current were passed through for ten minutes. This treatment is repeated a few times until the discharge is stopped. The result is an immense improvement in both mental and physical health of the patient.—*British Medical Journal*.

ENDEMIC CRETINISM.—From a study of endemic cretinism in India, the writer concludes that the degree to which cretinism is associated with goiter is determined by the age of the endemic and varies directly with the extent to which the latter disease prevails among the adult population. Cretinism is rarely, if ever, due to the development of a goiter in the individual. The thyroid enlargement is, or may be, an effect; it is not the cause of the disease. Defective thyroid function in the mother is the essential factor in the production of cretinism. It is due to the action of toxic agents, notably that of

endemic goiter, on the developing thyroid defect and is congenital, but it may remain latent pending its manifestation through the impulse, of some accidental circumstance. The defect in cretinism is one of the whole thyroid mechanism, of the parathyroids as well as the thyroid gland. The diversity of symptoms is due to the extent to which the defect bears upon the whole or part of that mechanism.—McCarrison, in *The London Medical Lancet*.

RADIUM AS A SPECIFIC IN GIANT CELL SARCOMA.—Dr. Robert Abbe (*Med. Record*, Jan. 1, 1910) reports eleven cases of giant cell sarcoma, nine cases occurring in the jaw, either upper or lower, one case of sternum, and one case of the pelvis, treated successfully with radium. The length of application varied a great deal according to the improvement observed. In some cases applications for twenty minutes were made, whilst in the tumor of the breast, the tube was introduced and left in situ for fifty-three hours. All cases showed peculiar, unique, retrograde changes, tending always to return to the normal, and gave a demonstration of the efficacy of radium. This remarkable effect leads the author to speculate as to the action of radium. The alpha, beta and gamma rays have different electric charges and different effects. The alpha are suppressed entirely in the glass tube. The beta, carrying negative currents, escape feebly, and the gamma, carrying its own electricity, penetrate everything. Is it not conceivable, the author adds, that the riotous overgrowth of cells constituting a tumor, may be due to a loss of equilibrium in the balance of electric forces sustaining the normal cell growth, and that the supply of one needed element—possibly positive electricity, possibly negative—will restore the balance, and enable the cells to resume their orderly growth? The writer is convinced that every case of myeloid sarcoma should be given treatment by radium before any operation, and that we may expect many cures.

KARELL CURE IN TREATMENT OF FAILING CARDIAC COMPENSATION.—Galli (Policlinico) has had very favorable experiences with strict milk diet. It does no good to attempt it unless the physician is able to maintain it strictly according to rule, not allowing more than 800 gm.

(27 ounces) of milk during the day, taken in four portions.

The temperature of the milk is immaterial, as also whether it is boiled or not. This diet must be kept up three to seven days, and it is remarkable, he says, to note the increased diuresis and the disappearance of edema. By the fourth day the diuresis may be six or seven times the amount of milk ingested, while the heart action is improved to correspond. Not only the edema disappears, but the waste products are eliminated to a remarkable extent. In one of his cases with complicating asthma, it vanished entirely after the third day of the Karell cure. The heart is relieved of part of its load by the elimination of such large amounts of fluids, if the heart and kidneys are still capable of functioning. Parenchymatous nephritis offers little chance for success with it; interstitial nephritis is its most grateful field. No drugs are needed except possibly with much cyanosis and dyspnea when heart tonic may prove useful. The Karell cure is almost ideal, he adds, in obesity with failing compensation. The load of fat imposes extra work on the heart, which resumes normal functioning after the weight has been reduced. From 10 to 40 pounds may be lost in a few days under this Karell diet. The patient must remain in bed during the courses. In chlorosis, with doughy tissues and flabby heart, this treatment may also give benefit.

ANTIMENINGOCOCCUS-SERUM-THERAPY.—By Dr. Grysez (*La Presse Médicale*, May 29, 1909).—In patients presenting the symptoms of cerebrospinal meningitis, an injection with antimeningococcus serum is indicated, and should never be omitted, even before any bacteriological examination has been carried out. If the diagnosis is confirmed by the bacteriological findings, the injection should be repeated on the next following day, and again on the third day this treatment to be supplemented by prolonged warm baths. The bacteriological diagnosis of cerebrospinal meningitis is based upon the following findings. (1) Polynuclear cells, in the cerebrospinal fluid; rarely, mononuclear cells are present. (2) Small diplococci; gram-negative and analogous to the gonococcus, appearing in the leucocytes and in the fluid. (3) Meningococci, developing in the culture-medium. (4) Uniform turbidity of the fluid, after centrifugalization; Vincent and Belot's precipito-reaction.



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TREATMENT OF CHRONIC BRONCHITIS.—Underlying a chronic bronchitis there will be found a state of reduced vitality. The chronic condition has fixed itself and the weakened system is unable to throw it off and restore itself to

normal—the system's elasticity, its ability to rebound, as it were, is gone.

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A RETURN IN KIND.

Mark Twain once asked a neighbor if he might borrow a set of his books. The neighbor replied ungraciously that he was welcome to read them in his library, but he had a rule never to let his books leave his house. Some weeks later the same neighbor sent over to ask for Mark Twain's lawn-mower.

"Certainly," said Mark, "but since I make it a rule never to let it leave my lawn you will be obliged to use it there."



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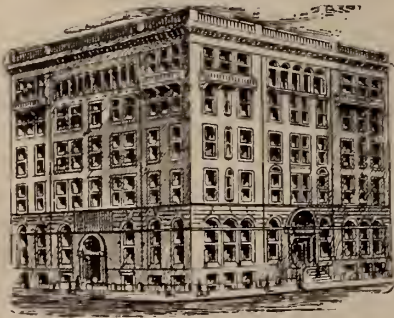
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RHEUMATIC HEART DISEASE IN CHILDREN.—Rheumatism is considered by the writer next in importance to tuberculosis among the diseases of early life. The following are the evidences upon which he chiefly relies in forming an opinion in these cases: (1) The presence of subcutaneous nodules. These, according to the author, nearly always indicate the existence of active heart disease, especially recurrent and relapsing cases. (2) Evening fever. This, without previous cause, excites a suspicion of possible fresh heart inflammation. (3) Joint pains, however slight and transient, always indicate the need for most careful observation of the heart. (4) Any sudden development of, or increase in, anæmia is a very suspicious sign of heart trouble. (5) Excessive and persistent rapidity of the pulse. In pericarditis he has never found it necessary to use surgical measures or to tap.—Carr, in *The London Practitioner*.—*Charlotte Medical Journal*.

RADIUM AS A SPECIFIC IN GIANT CELL SARCOMA.—Under this caption Abbe (*Med. Rec.*, Jan. 1, '10, p. 1) reports eleven cases of sarcoma treated by radium emanations. The method used was to pierce the tumor and introduce the radium tube into the body of the mass where it was left for some hours, according to the judgment of the operator. In some cases two or more applications were necessary. Following the treatments the tumors retrograded and the bones involved gradually became firm again. Seven of the cases reported involved the jaw. Here complete excision would have been necessary with total loss of one side of the jaw and the usual disfigurement, had the usual operative procedures been used. In the other cases other bones variously located were involved. Of one of these Abbe says:

"The more grave case also of the extensive and highly vascular sternal tumor would have given the patient a fatal hemorrhage if any attempt had been made to remove it, and it, at the best, could not have been extirpated entirely.

"My conviction is that every case of myeloid sarcoma should be given treatment by radium before any operation and that we may expect many cures."—*Ohio State Med. Journal*.

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Resident Physician

Alcoholic liquors are, to my mind, not only not valuable, but distinctly disadvantageous, in the treatment of disease except in rare instances. On the whole, I have almost given up the use of alcohol, in the treatment of disease. It is rarely, if ever, necessary to give alcohol to children, and usually very undesirable. The teaching in the medical school that I am connected with in regard to alcohol as a food and a stimulant is as follows: I do most of this teaching myself, and I teach that alcohol is not a stimulant in the ordinary technical sense of this term—that it is on the contrary, usually a depressant in the circumstances in which it is ordinarily used. I teach them that it is unquestionably a food in so far as it yields energy to the economy; but that its toxic effects are usually so undesirable that it is distinctly disadvantageous in most circumstances to attempt to use it as a food.—Dr. D. L. Edsall, Professor of Therapeutics, University of Pennsylvania, Philadelphia.—*Ohio State Medical Journal*.

ORIGINAL ARTICLES.

THE RATIONAL TREATMENT OF SO-CALLED INOPERABLE UTERINE CANCER.*

BY

WALTER B. CHASE, M. D.,

Brooklyn, N. Y.

Visiting Surgeon Bethany Deaconess Hospital; Consulting Obstetrician and Gynecologist to the Long Island College Hospital; Consulting Gynecologist to the Nassau Hospital, and the Jamaica Hospital.

The treatment of uterine cancer when it has reached the so-called inoperable stage, seems in the vast majority of cases, to be limited to the vaginal douche and the internal administration of opiates. These two expedients appear to most practitioners as affording all the relief they are able to bestow on its unfortunate possessor. When it is remembered that reliable statistics of registration areas show that one woman in eleven dies of cancer, and that after the age of thirty-five the mortality reaches one in nine, the magnitude of its destructive influence, and the distress and suffering it occasions stands forth in all its hideous proportions, not taking into account the deaths from this cause which are not correctly reported. It is safe to affirm that no other disease makes its unfortunate possessor so unbearable to herself and her friends, and inflicts such terrible suffering on its unfortunate victim. It seems incomprehensible, when the sympathy and resources of the public are laid under contribution to most other diseases, that these cases go on to irremediable death without systematic humane effort to administer to their necessity, either in hospitals or homes, save when the possession of ample resources makes such care possible: what can be done for these unfortunates? First the humane sentiment of every community, if wisely guided, should provide hospitals and care for these neglected cases, as certainly will be done when enlightened public opinion is directed in

proper channels. What then in the light of present knowledge may be done, medically or surgically, for these cases?

First, the use of the thermo-cautery; second, the use of radium; third, the application of the Roentgen Ray; and fourth, the daily local aseptic dressing.

The writer believes that the suffering of cancer is due principally to the pressure of the malignant growth on incarcerated nerve structures, and to the want of cleanliness of ulcerating surfaces; and that relief comes from the removal of all diseased tissue as far as possible, and persistent cleansing of ulcerating surfaces.

The objection to strong escharotics in the treatment of cervical or corporeal cancer, is first the impossibility of limiting its corrosive action, and second, the atrocious and persistent suffering occasioned. It is in this connection that the use of a thermocautery is of the highest value.

First.—If done as it should be under anesthesia, there is commonly little or no pain following its use.

Second.—Through heat on the parts invaded by the disease, short of actual disintegration there is evident inhibition if not destruction of pathogenic germs.

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Fourth.—The systemic infection is usually diminished—sometimes disappearing for a longer or shorter period of time.

Fifth.—In occasional cases (more often of cervical cancer) unexpected recovery has followed its use.

The statistics of the late Dr. John Byrne, of Brooklyn, show that in 367 cases of uterine cancer (not selected cases) operated on by the thermocautery, at the end of five years over 19 per cent. of cases were yet alive; unequalled it is believed by the statistics of any other operator by any other method, even on selected cases. The writer's results are equally satisfactory. An added value of this form of treatment lies largely in the fact it can be reapplied from time to time as is deemed expedient. Cases of this class followed by daily dressing with oxyd-zinc gauze, and gentle irrigation with permanganate of potassium, or the creasol compounds, may be

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carried to the end with greatly diminished, and in some instances, with but little pain. Besides the exhausting influence of repeated hemorrhage is much diminished, and the general comfort of the patient promoted.

In hospitals the electro-cautery can usually be installed and used with proper platinum knives with great satisfaction; though the Pacquelin-cautery with similar platinum accessories can be used with effectiveness, and outside of hospital practice one is usually restricted to the Pacquelin-cautery. Tact and skill in the use of a proper speculum so as not to impinge on diseased surfaces (often the Sims with the patient in the Sims position) and the parts protected from burning by asbestos paper will make possible the safe removal of diseased structures without troublesome hemorrhage, and include the destruction of tissues not removable with a knife or by the use of caustic.

Boldt has devised a tubular speculum for the use of the thermo-cautery, so constructed that a stream of cold water traverses the hollow spaces in the speculum preventing risk of burning of the vaginal wall.

In a general way it may be stated, that nearly every case of cervical or uterine cancer, save in the final stage, may be treated by the thermo-cautery, with advantage and resulting comfort. The more diseased structure removed the greater the benefit. The first results are diminution of pain, lessened discharge, and a healthier appearance of granulating surfaces. As a rule, if there is no burning of the mucocutaneous surfaces, there is little or no pain as a result of the operation. The critical question is the extent to which the diseased tissue can be removed without injury to the bladder, ureters, and the intestinal tract. It has not been my misfortune to injure any of these structures by the use of the cautery, though the possibility of it should be kept in mind, and explained to the friends in advance of the operation, for such an accident might be no evidence of lack of skill on the part of the operator. The accident to my knowledge has happened to one of the most distinguished operators of our country. Dr. Byrne states he had no *primary mortality from the operation*.

I believe, with due care, the risk is so little as to be practically negligible. Some prerequisites are necessary, perfect anesthesia, capable assistants, proper apparatus, adequate protection

of the vagina from burning, great patience in the progressive steps in the application of the knife at a dull red heat, so as not to burn the tissues so rapidly as to provoke hemorrhage, and to cook it sufficiently to destroy as far as possible malignant structures and the exercise of judgment and skill in the area of structures to be removed. With care and experience it is frequently possible to remove all of the cervix, and most of the body of the uterus (when involved) save a little more than a shell of the peritoneum.

The nature of the attack will be determined by the extent of the disease. If the cervix is intact (or nearly so) it may be seized by a strong double velsella for purposes of downward traction, or if insufficient for this purpose a strong double tanaculum, opening outwards can be introduced within the cervical canal for a similar purpose. In applying the cautery knife, the incision encircling the cervix should, if possible, be above the growth, and if need be, reaching to the utero-vaginal junction. The traction should be even and constant while the cautery knife slowly eats its way through the tissue near the circumference of the uterine body, but inside the peritoneal covering. To make the cautery knife effective, it should be kept in slow motion up and down or laterally, otherwise it is likely to provoke hemorrhage and delay progress, at the same time keeping it free for the eschar. If hemorrhage happens, which is always a troublesome possibility, a small gauze sponge saturated with diluted acetic acid, or of a solution of adrenalin carefully applied with pressure, usually controls the bleeding until the slow reapplication of the cautery closes the blood vessels. If after all that has been accomplished by this step has been done, and it is found that infected portions of intra-uterine structure remain, a round, dome-shaped instrument can be cautiously introduced into the uterine canal and further cauterizing be facilitated. So also can infected areas of disease on the vaginal wall be removed by the curved platinum knife. When the disease is far advanced and much vaginal involvement is present, the cancerous structure should as far as possible be removed by the same method, but by slow progressive steps, or the application of a strong curet may be applied following with the cautery knife. Even in these later stages enough of the involved structure can be removed to quiet or obtund pain, check or control hemorrhage, and lessen in greater or less meas-

ure the discharge from diseased surfaces, thereby diminishing the suffering and the rapid tendency to exhaustion. Daily irrigation and dressing of the parts must be carefully persisted in.

As yet the exact status of the value of radium is not known. While my personal experience is insufficient to enable me to speak *ex cathedra*, of its safety and value in certain cases I am thoroughly convinced. Its power to diminish the proliferating cell growth is undoubted, and that malignant structures under its use with radium of a relatively high radioactivity gives hope that much that has been claimed for it will prove true. Unfortunately, its high cost almost precludes its use.

Regarding the efficacy of the X-ray treatment in carcinomatous disease there seems to be a wide diversity of opinion. In my personal use of this agent in uterine cancer, I am not wholly decided, though in cases for a time benefits seem to follow its use. While it is true that proper application of the agents mentioned should not be carried beyond conservative limits, the fact remains that their wise use guided by discrimination and judgment are at present the best agents we have to combat this disease, and who will dare to affirm that the end to be gained not only justifies the means, or that for humanity's sake this method of treatment should not become general?

Following or coincident with the use of these several remedies the mixed serum of erysipelas and prodigiousus may be employed. Coley says it acts to inhibit the recurrence of carcinoma.

While study and investigation give hope that serum therapy will bring a radical cure, there is *ad interim* every reason why the diffusion of knowledge among women should be inculcated by every legitimate method, until physicians and women are alike awake to the strategic importance of early investigation and accurate diagnosis of conditions which demand careful scrutiny and perhaps the assistance of some one especially fitted by observation, study and experience in the advancement of these cases, in the hope that early radical measures may anticipate the inevitable approach of the period when all but palliative treatment is impossible. So long as procrastination supplants the imperative need of prompt and exact diagnosis, so long will the roll of mortality tell its tale of hopeless woe. Added to this the time is ripe, when

in every community, some plan of concerted action should be adopted in which the medical profession, public spirited citizens, and intelligent women should in some appropriate and effective way, commence a system of education among women whereby they should be informed of those symptoms which make absolutely imperative such examination as would reveal or exclude the early symptoms of malignancy. If the lethargy of indifference on the part of some of the medical profession, and the false security of women which such symptoms as have been enumerated, could make way for concerted action on the part of both, to know the truth and that early, a new hope would spring in hearts which are now utterly sad. This is the crux of the whole subject. Every investigation, intelligently and thoroughly pursued, to the end that radical treatment might be undertaken in suitable cases or when such a period has passed the use of palliative treatment as will afford the greatest possible relief from suffering. If space permitted I would give more in detail the results of my own experience in treating these cases, but will refer to three cases, which I copy from a paper I read on this subject, before the Section of Obstetrics and Gynecology of the American Medical Association, at Atlantic City, June, 1909, and published on December 4, 1909, in the Journal of the American Medical Association. In the discussion following the paper participated in by Kelly, Boldt, Frederick, Stone, Polak, Wetherill, and others, the fact becomes apparent that the use of the thermo-cautery as recommended and so successfully practiced by Dr. Byrne is becoming recognized as the most effective method of treating uterine cancer when the period for radical measures has passed. Further, there was evidence of a sentiment favoring the diffusion of specific knowledge among women of the early symptoms attending the presence of uterine cancer. The first two cases herewith reported were of the same type of carcinoma and instructive in showing the modifying influence of palliative treatment by the thermo-cautery. In none of the cases was any hope held out to the patient of ultimate cure.

CASE I.—The patient, a married woman, aged 43, entered the Skene Sanitarium, in March, 1901, with a cauliflower excrescence of the cervix as large as a man's fist. She had had numerous conceptions all of which terminated in miscarriages; but as these were intentionally

procured there was a well grounded suspicion that her disease was related to the incident traumatism. This growth was reflected on the vaginal wall antero-posteriorly and laterally, which forbade a primary effort at hysterectomy. On March 14th I removed the growth by the galvano-cautery and amputated the cervix at the vaginal junction. The surfaces healed kindly, save a small area on the uterine stump about the size of a silver half-dollar. On May 21st, following, the patient re-entered the sanitarium and I performed an abdominal hysterectomy. Prior to this operation she was weak, anemic and in poor physical condition. Her convalescence was satisfactory. She was kept under monthly observation by her physician, and in May, 1902, a year later, there appeared at the seat of the vaginal cicatrix a nodular mass rather larger than a silver twenty-five cent piece. At this time she entered the Memorial Hospital and I removed a button of tissue opening from the vagina into the peritoneal cavity, the size of a silver half-dollar. I examined her during the past year and she is in perfect health, with no sign of the return of the growth.

CASE II.—The patient, a married woman, aged 46, German, multipara, dated her trouble to a miscarriage, seventeen years previously. She had a large, bleeding, ulcerating cauliflower excrescence of the cervix, extending to the vaginal walls, which nearly filled the vagina. The discharge was offensive and the patient's health was seriously impaired from the frequent hemorrhages, associated with marked cachexia. She entered the Memorial Hospital September 23, 1902, and on the 25th I removed the entire growth by the thermo-cautery. In two months' time it had healed under daily dressings, save for a cup-shaped cavity three-quarters of an inch in diameter and one-half inch deep. The patient's general health was greatly improved. Owing to non-healing she had two more thermo-cautery operations in November, 1902, and June, 1903. In November, 1903, the disease having made some progress without materially affecting the patient's general health, Roentgen Ray apparatus was installed in the home and on every second or third day for nearly three months treatment was given. This was followed by the use of radium and the ulcerative process was greatly retarded, and the patient's general health fairly maintained with but slight pain, up to the time of her death, May 7, 1904. For several

weeks previous to her death the normal anatomic relations between the vagina, bladder and rectum were altogether lost and the amount of gauze daily used to fill this cavity amounted to many yards. During the twenty-one months of attendance the patient was visited by myself or my assistants about 750 times. It is at once apparent that such attention is most exacting in its demands on the attendant, but it demonstrated the fact that almost entire freedom from pain was the result, and that it was worth all it cost.

CASE III.—During March, 1896, a married woman, multipara, aged 42, came under my observation with typical cancer of the cervix, accompanied with extensive involvement. Hemorrhage was violent and the patient was cachectic. She was greatly ex-sanguinated and very weak. She entered St. John's Hospital in March, and I did a high galvano-cautery amputation as soon as her health permitted. She made a slow but satisfactory recovery, as far as the healing and local symptoms were concerned, and after two or three months she was able to resume her family duties. In November of the same year she entered the Bushwick Hospital for extirpation of a large gland of Bartholin. At this time there was no sign of return of the cancerous growth. On June 16, 1897, she re-entered the Bushwick Hospital, being seven months pregnant. The disease had returned, springing up around the old stump. After watching its behavior, I feared, from the hardening and infiltration of the uterine and contiguous structures, labor might induce rupture of the uterus, and on July 18th, at the eighth month of pregnancy, I removed the diseased growth, which encircled the uterine outlet, by the thermo-cautery. No shock followed and the patient was delivered of a healthy living child on August 6th. Her convalescence from the confinement was satisfactory as was the healing after the cautery. She enjoyed good health for nearly a year. Then the growth reappeared and she entered the Central Hospital, June 21, 1898, and I removed as far as possible the cancerous mass which had returned. She returned home August 25th. The healing was not satisfactory and she died a few weeks later from cerebral embolism, which only anticipated the inevitable results of her condition.

It is my hope in the not far distant future to lay before the medical profession a more com-

prehensive discussion on the subject of so-called inoperative uterine cancer, in the hope it will facilitate such a dissemination of knowledge as will lead to an earlier and more effective management of these most unfortunate cases.

Apropos to this I append a brief abstract of my paper read before the Medical Society of the State of New York, January 26, 1910, entitled, "The Duty the Medical Profession Owe the Women with Cancer."

Whereas the appalling fact that statistics of registration areas show that one out of eleven of all women die of cancer, and that after reaching the age of thirty-five years, the mortality increases to one in nine; and that as most of these are cases of uterine cancer, the question arises, whether the medical profession does not owe an unfulfilled obligation to this most unfortunate class of sufferers.

While large benefactions and well organized efforts are ministering to the comfort of those suffering from tuberculosis, there is in this State no systematic humane plan to reach those more terrible cases, condemned to helpless suffering and torturing death.

There is substantial basis for the belief, that earlier recognition of the presence of malignancy, in these cases, would add something to the measure of relief to be obtained by radical or palliative treatment. Among these unfortunate women, are large numbers, whose resources make it impossible for them to secure proper medical advice or capable nursing. It is also painfully apparent that home and hospital facilities for incurables is entirely inadequate to meet the needs of society. It is farther a well demonstrated fact that appropriate palliative treatment, carefully and systematically persisted in, will relieve in larger measure the suffering of those doomed to certain death.

In view of these facts it is resolved, first, that the Medical Society of the State of New York, by its President, shall appoint a committee of five whose duty shall be to urge on all practitioners of medicine, in this State, greater care in making early diagnosis in cases of suspected uterine cancers. Second, resolved, that this committee be directed to devise some method, by which along ethical lines, women may be properly informed as to the reason why they should seek early professional advice in menstrual and hemorrhage disorders, and that they are farther instructed to consider some more

comprehensive plan, whereby a general diffusion of appropriate and vital knowledge may be promulgated on this very important subject. Third, resolved, that this committee be directed to report its recommendations at the next meeting of the society. Fourth, resolved, that the treasurer of this society be directed to honor payment of bills incurred for printing and needful correspondence, (if not otherwise provided for), and that this committee be empowered to fill vacancies in its membership and appoint subcommittees if deemed expedient.

1050 Park Place.

**THE EVOLUTION OF MEDICINE AND
SOME IMPORTANT PROBLEMS ES-
PECIALLY IMPORTANT CON-
NECTED WITH IT.**

BY

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The consideration of the evolution of the healing art is most fascinating. With the creation of man there came also disease and death, and from earliest time man has striven to find some cure for disease and some means by which to stay the coming of death.

Before the structure of the human body was known or knowledge regarding the functions of the organs of the body had been acquired it is little wonder that people believed in the supernatural origin of disease and consequently sought relief through prayers and sacrifices to their gods.

The priests naturally became the medium through which relief was expected to come. It is an interesting fact that this primitive conception of the origin and cure of disease has continued through the ages and that there has not been a great civilization since the world began that did not have a system of divine healing, "but for the beauty of conception and for grandeur of detail in the execution all are as nothing in comparison with the cult of the son of Apollo, of Aesculapius, the God of Healing. To him were raised superb structures which were filled with the most sublime products of Greek art and which were at once temples and sanatoria."

It was inevitable, however, that disease should be studied from the viewpoint of cause and ef-

fect, but the influences of superstition, prejudice and the veneration of the dead were so great that opportunities for investigation were few and consequently advancement in medical knowledge was extremely slow. There is evidence, however, that there was some knowledge of disease and that surgical operations of some magnitude were done 1700 years before the Christian era. Skulls found in caves and other burial places at this era give unmistakable evidence of surgical operations having been done on them.

Hippocrates, who lived early in the 7th century before Christ, was the most observing student of medicine of the ancients and has been called the Father of Medicine. Hippocrates' ideas of medicine were evidently influenced by the philosophy of the time and as in nature there were believed to be four elements, fire, air, earth and water, so in man he believed there were four elements, blood, mucus, yellow bile and black bile. The blood represented the heat, the mucus the cold, the yellow bile the dryness, and the black bile the moisture.

Crude and erroneous as his ideas of medicine were, the period of his life marked the transition from mythology to history.

At this time very little anatomy was known and the most erroneous ideas of physiology were entertained.

It was not until the last of the 2nd century of the Christian era that much was known of the structure of the human body, or the functions of the organs. At this time Galen developed the knowledge of anatomy to a wonderful degree and discovered something of physiological processes. He not only studied the human body but conducted experiments upon animals. The establishment of vivisection at this time, although not used for many centuries, laid the foundation of experimental research in medicine which has been a most important, if not the most important factor in its development. The researches of Galen in both anatomy and physiology were considered so complete that practically nothing more was done in the way of investigation for thirteen or fourteen centuries.

During the 16th and 17th centuries investigations were renewed and much was accomplished especially in anatomy and physiology. The circulation of the blood was discovered and some idea of digestion and nerve action was obtained. It seems strange that Galen did not discover the circulation of the blood. He described the ar-

teries very fully but as they are empty after death he believed they were tubes for carrying air and it remained for Harvey to make this discovery many centuries later. Disease began to be studied systematically and many new methods of investigating disease were discovered, still there was much of superstition left in medicine, and while many diseases were described accurately the cause of disease was purely a matter of theory, and all medical works on this subject were entitled "The Theory and Practice of Medicine."

The practice of surgery was confined to the barbers and bone setters, and consisted of dressing wounds, blood letting, some operations and the setting of broken bones. The society of barbers was incorporated by Edward IV in 1461 and it was more than three hundred years later that barbers and surgeons became separate professions in England and France.

Interest in investigation increased during the 18th century and decided advancement was made in methods of diagnosis; percussion and auscultation were discovered as means of recognizing changed conditions in the body. Patients were studied more carefully in regard to the analysis of symptoms, and the cause of symptoms was sought for in post-mortem examinations. Still ideas in regard to diseases in general were primitive and viewed from today were exceedingly ridiculous. John Wesley, the founder of Methodism, who died in 1793, was also a physician and a remedy which he describes as having great efficiency in certain diseases was the ashes of a toad which were obtained by incinerating a live toad in a red hot skillet.

The inflammatory diseases of the kidney were discovered and described by Dr. Bright and these diseases are popularly known today as Bright's disease. The general manifestations of tuberculosis and typhoid fever were also recognized and understood, much was learned of the character of the blood, and vaccination was discovered.

The microscope, which had been developed so that its use was practical was made use of in medical researches and is use was destined to revolutionize medical knowledge.

Up to this time there was very imperfect knowledge of the functions of the organs and the most erroneous ideas of the cause of disease prevailed, the old idea of the four "humors" had been displaced by the theory that diseases were

of two kinds, one resulting from over-excitation and should be treated by depletion; the other resulting from under-excitation and should be treated by stimulation. This theory that inflammatory diseases, for instance like inflammation of the lungs or pneumonia, resulted from over-excitation and should be treated by depletion was responsible for the heroic but unfortunate treatment by bleeding, purging, cupping, blistering and the monstrous nauseous doses the thought of which makes us shiver.

But the day of guess work theorizing, and groping empirics was coming to an end; the better laboratory equipment made possible results in research that were impossible before, and knowledge of physiological processes and pathological conditions increased by leaps and bounds.

Experimental work was done along three main lines, condition and functions of organs in a state of health; the nature and the functional changes produced by disease and the cause of the changes; and the curative agencies which can neutralize the disturbing agents.

About the middle of the 19th century Pasteur discovered micro-organisms, or germs, and demonstrated their action in fermentation and suppuration. He thus laid the foundation of the science of bacteriology which has revolutionized the conception of the cause of infectious diseases, and suppuration in wounds. It was found that if germs were kept out of wounds healing would take place without the presence of pus which before had been considered a normal element in healing of wounds. Antiseptics or remedies which will destroy germs were discovered and the principles of antiseptic surgery were generally adopted. This together with the discovery of ether has made possible the wonderful achievements in surgery during the last half century.

During the past twenty-five years the germ of most of these diseases has been discovered. This has made it possible to establish regulations for the prevention of these diseases and to adopt treatment of them that is destined to practically annihilate infectious diseases from the civilized world. Being able to prevent these diseases at least in an epidemic form is vastly more important than their treatment although the mortality has been reduced more than 50% since the present method of treatment was begun.

It seems strange at first thought that the cause of a disease like tuberculosis which was accurately described more than six hundred years before Christ should not have been discovered for 2,500 years. The trouble was not with the men of those times, it was with what they had to work with, and the wonder is that simply from observation of disease they were able to accomplish as much as they did. When the microscope became available for research work, and when laboratories and laboratory equipment in the various branches of science came into existence, giving opportunity for experimental research, it was possible to make these discoveries in regard to the cause of disease and not before, the microscope solved the first great problem in battling with disease the cause of infection.

Vaccination as a prevention of smallpox was discovered in the latter part of the 18th century, but the principles of vaccines and serums which were involved in this discovery were not worked out until one hundred years later when the anti-toxin treatment of bacterial diseases was placed on a scientific basis, and another great problem, the prevention and treatment of infectious diseases seems to be satisfactorily settled. This was only possible as the result of animal experimentation or vivisection, in no other way could this problem have been worked out.

It may be interesting for you to know what vaccination is, the benefits claimed for it, and the dangers ascribed to it.

Vaccination popularly speaking is giving the patient a disease known as cowpox. This is done by putting some of the germs of that disease on the skin which has been broken so that they can be absorbed.

The vaccine which contains these germs is obtained from calves which have been given the disease. These calves are kept in stables under the best hygienic conditions possible. The vaccine, or virus, is a clear fluid which forms in the irruption or pock marks as little blisters and which is collected under the strictest aseptic precautions. As calves are always used in the production of this vaccine the danger of getting some other disease from vaccination is nil despite the popular idea to the contrary. This idea persists from the fact that at first the vaccine was taken from the arms of people who had been vaccinated and probably did have a small element of danger in carrying other diseases. Notwithstanding the fact that this method of ob-

taining virus has never been practiced in procuring commercial vaccine and has long since been discontinued by physicians as a local supply, the popular idea remains.

The advantage of vaccination is that cowpox—the disease which vaccination produces—is never fatal although sometimes patients are considerably sick with it, and patients who have had cowpox do not take smallpox which is a dangerous and fatal disease with a mortality of from 25% to 30%. Only 1% of the vaccinated take smallpox and then only in a modified form which has practically no mortality rate.

The cases of tetanus, or lock jaw, that are reported as coming from vaccination are accidental infections of the vaccination sore with the germs of tetanus. It is probably always done by the patient scratching or rubbing the sore with dirty fingers. The germs of tetanus are very common in the dirt in cities and it is an easy matter for a child playing in the dirt to carry these germs by scratching to any sore that is unprotected. This can be obviated by keeping the sore protected by sterile dressing.

In countries where vaccination is generally practiced smallpox is practically unknown. It has been eradicated from the German army and epidemics of smallpox are only possible where popular prejudice has prevented general vaccination. In the smallpox epidemic in Montreal in 1885 there were 3,164 deaths and untold financial loss. "In the twenty-eight years before vaccination in Sweden there died each year from smallpox out of each 1,000,000 of population, 2,050 persons; during the forty years following vaccination, out of each 1,000,000 of population the smallpox deaths annually averaged 158.

During the seven years preceding the introduction of vaccination in Prague, smallpox caused one-twelfth of the total number of deaths; during the twenty years following the introduction of vaccination, smallpox caused one-four hundred fifty seventh ($1/457$) of the total number of deaths."

For the five years 1893-1897 inclusive Germany had 1.1 as the average yearly mortality from smallpox to every 1,000,000 population; while Russia, where vaccination is little practiced, had 463.2 deaths to every 1,000,000 population; and Spain had 563.4 deaths to every 1,000,000 population; in seven provinces in the Philippine Islands where there had been an average of 6,-

000 deaths annually there was not a single death reported from smallpox during the year following the compulsory vaccination.

If it was a matter that affected an individual only it might be said with some truth that he should have the right to take his own chances, but when this involves the possibility of bringing sickness and death—to say nothing of financial loss—to others it is a very different matter.

It is hard to understand how personal prejudice and mistaken ideas in regard to vaccination can be so persistent—in intelligent people in the face of indisputable facts. The anti-vaccinationists are assuming a load of responsibility that can only be explained by their wilful ignorance of existing conditions.

Tuberculosis is the most destructive single agency of death. It has been responsible for 120,000 deaths a year in the United States alone, more than from all other infectious diseases together excepting pneumonia. Although it is only a little more than twenty-five years since the germ causing the disease was discovered the mortality has been reduced more than one-half and the work has only begun. There is more widespread popular interest and effort in the eradication of this disease today than has ever been exhibited before in the history of medicine. It is to this popular awakening and to the observance of hygienic and remedial measures that must result from it, that will tell in exterminating the disease. Physicians are powerless to bring about marked results without public sentiment to help. The same public support given to eradicate smallpox would practically exterminate it in a decade. Tuberculosis is curable in the early stages but not when it is well advanced; the importance of prevention and early treatment are obvious. Prevention may be accomplished by prohibiting promiscuous expectoration and the destruction by fire of all sputum from infected cases. The reason for the destruction of sputum is that when deposited on the ground or in the street it dries from the influence of the sun and wind and then is blown about in the clouds of dust that come in our faces every windy day. The germs of tuberculosis are not killed by drying and are just as capable of producing tuberculosis when inhaled from the dust of the street as when introduced into the body in any other way. The only safety is in destroying the sputum by fire. The isolation of advanced cases would be a material help

in controlling the disposition of sputum. The treatment in the early stages consists of fresh air, cleanliness, and nutritious food. Sanatoria where patients can have object lessons in hygiene and the advantage of regular routine are very desirable. Tuberculosis has been dealt its death blow and eventually will be practically exterminated.

Typhoid fever which has come down through time defying all efforts against it has been found to be very easily prevented, and the presence of typhoid fever today is "prima facie" evidence of the neglect of well established rules of sanitation and hygiene.

Diphtheria which has been one of the most dreaded of all infectious diseases has been robbed of much of its terror and the mortality has been reduced more than one-half.

Investigations that have proved the importance of the mosquito in transmitting malaria are more or less familiar to all. It has been demonstrated beyond question that malaria may be prevented by avoiding the bite of the mosquito, proper screening of the houses in malarial districts and staying indoors after dusk when mosquitoes are active, practically precludes having malaria.

Asiatic cholera and the bubonic plague are both so under control that they have lost their terror and only appear in isolated cases.

Similar results have been obtained in most of the infectious diseases, experimental work is still being done in all of them and it is only reasonable to expect still greater results.

The method of preparing all the serums for the treatment of infectious diseases is practically the same and the description of one will be sufficient.

Diphtheritic antitoxin is prepared by first cultivating a virulent type of the bacilli. The toxin is then separated and its strength carefully estimated, a given quantity of this toxin is injected under the skin in the neck of a horse—this animal having been found by experiment to be the best suited for this work,—a little later antitoxin is administered; the same doses of toxin and antitoxin are repeated three times at intervals of five days, after this larger and larger doses of toxins are given at intervals of a week until it can endure doses that would have been speedily fatal at first. After two months the horse is bled and the serum tested. If satisfac-

tory the doses of toxin are continued for another month when the maximum quantity is reached. The horse is then bled, an antiseptic is added to the serum to keep it, and after its strength is accurately determined it is bottled and ready for use. The toxin is a poison produced by bacteria, the gradual poisoning of the horse with this toxin until a tolerance to the poison is established produces a condition of the blood in the horse that introduced into a person produces a similar tolerance for the toxin, this product is known as antitoxin.

The serums or antitoxins may be used to immunize people as well as to cure disease.

The third great problem is how to educate the public so that they will adopt measures of sanitation and hygiene as these are worked out. The question of preventing disease is of far more importance than that of curing it, and prevention must come by the hearty co-operation of the public in putting into use well established principles of sanitation and hygiene. This problem is being worked out along some lines fairly well as with typhoid fever and tuberculosis. Still, with these it is only a beginning, for the masses know almost nothing of the conditions necessary to prevent these diseases, and many who know do not believe. There is a great work yet to be done in teaching the public the general principles of sanitation and hygiene.

We are living in the most wonderful age in the history of medicine, more has been accomplished in the last fifty years to relieve human suffering than was accomplished in the previous three thousand, and what has been done is as nothing to what will be! Discoveries succeed each other so rapidly that the facts and conditions of yesterday are supplanted by new facts and new conditions today. It is not a stretch of the imagination to say that the time will come when the infectious diseases will not exist, that diseases that are little understood now will be mastered and the conditions of sanitation, hygiene and diet so well understood that if people die before their three score years and ten it will be because they chose to disregard well established principles of living.

What has made this wonderful advance in medicine during the last half century possible? Three things—the microscope, the advance in the knowledge of chemistry, and experiment

with animals. No one of these could have been omitted from the methods of research without sacrificing results.

In view of what has already been accomplished in saving life and in relieving human suffering it seems strange that there should be organized effort among intelligent and educated people to prevent the continuance of medical research, for these problems cannot be worked out without experiments upon animals, and the antivivisectionists are making every effort to secure legislation to prevent experiments upon animals. All experimentation is done in the most humane way possible and the little suffering which may result to the animal seems a small sacrifice for the stupendous results that have been obtained in saving human life and relieving human suffering.

SUDDEN DEATH IN ITS MEDICO-LEGAL ASPECTS.*

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DR. C. F. DALTON,

Burlington, Vt.

The sudden death, by which we mean a death following few or no apparent symptoms, is an occurrence of which the medical practitioner justly stands in dread. Not only does it involve the anguish of the relatives, and the chance of several hysterical patients at once, but it also devolves upon the doctor to attempt a diagnosis and explanation upon facts which may not be obtainable by superficial examination alone. To make the situation more perplexing, it is the almost universal rule for the relatives of such a deceased person to oppose with all their persuasive and hysterical powers any post-mortem examination. The doctor, then, finds himself with two alternatives; that of writing a death certificate with the stereotyped "Heart Disease" as the cause of death, or of making himself unpopular with the family and the majority of the townspeople by insisting on an autopsy, refusing to guess what might have happened in the economy of the dead.

Exceptionally, an intelligent wife or friend requests an autopsy, rather than to remain for-

ever in ignorance as to the reason for the sudden taking off, but these persons who have overcome their sentiment and superstition to such an extent are unfortunately few and far between, and when found are like oases in the desert of the jaded doctor's existence. As medical men we should keep constantly in mind the education of the people in this regard; not to be eternally harping on death and our uncertain diagnoses, but to be ready whenever opportunity offers to give the word of advice and mention the benefits which may be derived by all concerned from post-mortem operations.

While the subject given me calls only for the medico-legal aspects of sudden death, such a consideration would be manifestly incomplete without calling to mind the various causes which may give rise to rapid dissolution. Sudden deaths may be divided into four classes: (1) Those due to natural causes; (2) accidental; (3) suicidal; (4) homicidal. Taking these in order, let us first consider the pathological conditions which may lead to sudden death.

Without doubt the heart and blood vessels are the organs most frequently at fault. Of the valvular lesions of the heart, those affecting the aortic leaflets are most liable to come to an abrupt ending. Aortic stenosis and insufficiency may terminate in sudden death even when the patient has had little suspicion of such danger. Sudden muscular exercise or violent emotion may be the underlying cause of the attack which proves the valve incapable of maintaining its integrity. Affections of other valves may sometimes cause similar results, but in no such proportion as aortic lesions. Cardiac thrombi and occlusion of the coronary arteries predispose to rapid dissolution, but probably do not of themselves lead to sudden death, as symptoms may last over a period of some hours at least.

Interstitial or fatty myocarditis, with or without valvular lesions, is a very usual condition found, and it is probable that the nervous mechanism of the heart is also involved in the degenerative changes. There may be an increase in the sub-pericardial fat, which encroaches upon and infiltrates the heart muscle, leading to atrophy of the walls, especially the thinner portions, with consequent disturbance of the nerves. In fact, the pathologic findings in death due to what we know as angina pectoris often include just this condition, together with

*Read before Addison Co. Med. Society, Middlebury, Sept. 23, 1909.

sclerosis or partial occlusion of the coronary arteries.

The terms "shock" and "syncope," which we must confess carry but little concrete meaning to most of us, are used to express a condition of extreme nerve disturbance or sudden insufficiency of nerve force, in which the heart involvement leads to the fatal issue. When either of these conditions are induced by surgical or violent methods we think we understand them; when they occur without substantial cause we are forced to admit the inadequacy of our knowledge. Cerebral anemia, with the shutting off of blood supplies to the motor and sympathetic centers is no doubt a factor in such cases, and at autopsy the blood vessels of the abdomen may be found greatly distended. This is simply an exaggeration of the condition which we are told exists during sleep.

Arterio-sclerosis is a cause of many fatal occurrences through the sudden rupture of the hardened arteries. It is probably in rupture of the aorta that death supervenes most rapidly, although in cases of extensive hemorrhage from the cerebral vessels, which we know as apoplexy, the end is often only a matter of a few minutes.

Diseases of the respiratory system are mainly of interest in connection with this subject because of the possibility of some homeless wanderer forcing himself to ignore the weakness of pneumonia or tuberculosis until he drops dead from sheer exhaustion. Acute pulmonary edema or fatal hemoptysis may sometimes occur as a bolt from the clear sky, resulting from a hidden nephritis or tubercular involvement. The digestive system is rarely the cause of sudden death, the so-called "acute indigestion" to the contrary notwithstanding. However a condition is quite possible in which, owing to congestion of the digestive tract the brain becomes anemic or a toxemia affecting the nervous system is induced. This is no doubt the condition in acute alcoholism, which may account for some unexpected deaths.

The second class of deaths—accidental—nearly always carry their marks with them and diagnosis in the majority of cases is not difficult. Mention of a few such fatal occurrences in which outward manifestations are almost entirely lacking may be of interest. Choking by solid bodies is an end by no means infrequent, and gives rise to a death unexpectedly rapid. Many cases of this kind are on record, the usual story

being that in the midst of a meal the person suddenly arose, turned pale, fell over and quickly expired. Post-mortem, large pieces of food have been found so firmly lodged in the larynx that even coughing was impossible. The possibility of such an accident is of course one reason why we caution our patients to abstain from food for some hours before taking anesthesia. It should also be a warning to nurses against the practice of putting bags of sugar into babies' mouths, unguarded by a large ring or some other device.

Death by suffocation or smothering is occasionally that meted out to infants, and is in fact, a method which has found much vogue in disposing of illegitimate children. This is an accident which may also occur during the heavy sleep of the drunkard, as a recent death in this state goes to show. Death results from covering the face in such a manner that respiration is entirely shut off, and in the case of infants may be from becoming entangled in the bed clothing, or overlaying by the mother. There are usually no external evidences or marks, and diagnosis can only be made from surrounding conditions. Internal examination, however, shows emphysematous protuberances in the lungs, with hemorrhagic spots on the heart muscle and other organs. These small hemorrhages are sometimes seen in the skin, especially on the chest, and when found are of great aid in forming one's opinion.

Inhalation of poisonous gases, mainly carbon dioxid and monoxid, often causes accidental death, and is likewise a favorite method of suicide. The action of the two gases is quite different and each has its own characteristic post-mortem appearance. The carbon dioxid is a heavy gas which fills the air spaces of the lungs like water. Its victims usually show a cyanosed and distorted face, and internal appearances somewhat resembling those of choking. Carbon monoxid, which is the principal constituent of coal-gas and illuminating gas, enters into a stable compound with the hemoglobin of the blood, crowding out the oxygen. The victim of this accident is likely to appear quite natural with a rosy tint on the cheeks, but if a little blood is drawn it will be found to flow freely and bright or cherry red in color.

Turning now to the more violent deaths resulting from suicide and homicide, the means used are nearly always only too apparent, and the scope

of this paper scarcely includes a detailed description of the various methods employed. The question also as to whether the victim came to death by his own hand or by natural or violent means is too technical and far reaching to be more than mentioned as a point to be considered. Our principal concern in regard to these deaths is the manner of fulfilling the legal requirements and leaving no stone unturned in order that the law may not miscarry. In cases of sudden death occurring under circumstances which are at all suspicious, it is far better to be overzealous in the spirit of the law than to find from subsequent developments that a crime has been committed and the criminal gone through one's omission.

The health officer should of course be notified in case of any death without medical attendance. In suspicious cases the state's attorney should also be consulted and the facts laid before him. In the meantime it is the family physician who makes the first observations and gathers the first facts. In such cases, even though there appears to be no cause for inquiry, it is best to look about for anything suspicious. The age, sex, and physical condition of the patient, his temperament and compatibility with those around him, and his recent mental condition all have a bearing on the case. The physician should not fail to look for evidences of poisoning, and any bottles or containers should be carefully examined and if in any way suspicious should be safely guarded until the legal officers arrive. The patient may meantime be examined for evidences of the cause of death.

The more violent methods do not call for description. Some of the cases of poisoning are more perplexing, and a few hints may not be out of place here. The odor of the lips and mouth may be quite suggestive and if the poison was a corrosive its action may be seen upon the lips, or on the face if the liquid has drained from the mouth. The popular idea that rigor mortis occurs suddenly in all cases of poisoning is not altogether without foundation, but it obtains only in those instances in which death is preceded by convulsions, as in strychnine and hydrocyanic acid. Rigor mortis may also be an early manifestation in any sudden death occurring during or just following violent muscular exertion. Its significance is therefore only of value as one of several facts.

The condition of the pupils is not of sufficient importance to warrant any final conclusions. Even in morphin poisoning the pupil relaxes before death or during the general muscular relaxation, and is usually found moderately dilated. However, a comparison of the size of the two pupils may lead one to think of cerebral hemorrhage instead of poison, if they are uneven.

The signs of death are often of considerable importance in rapidly fatal illness. In some cases, death is very apparent, but there come times when the best of us would wish for a few hours before expressing a positive opinion. Instances of suspended animation are greedily looked for by a class of neurotic individuals, and to such an extent has the fear of such occurrences been carried that societies for the prevention of premature burial are now to be found in most cities of any size. The would-be organizer of such a society in Burlington has recently been committed to the Waterbury institution, after having attempted to place at least one person beyond the need of the society's supervision. While there may have been cases of premature burial at some time or other, there is little need for the mortuaries and all the various mechanical devices which these people advocate, if doctors only give moderate attention to the signs of death.

In the first place a physician should never issue a death certificate without himself viewing the remains. Even when present at the death bed we are often at a loss to set the exact time at which dissolution occurs. I recall a case where I had pronounced a patient dead, the family had retired from the room, and the nurses were preparing to wash the body, when suddenly the supposed corpse made one convulsive movement, in which the arms and face were actively involved. This was fully fifteen minutes after all apparent signs of life had disappeared.

The best test of all is the continued examination of the heart with the aid of the stethoscope—we all know that the radial pulse is not an accurate criterion. The custom of holding a mirror before the lips, or suspending bits of cotton before the nose and mouth are confirmatory tests, as is also that of placing a glass of water on the chest to detect respiratory movements. The onset of rigor mortis is one of the early signs. This usually begins in twenty to sixty minutes, being first manifest in the lower jaw,

then in the trunk and lower extremities and lastly in the arms. The time of onset and the continuance of the rigidity is of course variable, but when found it is a valuable sign.

Coincident with the rigor mortis occurs the cooling of the body, which must be progressive to be of value. This sign allows of many variations owing to conditions and surroundings, but with a body uncovered or only thinly covered, it has been stated that cooling occurs at the rate of 4° per hour for the first three hours, then 3° per hour for the next six hours, and later still more slowly until the atmospheric temperature is reached.

Changes also occur in the eye almost immediately after death. In the majority of cases the luster disappears and the cornea assumes a cloudy or opaque appearance, together with an appreciable flattening, the globe having lost its normal tension. As to the flowing of blood, this is a good sign if one uses judgment. A dead body does not bleed in the ordinary meaning of the term, that is the blood does not flow in jets or spurts, but under certain conditions the blood remains fluid and if a vessel is opened in a dependent or hemorrhagic part the fluid will naturally seek an outlet in the line of the least resistance. Several other tests, such as thrusting a needle into the flesh, tying a string around the finger, and applying heat to the skin in the effort to produce vesication, have all been heralded as absolute signs, and are no doubt of considerable value at times in connection with other phenomena.

HIS BANK ACCOUNT.

Family Physician—The trouble with your husband, madam, is that he has overdrawn his account at the bank of vitality.

Mrs. Gayman—I felt sure he was deceiving me about something, Doctor; I give you my word I never knew he had any account there.

SUES FOR AN X-RAY HURT.—A colleague was recently sued for \$20,000 damages for alleged improper use of an X-ray machine. In 1907 the patient sustained a fracture of the thigh; and the physician skiagraphed the injured limb. The patient admits a complete cure of his fracture, but sues, alleging that his limb was so badly burned it has never healed.

ANEURISM.—In cases of thoracic aneurism, delay or increased retardation of one of the radial pulses occur. The same delay may or may not be present in the case of the corresponding carotid pulse. If the idea, based on experimental physics, be correct, that delay of the pulse-wave is only produced as the result of the wave passing through the aneurism, then the phenomenon of delay should be of most important diagnostic aid in the localization of the aneurism. Digital examination is not a reliable test of the presence or absence of delay. The finger may miss the delay when present, and may diagnose it when absent. A more delicate instrument, such as the clinical polygraph, is necessary.—Findlay, in *The London Practitioner*.—*Charlotte Medical Journal*.

A POSSIBLE NATURAL ENEMY TO THE MOSQUITO.—Atkinson (*Lon. Med. Lancet*) states that in the summer of 1908 it was reported to him by Mr. Gibson, the colonial veterinary surgeon of Hong Kong, that he and Inspector Watson had seen flies eating mosquito larvæ in the nullah and streams adjacent to the cattle depot at Kennedy Town in that colony. He had some of these collected and sent to the Tropical School of Medicine, London, where they were recognized by the entomologist Alcock, as belonging to the dolichopodides, many of the species of which family have well known aquatic propensities; they were, however, too much damaged on arrival to be specifically identified. This summer, toward the end of April, Atkinson went to Kennedy Town with Mr. Gibson and they saw hundreds of flies eating larvæ in the nullah and also in the streams near by. On stirring up the stagnant water at the sides of the nullah crowds of larvæ were disturbed; the flies pounced down upon them and rapidly devoured larvæ almost as long as their own bodies. At times they would fly away with the larvæ in their mouths. These were evidently all of the same species. Some were collected and sent to England and were identified by Mr. E. E. Austen, the dipterologist at the British Museum, as belonging to the species *lispa sinensis*, *Schriener*, of the family of anthomyidæ, or flower flies.

Vermont Medical Monthly.

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H. C. TINKHAM, M. D., }*Editors.*
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EDITORIAL.

Certain New York newspapers are incurring a tremendous responsibility in printing in glaring headlines startling, false and misleading statements regarding alleged cruelty in the treatment of animals in the research laboratories of the country and especially in the Rockefeller Institute of New York City. That this is done maliciously, there can be no doubt, for while it may be impossible to demonstrate absolutely the falsity of such statements, to every reader of these papers, it is clearly possible and surely the duty of the editorial staff of such journals to visit these laboratories and ascertain the facts before publishing such material. If such sensational reports result in arousing among a large number of worthy people a feeling of frenzy which may result in hasty legislation placing a great handicap upon experimental work, tremendous harm will be the result. That enough people can be found among our generally intelligent population to pass legislative measures restricting in any way medical research, to which they

themselves owe their comparative immunity from a large number of the communicable diseases, and to which a great many of them have or will owe their very lives, can only be explained through ignorance of the facts. If the journal which is spreading these malicious reports would devote its pages to explaining the tremendous blessings to humanity, of vaccination for smallpox and rabies, antitoxin treatment for diphtheria, tetanus and meningitis, and the wonderful developments of modern surgery, all the direct outcome of animal experimentation, it is inconceivable that one among its readers could be found who would vote for any measure restricting animal experimentation. The hope of the future in medical accomplishment, is bound up in these methods and if we ever expect to find a specific treatment, which will rob tuberculosis, cancer, and typhoid fever of their perils, nothing must be done to embarrass the work of the research laboratory. Unnecessary cruelty as of course every medical man knows, is never practiced in these experiments as such treatment would defeat the very ends of the experimenter. Surgery on animals is always carried on with the same general care and asepsis as in surgery on man, but until human beings can be found who are willing to offer themselves for research work, it is absolutely essential to resort to animal experimentation. The character of the man at the head of such an institution as Rockefeller Institute, is an absolute guarantee that all this work will be carried on in a thoroughly proper manner.

The discussion of experiments upon animals, or vivisection, that has been taken up by some popular publications will, we believe, result in decided good. When periodicals print articles clearly and honestly giving both sides of the subject the public is perfectly capable of

analyzing the arguments and sizing up the situation. Exaggerated and sensational discussions or the publication of false statements may serve their purpose for a time and capture the fanatics and hysterical females, but the general public will differentiate between the rantings of a fanatic and the logic of fact.

An article by Dr. W. W. Keen, M. D., LL. D., of Philadelphia, in the April number of the Ladies' Home Journal, should be read by every one. It is an unimpassioned statement of fact by one of America's most noted medical men. He has seen in his own practice the benefits that have come from experiments upon animals, and tells something of this experience in this article.

We trust that those whose sympathies for the dumb animals have been so marked, that in trying to protect animals from suffering they have lost sight of everything else, may read this article. They cannot fail to have their sympathies enlisted for the suffering women and children who can find relief through experimentation upon animals, and who could not have any other relief.

To those who have only one idea, who are not willing to believe except the part they choose to believe, who are not open to argument, and who are willing to sacrifice women and children for their sentiment, in regard to a dog or a cat, we have nothing to say.

The reports of the treatment of pneumonia by vaccine which are appearing in the journal, are very encouraging. This disease has presented a dismal spectacle of a malady, the treatment of which has been at a stand-still for many years, while its prevalence and virulence, particularly in large cities, has been increasing. Dr. Harvey A. Craig, (*Medical Record*, February 12th) reports five very interesting cases of pneumonia

occurring among old men between sixty-six and eighty-three years old, inmates of Sailors Snug Harbor Hospital. These were consecutive cases and were all treated with two or three doses of a vaccine containing from twenty to fifty million killed pneumococci per dose. The dose was followed in every case with a reduction of temperature and general amelioration of symptoms; every case recovered. The percentage of mortality of such cases from three to four year periods, was sixty-six and two-thirds.

While as the author remarks so small a series of cases does not definitely prove anything, it certainly points toward a conclusion favorable to this method of treatment. Others have reported results equally good. We feel that this treatment of pneumonia should be given a thorough trial. Even if its introduction stimulates an immunity only, against the further extension of the disease in the lungs, it will be of tremendous value. This is a disease so hopeless in its management, that the profession is reduced to the position of grasping at a straw. Certainly when something with seeming proportions of a life-buoy comes into view, it should be seized.

A measure of tremendous importance is Senate Bill No. 6049 establishing a Department of Public Health with representation in the cabinet. This bill has met with much opposition from various sources, including some of the present bureaus which would be affected by the change but the pressure of sanitarians all over the country aided by the full power of the American Medical Association and the committee of one hundred has brought the matter to the front. This matter is of so much importance that we quote freely from the eloquent speech of Senator Owens, the father of the bill.

"Mr. President, the people of the United States suffer a loss of over 600,000 lives per annum.

This terrible loss might be prevented by reasonable safeguards under the cooperation of the federal and state authorities, each within strict constitutional limits.

These deaths are caused by polluted water, impure and adulterated food and drugs, epidemics, various preventable diseases—tuberculosis, typhoid and malarial fevers, and so forth—unclean cities, and bad sanitation.

Measuring the money value of an American citizen at \$1,700, this preventable loss by death is one thousand millions of dollars annually, equal to the gross income of the United States Government.

There are 3,000,000 people in the United States on the sick list from preventable causes, of whom 1,000,000 are in the working period of life; about three-quarters of a million actual workers losing on an average of \$700 per annum, an approximate loss from illness of five hundred millions, and adding a reasonable allowance for medicine, medical attendance, special food and care, a like sum of five hundred millions, these losses would make another thousand million dollars of preventable loss to the people of the United States.

* * * * *

YELLOW FEVER.

Before the American intervention in Cuba the death rate from yellow fever alone in Habana to the hundred thousand population in 1870 was 300; in 1880, 324; in 1896, 639; in 1897, 428; and after the American occupation it fell: 1900, 124; in 1901, 6; in 1902, zero; in 1903, zero; in 1904, zero.

What a glorious record! What a splendid tribute to the learning, industry, and self-sacrifice of the devoted medical men who accomplished this result, most of whom are now dead. James Carrol and Lazier died from experimental yellow fever, sacrificing their own lives deliberately in the interest of their fellow-man. All honor to their names and to the names of Walter Reed and the others, who, brave, gallant soldiers of peace, exposed their lives for the benefit of their fellows. Monuments of stone and of bronze should be erected to these noble patriots of peace, more noble and self-sacrificing in their work than patriots of war. What does the commerce of the world owe to these men who vanquished yellow fever? There could have been no Panama Canal except for this development of science.

HOOKWORM.

I am informed by a high authority that over 90 per cent of the children of one of the Southern States are afflicted with hookworm, a preventable disease, curable at a cost of less than 50 cents apiece with two doses of thymol and a little careful treatment, yet the disease is denied, prejudices and lack of learning stand in the way of the speedy restoration of thousands, and the voice of the men who know the habits, life, history, and remedy for hookworm carries with it little power or authority to heal the unlearned patients. Only the power of the State itself, with its dignity and with its authority; only the power of the General Government, with its prestige and with its high standing, is competent to impress upon the minds of the unlearned body of the people those principles of hygiene, preventive medicine, and sanitary law which are essential to the preservation of the life of the American people.

PEOPLE UNINFORMED EXPOSE THEMSELVES.

With the record in Habana of the control of yellow fever there are thousands of unlearned people who will ignorantly ridicule the means of the mosquito as an agency for transmitting this disease; that will deny the transmission of malaria by the mosquito.

And there are thousands who will ignorantly deny that bubonic plague is transmitted by the flea from the rat and the squirrel to the human being. The power of the Government alone acting through its strongest arm is necessary for the prevention of a wholesale introduction into the United States of bubonic plague.

The bubonic plague is now among the ground squirrels and rats on the Pacific coast at various scattered points over a thousand miles apart, due to the thoughtless ignorance, interest, and prejudice of the commercial interests of San Francisco that suppressed the faithful and intelligent work attempted to be discharged by the officers of the Marine-Hospital Service, which I may more fully set up hereafter.

The bill which I have introduced is in accordance with the earnest repeated desires of the American Medical Association, probably the largest and most honorable association of physicians and surgeons in the whole world as far as the principle of the bill is concerned. I have an earnest letter from Dr. Charles A. L. Reed,

chairman of the legislative committee of the American Medical Association, which I herewith insert:

* * * * *

Mr. President, this bill (S. 6049) coordinates and brings into one working body the various health agencies of the Government.

It proposes no new officers except the secretary and his assistant, who should be a permanent officer, acting as a director-general. Perhaps such assistant should have this title.

It calls for no new appropriations except the salary of the secretaries.

It will provide a number of economies by preventing duplication, and make more efficient the money expended and the officials employed by the present health agencies of the Government.

The coordination of these agencies has been approved by President Taft, and the vigorous cooperation of such agencies with the state authorities in stamping out disease has been urged by President Roosevelt.

* * * * *

In 1908 we expended for the suppression of plague, \$228,337.22; in 1909 we expended for the suppression of plague, \$337,403.13; for 1910 we appropriated \$750,000 and \$187,771 unexpended balance—in all, \$937,771—for the prevention of epidemics of cholera, typhus and yellow fever, smallpox, and bubonic plague (called also Chinese plague or black death). All of this appropriation was really needed for bubonic plague, which was the only epidemic seriously threatening the United States. Fortunately, we have \$724,000 of this on hand. So, from no danger, Mr. President, in 1901, 1902, and 1903, the danger grew to the request for an appropriation of over \$900,000 in 1910. There has been over a million dollars appropriated and the plague has not been suppressed. The bureau was prevented giving publicity to the truth, and Mazatlan, Mexico, was infected in consequence of no sufficient precaution.

OUR INTERNATIONAL OBLIGATIONS.

A department of public health is absolutely essential in order to deal with this matter and with similar questions with the full power and dignity of this Government and in order to faithfully and honorably comply with the state and international sanitary obligations of the United States.

The first article of the first title of the International Sanitary Convention of Paris, 1903, with Germany, Austria-Hungary, Belgium, Brazil, France, Spain, Great Britain, Greece, Italy, Luxemburg, Montenegro, the Netherlands, Persia, Portugal, Roumania, Russia, Servia, Switzerland, Egypt, and the United States, is as follows:

ARTICLE I. Each government shall immediately notify the other governments of the first appearance in its territory of authentic cases of plague or cholera.

Particulars are required, constant information provided, and preventive measures showing the opinion of the experts of every nation as to the extreme importance of protecting the world against bubonic plague.

Yet our Marine-Hospital Bureau was prevented from making the truth known, and even in its publications made its notice as obscure as possible for several years. The bureau understood the importance of publishing the truth; the bureau desired to tell the truth, but it was suppressed. I refer to this painful history not to criticise the unhappy, miserable, and weak bureau, but to point out the fatal weakness of a subordinated bureau as compared with the dignity and power of a department.

* * * * *

OBLIGATIONS TO AMERICAN REPUBLICS.

Mr. President, I present this matter to the Senate with no pride of authorship, because I deserve no credit in that respect, and am perfectly willing to assist a bill drawn by any other Senator which shall better accomplish the purposes which I have at heart.

I realize that my colleagues are intensely preoccupied with the multitude of demands upon their time and attention.

But this is a question of vast national importance. In eight years we have increased our expenditures over the average of preceding years by the huge sum of one thousand millions for the army and navy, and are spending 70 per cent of the national income to cover the obligations of past wars and the preparation for possible future war, or about seven hundred millions per annum. But for war on preventable disease now costing us infinite treasure in life, efficiency, and commercial power and prestige we spend nothing and do not even employ the agencies we have in an efficient manner.

In the name of the people and in the name of the American Medical Association, whose members are the faithful and self-sacrificing guardians of the health of our people, and in the name of the Committee of One Hundred, of the American Federation of Labor, of the National Grange, and of the various health boards of the 46 States of the Union and of the great body of learned men desiring improved sanitation and the application of the improved agencies of preventing disease, disability, and death, I pray the Senate to establish a department of public health.

The principle of the bill meets the general approval of the public-health societies and of the medical associations of the United States, and there should be no difficulty in perfecting this bill and in impressing upon the country the importance of organized effort to control the ravages of tuberculosis, typhoid and malarial fevers, bubonic plague, and other preventable diseases, which inflict such enormous injury upon the people of the United States, impose such vast, but needless, human misery and pain, with great financial loss and loss of prestige and power.

A commercial nation will not be unmindful of the commercial value of the saving of life and efficiency possible, which is worth \$3,000,000,000 per annum.

A humane nation will not fail to act when it is known that we could save the lives of 600,000 of our people annually, prevent the sickness of 3,000,000 of people per annum, who now suffer from preventable disease, and greatly abate the volume of human pain, misery, and death.

I trust, Mr. President, that the Senate may not fail to take action in regard to this matter at the present session."

Those of our readers who are interested in the various forms of Physiologic Therapeutics (including Hydrotherapy, Electrotherapy, Massage, induced Hyperemia, etc.) will be glad to know that it is proposed shortly to inaugurate a new journal devoted to the delineation of the progress made in these lines of therapeutic endeavor.

The American Journal of Physiologic Therapeutics will be published bimonthly and the subscription price will be \$1.00 a year. The names

and addresses of interested physicians should be sent in and those desirous of subscribing at once may enclose their remittance when writing. It is to be hoped that a widespread interest may be aroused in this matter. Write now, while this is fresh in your mind, to *The American Journal of Physiologic Therapeutics*, 72 Madison Street, Chicago.

A new journal known as *The Physicians' Business Journal* will commence publication in April or May. It is to be edited by P. B. Thatcher, M. D., and will be published in Philadelphia. The journal will be devoted exclusively to the business interests of the profession.

NEWS ITEMS.

Israel E. Brault, M. D., Ecole de Médecine et du Chirurgie, Montreal, 1890, of St. Albans, Vt., died in Montreal, February 1st, from lobar pneumonia, aged 48 years.

Joseph Melville Deacon, M. D., University of Vermont, Burlington, 1883; for several years in charge of a private hospital in Milltown, N. B., died suddenly at his home in that place, February 20th, aged 46 years.

Dr. James E. Tuell of Augusta, Me., died on February 11th, 1910, aged 55 years. He was a graduate of the Jefferson Medical College in 1884 and was a member of the Kennebec County Medical Society, the Maine State Association and the American Medical Association.

Dr. William King of Brunswick, Me., died at Augusta, February 15, 1910, aged 52 years. He was a graduate of Bowdoin College in 1881 and of the Medical School of Maine in 1887.

Dr. Frederick S. Gray of Troy, Vt., died at his home March 10th, 1910, aged 53 years. He was a graduate of the University of Vermont, in 1882 and a member of the Orleans County Medical Society, the Vermont State Medical Society and the American Medical Association.

Dr. William Willet Moon, University of Vermont 1892, died at his home in Brooklyn, March 15th, from pleurisy, complicating rheumatic fever, aged 40 years.

Dr. Fred A. Brennan of Georgia died suddenly Saturday evening, March 26th of heart failure after returning from making some calls. He was 35 years old and was born in St. Albans, the son of Mr. and Mrs. T. A. Brennan. He was graduated from the St. Albans high school in 1893 afterward graduating from McGill Medical College of Montreal, started practicing in Fairfield, afterward moving to Georgia, where he had been practicing for about ten years.

Dr. A. L. Leonard has entered practice at Lyndon, Vt.

Dr. F. O. Case, whose home is in Derby Line, Vt., has recently returned there from Boston and located for practice.

Dr. J. A. Archambault of Essex Junction was in an exciting runaway April 1st. The wagon wheel broke and the horses ran away, throwing the doctor out. Aside from a badly torn suit of clothes, the doctor came out none the worse for his adventure.

Dr. R. O. Stoddard of Ferrisburg has purchased a farm in Johnson and moved there April 1st.

Dr. J. D. Lane has entered practice in Bennington, Vt.

Dr. E. R. Lape, son of Dr. R. Lape of Fair Haven, has gone to Swanton to practice and has been appointed Health Officer of the town to succeed Dr. F. W. Norris.

Dr. E. J. Cray, University of Vermont, has opened an office in Brandon.

Dr. J. M. Thompson of Walpole, N. H., is undergoing treatment at the State Hospital at Concord, N. H.

Dr. F. W. Norris has left Swanton and is now located in Muncie, Ind. Dr. Pierce, formerly in the Brightlook Hospital, St. Johnsbury, has taken his practice at Swanton.

Dr. A. J. Darrah of Enosburg Falls died at his home April 3rd, after a short illness with pneumonia, aged 68 years. Dr. Darrah graduated at the Medical School of the University of Vermont in 1867.

Dr. Frank B. Sprague, University of Vermont, 1889, Providence, R. I., died recently at his home.

Dr. A. W. Penniman, University of Vermont, 1889, has gone into the powder business in San Francisco.

Dr. M. C. Twitchell, who has been travelling in the West Indies, has returned.

Dr. J. H. Carty of Fair Haven was married in Plattsburg, N. Y., recently.

BOOK REVIEWS.

SPONDYLOTHERAPY.—Spinal concussion and the application of other methods to the spine in the treatment of disease, by Albert Abrams, A. M., M. D., San Francisco, Cal. Cloth, 420 pages, 100 illustrations; price \$3.50. The Philopolis Press, Suite 406, Lincoln Building, San Francisco, Cal.

The author expresses as his motive in writing the book a desire to "lift the whole subject of spinal therapy out of the low state in which it blunders along, hitting or missing as the case may be, and rescuing it from the low esteem which physicians as a class have thus felt for it." He has endeavored to put it in a place befitting its scientific importance and to emphasize its great practical helpfulness in disease. If there is anything in the subject and we cannot doubt that there is, there is certainly need enough for such a work. The average regular physician certainly knows nothing or next to nothing of the subject matter of this book. Such knowledge has been left entirely to the osteopath who has made use of it to his great profit.

NUTRITION AND DIETETICS.—A manual for students of medicine, for trained nurses, and for Dietitians in Hospitals and other Institutions. By Winfield S. Hall, Ph. D., M. D., Professor of Physiology, Northwestern University Medical School; Lecturer on Physiology and Dietetics in Mercy Hospital and Wisley Hospital, Chicago. D. Appleton & Company, New York and London.

The knowledge of the average medical student, practitioner and trained nurse is on the subjects dealt with in the book usually very gen-

eral and indefinite. For just such, this book is intended. It makes the information definite and specific. The work is divided into four parts, dealing respectively with Foods, The Use of Foods in the Body, Diet in Health, and Diet in Disease.

DIAGNOSTIC THERAPEUTICS.—A guide for practitioners in diagnosis by aid of drugs and methods other than drug-giving. By Albert Abrams, A. M., M. D. (Heidelberg), Consulting Physician to the Mount Zion Hospital and the French Hospital, San Francisco; formerly Professor of Pathology and Director of the Medical Clinic, Cooper Medical College, San Francisco. With 198 illustrations; cloth, \$5.00. Rebman Company, 1123 Broadway, New York.

This book contains over a thousand pages covering a subject as far as the writer knows, considered in no other work. Therapeutic methods have always been used much for diagnostic purposes but the subject is usually treated in an indirect way in discussions of disease.

The contents of this work can best be seen by the chapter headings which are as follows: Diagnosis, Treatment, The Interfering Action of Drugs in Diagnosis, Drugs in the Etiology of Disease, Food in the Etiology of Disease, Methods other than Drug Giving in the Etiology of Disease, Drugs in Diagnosis (Diagnostic Pharmacotherapy), Methods other than Drug-Giving in the Diagnosis of Disease, Etiologic-Diagnostic-Therapeutics, The Diagnosis of Visceral Sufficiency.

THE EXAMINATION OF THE FUNCTION OF THE INTESTINES BY MEANS OF THE TEST DIET, ITS APPLICATION IN MEDICAL PRACTICE AND ITS DIAGNOSTIC AND THERAPEUTIC VALUE.—By Prof. Dr. Adolf Schmidt; authorized translation by Chas. D. Paron, M. D., Professor of Diseases of the Stomach and Intestines in the Detroit Post Graduate School of Medicine, etc. F. A. Davis Company, publishers, Philadelphia, 1909.

This book systematizes and puts in scientific form the facts determined by much work by various authors including the extensive work of the author but heretofore scattered through general medical literature. Very little is known by the general practitioner about an examination of the faeces and consequently the treatment of intestinal digestive disturbance has been largely guess work. The author insists very properly in building a scientific basis for his work in the test diet. A valuable book on a little understood subject.

THE SEXUAL LIFE OF WOMAN IN ITS PHYSIOLOGICAL, PATHOLOGICAL AND HYGIENIC ASPECTS.—By E. Heinrich Kisch, M. D., Prof. of the German Medical Faculty of the University of Prague; Physician to the Hospital and Spa of Mariebad; Member of the Board of Health, etc., etc. Only authorized translation into the English language from the German by M. Eden Paul, M. D., with 97 illustrations in the text. Price \$5.00. Rebman Company, 1123 Broadway, New York.

This subject of such vital importance is treated in this work with characteristic German thoroughness. The style is clear, the argument convincing. The work is an extremely creditable one and does honor alike to its author and translator.

PREPARATORY AND AFTER TREATMENT IN OPERATIVE CASES.—By Herman A. Haubold, M. D., Clinical Professor in Surgery and Demonstrator of Operative Surgery, New York University and Bellevue Hospital Medical College, New York; Visiting Surgeon Harlem and New York Red Cross Hospitals, New York, etc. With 429 illustrations. D. Appleton and Company, New York and London.

This book is intended primarily for the general practitioner to give him careful instruction for the preparation of a case for operation; and the care of a case after operation. This has reference not only to the general preparation of the patient but the special preparation for the different operations, the preparation of the room for the operation, and the general arrangements to have things handy for the surgeon. It gives careful directions for the general care of the patient after operation and also the special care that the different operations should have locally following operation. It is a most useful book for all general practitioners who have anything to do with the preparation or after care of surgical cases.

HANDBOOK OF THERAPY.—Cloth. Price, \$1.50. Pp. 421. Chicago: American Medical Association, 1910.

This little book is a most welcome addition to the literature of therapeutics. It discusses briefly but clearly poisons, synonyms, non-official remedies and general diseases of the different systems—digestive, respiratory, etc., with a brief outline of treatment, including some generally accepted formulae. It is a useful book for ready reference.

DISEASES OF THE GENITO-URINARY ORGANS.—Considered from a Medical and Surgical Standpoint, Including a Description of Gonorrhoea in the Female and Conditions Peculiar to the Female Urinary Organs. By Edward L. Keyes, Jr., M. D., Ph. D., Clinical Professor of Genito-Urinary Surgery, New York Polyclinic Medical School; Surgeon to St. Vincent's Hospital; Lecturer on Surgery, Cornell University Medical School. With 195 illustrations in the text and seven plates, four of which are colored. D. Appleton and Company, New York and London.

This book is a careful discussion of the diseases of the genito-urinary organs of both the male and the female. The subjects are treated in the light of knowledge gained by the modern methods of investigating those diseases. The subject matter is clear and concise and withal readable. It is an admirable treatise of these diseases.

NEW AND NON-OFFICIAL REMEDIES, 1910.—Containing descriptions of the articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to January 1, 1910. Chicago Press of the American Medical Association, 535 Dearborn Avenue.

This book is a compilation of the new and non-official remedies which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to January 1, 1910. It gives a description of the remedy with its actions and uses. It is a valuable book for physicians who wish to keep informed of the new and useful remedies.

INTERNATIONAL CLINICS.—A quarterly of illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners. Edited by W. T. Longcope, M. D., Philadelphia, with the collaboration of Wm. Osler, M. D., John H. Musser, M. D., A. McPhedran, M. D., Frank Billings, M. D., Charles H. Mayo, M. D., Thos. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D., Richard Kretz, M. D., with regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels, and Carlsbad. J. B. Lippincott Company, Philadelphia and London.

Volume IV, of the Nineteenth Series of the International Clinics contains among other articles one on Antimeningitis Serum by Simon Flexner, M. D., which gives the method of preparation of the serum, manner of therapeutic action, indications for its use, manner of ad-

ministration and the results of treatment. The other articles are interesting and useful making altogether a very useful volume well worthy a place in the library of any physician.

Volume I, of the Twentieth Series of the International Clinics is a most interesting and valuable number. Articles of especial interest are "The Serum Diagnosis of Syphilis," "The Newer Diagnostic Methods of Syphilis of the Nervous System," and "The Tuberculins and Their Diagnostic and Therapeutic Use," a discussion of Purin Metabolism and its Relation to Gout," "Diagnostic Value and Therapeutic Value and Therapeutic Effect of the Bismuth Paste in Chronic Suppuration" with many radiographs. "Eye Strain Among School Children," and articles on infectious diseases by A. A. Stevens, M. D., John H. Musser, M. D., and Lucius Tuttle, M. D. All the articles in this number are by representative men and it cannot fail to be appreciated by those physicians who are fortunate enough to see it.

CURRENT MEDICAL LITERATURE.

FREQUENCY OF CANCER.

Dr. Roswell Park of Buffalo stated that cancer was one of the most important problems which confronted the medical profession to-day. He believed cancer was on the increase as a disease of modern life. When he began work in this direction there were in New York State fourteen thousand deaths from tuberculosis each year and about five thousand deaths in cases of cancer. Now the mortality from tuberculosis had been reduced to eleven or twelve thousand cases a year, while the mortality from cancer had risen to nearly eight thousand. Their studies had established the fact that cancer was prevalent in certain localities and in certain houses. They found there were certain places where cancer was more prevalent than in others, and in a considerable number of houses, several deaths from cancer had taken place. With regard to heredity it was now stated as a fact that the disease was not transmitted by inheritance, but there was a possibility of the transmission of predisposition. This was a very important question for the laity and for us. The infectivity of cancer was quite generally established. Last year, at the meeting of the International Congress of Surgeons in Brussels, the question of cancer was discussed for three separate days, and of some three hundred who were present out of a membership of six hundred, he found the majority of surgeons present believed in the infectivity of cancer. There were still some doubters of this theory. The very fact that metastases occur during cancer was the best demonstration of its infectivity, and for him every instance of metastasis in a given case was an expression of a reinfection from the original source. As to the contagiousness of cancer, they had far more proof for its contagiousness than leprosy or some other diseases that were considered more or less contagious.

The early diagnosis of cancer was difficult and in many instances impossible. Cancer had no definite symptomatology. If cancer could be early diagnosed or recognized, and if it were accessible to their present means of attack and if it were thoroughly removed, it could be cured, but there were "IFS" standing up in tremendous proportion and they were insuperable apparently.—Read before the meeting of the Southern Surgical and Gynecological Association at Hot Springs, Va.

CYCLIC VOMITING.

There are few diseases of childhood the etiology of which has been the subject of more divergent opinions than the periodic occurrence of vomiting which for want of a better title is known as cyclic vomiting. Thought at first to be purely of neurotic origin, the discovery of acetone in the breath and urine caused the disease to be classed as an acidosis, and to be treated by the administration of large doses of alkalis. A wider knowledge of the physiology of the presence of acetone and diacetic acid in the urine, however, demonstrated that these substances might appear in a child with protracted vomiting from any cause, and even in other conditions in which deprivation of food caused a certain degree of starvation, without the accompanying emesis. The acidosis and acetonuria were therefore accepted as a result rather than a cause of the cyclic vomiting. Langmead of London considered the condition to be caused by an intestinal intoxication with absorption of a fat splitting poison which resulted in the tissues being flooded with acetone and the other products of fat catabolism. Comby on the other hand has presented the theory that the symptom complex was in reality a manifestation of chronic appendicitis. In the *British Journal of Children's Diseases* for February, 1910, Russel reports a case of cyclic vomiting which is in many ways suggestive of at least a possible cause of the condition. The patient, a boy of four years and nine months of age, had suffered from periodic attacks of vomiting from birth, each attack lasting in the neighborhood of twenty-four hours. His final attack was more prolonged and was interrupted by a remission. The first part lasted one week and was characterized by frequent vomiting, rapid emaciation, and the presence of acetone and diacetic acid in the urine. This stopped as abruptly as it began, but after three weeks of apparently good health it recurred and at the end of five days the child succumbed. The autopsy showed a marked degree of hypertrophy and stenosis of the pylorus. The author, while not claiming that such a hypertrophic stenosis of the pylorus is the usual or even the common cause of cyclic vomiting, calls attention to it as a possible etiological factor of this puzzling disease. Recurring spasm of a hypertrophied pylorus would at least explain the symptomatology of cyclic vomiting, its sudden onset with the beginning of the spasm and its equally prompt relief with its cessation. The condition of the pyloric valve should at least be considered and investigated in these cases of periodic vomiting of childhood.—*Medical Record*, March 26th, 1910.

STUDY OF PELLAGRA IN ITALY.

Dr. C. H. Lavinder of the United States Public Health and Marine-Hospital Service has been detailed to Italy, where he will investigate at Milan

and other cities the origin and prevalence of pellagra and the measures there taken for its control. Dr. Lavinder's report may be expected to be of great value in the work of the national commission for the study and suppression of pellagra in this country.

POLIOMYELITIS IN MINNESOTA.

Of interest in connection with the study of acute poliomyelitis now being conducted at the Rockefeller Institute and elsewhere is the report of a clinical investigation of the disease recently made by Dr. H. W. Hill of the Minnesota State Board of Health. This investigation, which included 160 cases in 124 families in 27 different localities, was aimed particularly to determine the incubation period method of infection and degree of contagiousness. In few cases, however, could any definite history of exposure be obtained and Dr. Hill, therefore, believes the infection to be one to which few are susceptible and which is probably air-borne and very slightly contagious.—*Boston Medical and Surgical Journal*, March 24, 1910.

ANIMAL EXPERIMENTATION AND TUBERCULOSIS.

E. L. TRUDEAU, Saranac Lake, N. Y. (*Journal A. M. A.*, January 1), shows how all our knowledge of everything bearing on the control and prevention of tuberculosis is due to experiments on the lower animals. All the advances previously made, before the infectious nature of the disease had been proved, were limited to pathologic anatomy. He gives a history of the early progress in the direction of experimental studies, showing how through the early work of Klencke, Willemin, Klebs and others, the infectious nature of tuberculosis was demonstrated, but it was not until the epoch-making work of Koch in 1882 on the etiology of the disease that it was generally accepted by the profession and the public. His later work in 1890, demonstrating the value of tuberculin in diagnosis, which has been of inestimable utility in the control of the disease and also in its treatment, is all due to experiments on animals. Far-reaching as the new knowledge of tuberculosis is in the saving of life, it is not entirely easy to estimate it, as so many factors are involved. The death-rate has fallen notably during the last forty years, in some countries only slightly faster since the discovery of the tubercle bacillus, but in others the diminution has been most remarkable since 1882. In New York City there has been a reduction of 40 per cent. in the deaths from consumption. In Prussia fully 50 per cent. The results, however, depend largely on the thoroughness and efficiency with which the preventive measures are carried out. The experience of the past has justified the hope that ultimate control of the disease will finally be attained by knowledge acquired by the same means and will probably depend not only on more thorough and comprehensive application of the facts already learned, which are the basis of all preventive measures so far, but also on the discovery of some specific method of immunization or treatment, which can only be brought about by continued and painstaking studies on animals. It has taught us already much as to the different types of the tubercle bacillus and their virulence and the many ways in which this micro-organism invades the human system and destroys it. In his experience, animal experimentation has di-

rectly aided his practice and shown him that the production of artificial immunity is not altogether so unattainable as was formerly supposed. Those who through ignorance or false sentiment are working to have legal prohibition of this most valuable method of study for the prevention of disease, have little realization of or care for the amount of human suffering that exists, and are apparently willing that it should continue indefinitely so long as it does not affect themselves or they do not come in contact with it.

DIGALEN.

Speaking first of the disadvantages of digitalis, on account of its secondary effect, WORTH HALE, Washington, D. C. (*Journal A. M. A.*, January 1), takes up the claims of digalen, introduced by Cloetta in 1904, as doing away with these defects. He reviews the literature on the subject and gives the results of biologic experiments made by himself on frogs, which led him to the following conclusions: "Digalen is not a uniformly stable preparation, as shown by the gross appearance of sample 1 and by biologic tests of the five different samples. Biologic tests also indicate that digalen is relatively much less potent than corresponding amounts of crystalline digitoxin, but that it is of about the same activity as digitalein. The experience of clinicians indicates that digalen is much less effective than is claimed, and that the secondary action of the digitalis group appears equally often after its use as with the older and cheaper galenicals. Its use in cases of acute heart failure, whether by intramuscular or intravenous injection, seems open to serious objection on account of the pain, and danger of thrombosis, and it would apparently be better practice in such cases to use either strophanthin, given intramuscularly, or one of the preparations of the suprarenal glands by intravenous injection."

CHANNING W. BARRETT, M. D., (*Medical Record*, Jan. 22) concludes an article on the Recognition and Treatment of Ectopic Gestation as follows:

In the study of implantation and the growth of the ovum there are grounds for the conception that the ovum is a parasite living at the expense of its host.

Previous pelvic disease, frequently of gonorrhoeal origin, seems to play an important part as an etiological factor.

A study of the pathology indicates that in the case of extrauterine pregnancy the parasitic growth develops malignant tendencies due to the incapacity of the maternal tissues to cope with it.

The extrauterine ovum is suicidal and matricidal in its tendencies.

The risk to the mother is largely, though not entirely, that of hemorrhage.

Less frequent causes of death or morbidity are sepsis, obstruction of the bowels, embolism, distulæ, etc.

The prognosis for the ovum is so uniformly bad that it should receive no consideration except in cases of a viable embryo when early removal should be urged in the interests of both mother and child.

The menace of extrauterine pregnancy to the life and health of the host is so great that an early diagnosis and prompt removal of the ovum is of prime importance.

An extrauterine pregnancy should be thought of when a woman of childbearing age gives the history of sudden, severe pain in the region of the ovary with a "show" or hemorrhage from the uterus, accompanied by collapse and evidences of concealed hemorrhage, a pelvic mass helps to confirm the diagnosis.

The more urgent the symptoms, the greater the need of operation as the collapse is due to hemorrhage and vessels may still be bleeding or hemorrhage may be resumed.

The clinical evidence is that patients do die of hemorrhage, experiments upon dogs to the contrary notwithstanding.

Pathology indicates and clinical evidence teaches that prompt surgical measures will decidedly lower the mortality.

Suprapubic instead of vaginal incision should be chosen in all unruptured cases and in most old cases unless contraindicated by sepsis or pus accumulation.

No vaginal puncture or exploration should be undertaken for diagnosis or therapeutic purposes unless preparations have been made for immediate laparotomy.

VACCINE THERAPY.

C. L. McDONALD, Cleveland, Ohio (*Journal A. M. A.*, March 19), reports his experience with vaccine therapy in various classes of cases. He has followed the methods of Wright, except that he usually omitted the estimation of the opsonic index as a routine measure, employing it only in cases in which the clinical rules are not a sufficient guide. He finds no hard and fast rule as to dosage can be given, as different strains of bacteria vary as to degree of virulence, as does also the susceptibility of individual patients. Generally speaking, the more acute the infection the smaller the dose. In chronic cases, on the other hand, enormous doses may be required. In a case of staphylococcal pustular acne, for example, it is his custom to inoculate with an initial dose of 200,000,000 staphylococci and he instructs the patient to return at the end of seven days. If then his pustules are fewer in number and smaller and more superficial, he is instructed to return three days later. If at this time he says his face is not so clear as it was on the ninth day, he is reinoculated and instructed thereafter to return every eighth day, assuming that at this time his immunity has reached its height and by reinoculation will be kept there. The initial dose is kept up until improvement lags, when it is doubled. In case of mixed infection, as with a staphylococcus and pneumococcus, he makes a smear from the discharge, estimates the proportions of the two organisms present and holds to this ratio in inoculating the patient with the corresponding vaccines. Occasionally the estimation of the opsonic index will have to be employed. While rapid results may follow a first inoculation, the latter ones may not be so satisfactory, and he finds the best results obtained by beginning with a minimum dose and increasing as described above. He divides his cases into four classes according to their type, duration, severity, and amenability to therapeutic immunization, as follows: Class A, subacute infections, with pyemia as a type. Class B, chronic infections, with pustular acne or otitis media as a type. Class C, acute localized infection, with erysipelas or acute cystitis as a type. Class D, acute general infection,

septicemia as a type. Of these, the first two are the most amenable to bacterial therapy. In the second class, the results were satisfactory, though not so uniformly good as in Class A, owing to the facts of their long continuance and the thick walls of some of the sinuses. At least 40 per cent. of the patients were permanently cured, 50 per cent. were improved, while 5 per cent. are slightly benefitted, and the remaining 5 per cent. are failures. In acute rapidly spreading infections, such as are included in Class C, the vaccines were not effective, but if the opsonic index was relatively high, vaccines in small doses repeated every other day were capable of doing good. The large number of spontaneous cures in erysipelas renders the vaccine treatment inappropriate as routine treatment and it should as a rule be reserved, in the author's opinion, for cases running an unusually long course, or those accompanied by abscesses. In Class D, acute general infections, vaccine treatment is of no use. What, McDonald asks, can be gained by inoculating the patient with a few million more dead bacteria when he has an overabundance of them already in the blood stream?

SPIROCHAETA PALLIDA.

R. P. CAMPBELL, Montreal, Canada (*Journal A. M. A.*, March 19), emphasizes the diagnostic importance of the spirochæta in syphilis. He details his studies of the subject and describes his methods. The material employed was obtained from his clinic in the Montreal General Hospital and from other cases reported by his colleagues. In his earlier studies the Giemsa stain and the old Levaditi method were employed, but in later cases the dark field illumination method has been used with very satisfactory results. An essential point is that one must obtain the material from the deeper parts of the lesions less likely to show contamination. In all 196 lesions from 143 individuals were examined. Of the 196 lesions 167 were syphilitic and occurred in 114 cases of syphilis, while 30 were from various mouth, skin, or genital lesions other than syphilitic. All of the latter yielded negative results. Of the 114 syphilitic cases examined, positive results were obtained from some lesion in 102, and negative findings in 12. Of these 12, however, 6 were tertiary cases, 2 were old, nearly healed chancres, just disappearing under treatment, one was a syphilitic fetus whose mother had been thoroughly treated previous to birth, one was an early and single attempt in the case of a primary sore, one was a gland puncture, and one was a lesion doubtfully syphilitic, though in a definite case of secondary syphilis. The findings are tabulated and discussed. In positive syphilitic lesions the findings were positive in 140 cases and negative in 27. From a discussion of the results the author is led to the following conclusions: "In the primary and many secondary lesions of syphilis the presence of the *Spirochæta pallida* can be so easily detected that in view of the definite relationship of *spirochæta pallida* to syphilis and of the importance of accurate diagnosis, this method of diagnosis should receive more general application. It should be possible to find the *Spirochæta pallida* in approximately 100 per cent. of chancres, excluding those which are nearly healed or have been actively treated, and some cases of mixed infection. In view of this fact, treatment should not be begun before diagnosis is confirmed by finding the spirochete. Mucous patches, tonsillar

patches, condylomas and moist papules give approximately 100 per cent. of positive findings. Positive findings, therefore, have a distinct diagnostic value, though this is not so important as in the case of the primary lesion. Drier skin lesions, gland puncture and the examination of stained sections of tissue give results often of diagnostic value, but negative findings are of little weight. Serum from the tonsils, even when these show no definite lesion, has yielded a high percentage of positive results and has been a useful method of diagnosis in a small number of cases. This method deserves a further trial. Absence of the *Spirochæta pallida* in congenital lues after treatment of the mother is a fact significant of the beneficial effect of mercury in congenital disease. This fact, already observed, seems sufficiently important to repeat here." According to the author's opinion, the search for *Spirochæta pallida* should be more generally made in suspicious cases than it is at the present time. In 46 of his cases the presence of this parasite was the chief factor in forming the diagnosis.

THE DYSPEPTIC TYPE OF CHRONIC APPENDICITIS.

C. GRAHAM, Rochester, Minn., and D. GUTHRIE, Sayre, Pa. (*Journal A. M. A.*, March 19), have studied that form of chronic appendicitis in which dyspeptic symptoms predominate. They have reviewed carefully the histories of about 200 patients and compared them with histories of ulcer of the stomach and duodenum and gall-bladder disease. Chronic gastric ulcer has a clear cut symptomatology with history usually covering years of complaint in which periods of attack and periods of freedom from symptoms alternate. In the early stages the appetite remains good, nutrition does not fail, and taking food brings immediate relief from all symptoms which again recur about four hours after the meal. Later, the periods become shorter and the nutrition suffers and after complications arise the symptoms change, food may not ease but may increase the distress which is more or less continuous, vomiting is perhaps less frequent but more copious and gives only partial relief and appetite and nutrition fail. Throughout the longer period of the disease, however, the characteristic regularity of the attack is hardly equalled by any other disorder. Gall-bladder diseases have their special symptoms. Four stages are distinguished, based on the degree of their severity. In the very mildest cases there are only slight attacks of distress soon after eating or at irregular times with relief by slight vomitings, eructations, etc., which are often made light of by the patient and sometimes by the physician though they are just as characteristic as the severer attacks which, as a rule, supplant them. In the second stage, the symptoms are more severe and the pain may be increased by food, exertion, motion, or deep respiration. When the pain is felt posteriorly it may be called pleurisy. Between the attacks, the health may be apparently excellent. The irregularity of these attacks contrasts with those of ulcer. In the third class, we find those in which a correct diagnosis is oftenest made and surgery is most effective. These are the typical gall-stone attacks. The fourth condition is that of chronic gall-bladder trouble and often chronic gastric disturbances predominate, giving a very similar picture to that of chronic ulcer with complications. The principal thing, however, is to recognize when

surgery is necessary. The diagnosis of an abdominal lesion needing surgery is sufficient. In chronic appendicitis in which gastric symptoms predominate, we find a neurotic element in many cases. The patients are usually younger than those with chronic ulcer or gall-bladder disease. The symptoms are irregular as compared with chronic ulcer and prolonged when compared with gall-bladder trouble. The pain is the great symptom during an attack, it often appears after eating. Nausea, distress, flatulence, and a feeling of distention cover the sensations of far more patients with appendicitis than those with ulcer or gall-bladder disease. Location has some bearing though in all three conditions it may be only epigastric. Here, however, it is often indefinitely epigastric and abdominal. A tender area is often found at McBurney's point though not complained of subjectively. Food gives no relief and anything taken into the stomach usually causes more or less distress. The authors consider the common "belly ache" of children as typical appendicitis and a forerunner of later dyspeptic types. Constipation is one of the early symptoms and may be the only one for a considerable period and discomfort from gas makes more of the general trouble than it does in ulcer and is referred to by the patient as abdominal largely and is relieved by expulsion. The treatment will hardly bear discussion. In ulcer we have medical cases in the majority, and in gall-bladder disease we may be justified in advising medical treatment, but any advice other than that of recourse to surgery, is out of place in chronic appendicitis. In many cases, one can only say that there is a serious trouble in the abdomen and, if the upper abdomen is found normal on operation, look for the appendicitis.

ANIMAL EXPERIMENTATION.

The value of animal experimentation as shown by recent advances in the treatment of dysentery, typhoid, and cholera is made evident by M. W. RICHARDSON, Boston (*Journal A. M. A.*, February 19). These diseases are associated symptomatically and pathologically in most cases with the intestinal tract and the study of the rich parasitic life of the intestine was naturally taken up. To inoculate human beings with the various germs was manifestly impossible and experimentation was the only recourse. This would not have availed, however, alone but for the discovery of Pfeiffer in the early nineties that by inoculating guinea-pigs and rabbits with gradually increasing numbers of the germs he could produce a condition of immunity, and further that in the immune animal the germs became clumped together and gradually dissolved, the animal remaining in good health. It was also shown that the serum from an immune animal introduced with the germs into a non-immune animal likewise caused immunity, and next that the serum from a sick human being would bring about similar results with the suspected organism. The later discovery of the clumping of germs in the test tube on which the well-known Widal test is based was another step in advance. For the prevention of these three diseases, typhoid, cholera, and dysentery, the method now used is that of protective inoculation which is a direct outgrowth of the experimental work on animals. Subcutaneous injections are made of dead bacteria in varying amounts, with the result of causing a mild and transient disease with subsequent immunity from the severer ordinary type. He gives the facts of the

success with this method, in typhoid and dysentery especially, and Haffkine has had similar favorable results with cholera, though they have not been generally so encouraging in other hands. As a result, therefore, of the combined studies of research workers throughout the world during the past thirty years, we have learned the causes of these three diseases and how they are transmitted, the methods of determining their existence in an individual, how to protect the human being against these diseases, and how to treat him intelligently when he is sick. For this, experimentation on thousands of animals has been necessary and Richardson asks if there is any doubt that it has been justified.

BRAIN TUMOR.

In a lengthy and somewhat detailed paper, W. G. SPILLER, Philadelphia (*Journal A. M. A.*, February 19), calls attention to certain symptoms of brain tumor and the difficulties of diagnosis in these cases. The most important indication, of course, of brain tumor is the gradual development of signs pointing to a sharply limited lesion of the brain, and this may occur when general symptoms of tumor such as headache, nausea and vomiting, and papilledema are absent. It may, of course, occur in other conditions than tumor, but in none is it so common. The first point to which he calls attention is the occurrence of a gradually developing hemiplegia, the importance of which is often overlooked. It is, as illustrated by a case he mentions, a good idea when such hemiplegia occurs, to examine for local symptoms of malignant disease which may be forming metastases in the brain. In this connection he mentions the importance of an early operation in case of brain tumor and the delaying of decompression is especially serious when papilledema is rapidly developing, as it may in case of tumor of the pons or cerebellum. He is not in favor of too early operation, however, and would try antisyphilitic treatment for a while if there were a suspicion of luetic infection. The interpretation of symptoms is not always easy, but the early appearance of focal symptoms is much more valuable than their late appearance. Then there is a possibility that they may be merely the sign of intracranial pressure from other causes. Contradictions between focal lesions and symptoms have been observed by every experienced neurologist. When an area of the brain is destroyed, many tracts in connection with this area are also injured and the symptoms are therefore often complicated. Spiller refers here to the recent valuable lecture of Horsley on the functions of the so-called motor area, which would show that they are not so definite in man and that the Betz cells are not absolutely necessary for motor function, as shown by a case he reports. Spiller refers also to a similar one reported by Friedrich about the same time, in which the gyrus precentralis was excised and yet motor power returned. Only some German surgeons advocate cerebral puncture, and Spiller does not favor it, nor does he think that lumbar puncture for tumor cells in the cerebrospinal fluid is likely to be of much value, and it may be dangerous. The association of superficial and deep fibromas is occasionally of value in diagnosis, but it is too rare to be of general use. He also thinks that the x-ray is less valuable than is sometimes credited, though when the bone is thin it may be of service. Gliomas are seldom sharply defined.

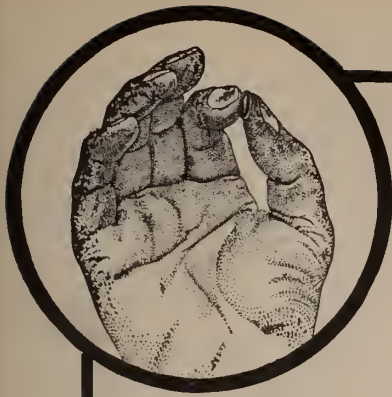
He has never seen one in which he could be free from doubt as to this point. He calls special attention to the rarity of macroscopic gummas in his observation. Cerebral syphilis is common, but the lesions are generally in the arteries, which is fortunate as regards treatment. Another point noticed is the frequency of the harmless type of cerebral tumors in the cerebello-pontile angle, where other tumors rarely occur. This location is a very dangerous one for operation, which fact modifies seriously the prognosis of tumors thus located. Carcinoma rarely occurs as compared with sarcoma, and tubercle is not very common, according to his observation. He has seldom encountered multiple tumors. The nephritis of pregnancy may cause the symptoms of cerebral tumor, though this is rare. Hydrocephalus is another condition that might cause confusion in the diagnosis. Sudden fatal termination is common in brain tumor, especially when situated in the posterior cranial fossa, but is not confined entirely to cerebellar tumors. The causes may not be apparent even at autopsy. Spiller favors operation in Jacksonian epilepsy, as the discovery of a tumor may be of the greatest importance. Among the lesions that may cause symptoms of brain tumor he mentions polioencephalitis, which may cause great difficulty, as in a case here reported. The diagnosis of cerebral thrombosis may also give considerable difficulty and cases are reported. The article is illustrated.

CHRONIC ARTHRITIS.

In an illustrated article, E. H. OCHSNER, Chicago (*Journal A. M. A.*, March 5), discusses the diagnosis and treatment of arthritis deformans or chronic arthritis as distinguished from septic, tuberculous, gonorrhoeal and syphilitic arthritis, gout, flatfoot and chronic articular rheumatism. The principal source of confusion in the diagnosis, he says, seems to arise from the fact that even prominent authors and clinicians fail to differentiate between that form of chronic arthritis which develops subsequent to acute articular rheumatism and true arthritis deformans. He cannot agree with Strümpell that it is impossible to differentiate between the two. He believes that arthritis deformans is a disease as distinct from chronic rheumatism as is syphilis from tuberculosis, and as easily distinguished from it. This is important, as the two types of arthritis call for entirely different treatment. True chronic articular rheumatism is always secondary to acute articular rheumatism, while arthritis deformans, on the other hand, is insidious in its onset and chronic from the beginning and may not reach its development for several years, while it may be limited primarily to one joint, it gradually extends to the others and different joints may be in different stages of the disease at the same time. In chronic articular rheumatism we find the results of an acute and subacute inflammation of the synovial membrane which is lacking in arthritis deformans where the process seems largely confined to the joint cartilages and extra-articular structures. Patients with chronic articular rheumatism are greatly benefited by hot baths, sweats, and Bier's active hyperemia, while arthritis deformans patients are made worse by these measures. The differences in the history of development, the characteristic deformity, and the therapeutic test make a differential diagnosis possible in

practically every case. Ochsner sees no evidence of a microbic origin of arthritis deformans, and as little for a nervous origin. The remedies recommended have been numerous and he thinks that this affords a presumption that none of them is of any special value. To Ochsner, a case of arthritis deformans presents the following picture: we have, he says, to begin with, some factor which causes articular and parietal irritation. This in turn causes more or less constant pain which results in non-nutrition and loss of resistance. If the process is not checked this soon results in a vicious circle, one factor causing the next until the patient finally becomes so exhausted as to be a bedridden cripple and an easy prey to an intercurrent affection. He regards it as a chemical rather than as an infectious process which takes place in the disorder. The first thing in treatment is prophylaxis, and he believes that many cases are aborted by the removal of offending appendices, hemorrhoids, and other causes of irritation. The treatment that he believes to be most effective in advanced cases, is in relieving the pain which, in its turn, will improve the nutrition, and this in his opinion is best secured by absolute immobilization. During his work on tuberculous joints he has discovered that relief of pain in an inflamed joint involved the recognition of two separate and distinct principles: First, an absolutely rigid close-fitting retention dressing. Second, the application of this dressing with the limb in such a position that the antagonistic muscles surrounding the joint are in absolute equilibrium. If this can be secured by absolute immobilization, pain in any chronically inflamed joint will cease. If contractures are very pronounced and the limb cannot be brought into the desired position without extreme pain the contractures are broken up and, if necessary, the tendons lengthened by plastic operation, and the limb placed in plaster-of-paris dressing in the proper position and allowed to remain there until the pain and irritation have fully subsided. Details of the method for different joints are given. He reports two cases and says that, in concluding, he would like to emphasize the following points: "First, that a clear differentiation is absolutely necessary to the successful treatment of these chronic joint affections; second, that beginning cases of arthritis deformans should be carefully studied, the cause ascertained and removed whenever this is possible; third, that, for the present at least, it is well to be rather cautious in the treatment of the intermediary cases; and, finally, that even in the very late and apparently hopeless cases the patients can usually be greatly benefited by proper treatment." While the results are not to be considered always a perfect cure, Ochsner has had considerable success in bettering the condition, and has several patients who have been bedridden for years now making their own living.

INTESTINAL ATONY.—A considerable proportion of all cases of intestinal indigestion can be traced to muscular insufficiency and deficient circulation in the submucous coats. Treatment directed toward increase of muscular activity is all important, and in conjunction with massage and other mechanical forms of tonic stimulation. Gray's Glycerine Tonic Comp. has given uniform satisfaction.



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| No. 985—Aloin, Strychnine and Belladonna Compound, N. F. | No. 999—Warburg Tincture, N. F., representing 1 fluidrachm. |
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THERAPEUTIC NOTES.

CONSTRUCTIVE, NOT DESTRUCTIVE, THERAPEUTICS.—There is a conviction among physicians of to-day that the prolonged administration of such drugs as the bromids, hyoscyamus and valerian in cases of nervous disturbances attending the termination of the menstrual function is highly detrimental to the future welfare of the patient. The opinion is now general that such treatment is destructive rather than constructive in nature.

It is now held that inasmuch as the mental states, such as hysteria and melancholia, which are frequently manifested at this period of life, have for their exciting cause alterations of the sexual system, it is proper that their relief be accomplished by the employment of agents that exert an influence directly on these parts.

It is conceded that the sedatives mentioned do afford a certain measure of palliation, but experience seems to have proved that they are ultimately injurious rather than beneficial in action.

The use of utero-ovarian stimulants, particularly those which are primarily antispasmodic in action, has been so uniformly more satisfactory than general sedatives that the employment of the former is now urged by our most eminent practitioners.

If, at the approach of the menopause, such an agent as Ergoapiol (Smith) is administered with due regularity, irritability of the sexual system and disturbance of the nervous system will be prevented. Under such treatment, normal atrophy of the reproductive organs takes place without the development of the neurotic disturbances commonly associated with this physiologic change of life.

On account of its antispasmodic and tonic action on the female reproductive organs, Ergoapiol (Smith) is particularly serviceable in instances where the menopause is being approached by women of nervous temperaments.

Under the influence of this preparation the so-called "change of life" is relieved of its characteristic discomforts. The mental as well as the physical state of the individual is benefitted by the administration of Ergoapiol (Smith) in doses of one capsule three times each day.

A DISTINCT ADVANCE IN BACTERIN THERAPY.—The secret of success in bacterin therapy is to be found in the dosage, as to amount and interspacing. Sufficient bacterin should be injected to keep the opsonins in the blood at high tide, avoiding unnecessarily large doses—for opsonins are wasted in taking care of excess—and not repeating too frequently, thus preventing the tide from rising to the maximum. On



this account a graded system of syringe containers has been adopted by the H. K. Mulford Company in place of the ampuls previously employed for supplying bacterins for dispensing.

The great disadvantage of the ampul container was its inflexibility. After the first dose was removed

from the ampul there was always the risk of contamination, and many physicians preferred to discard the remainder rather than to take the risk.

This objection is overcome by the graduated syringe containers. Each package contains four syringes of bacterin, marked "A," "B," "C" and "D" respectively, each syringe being marked in fifths, for an approximate measuring of dosage—the scale being sufficiently accurate for all practical purposes. It will thus be seen that there are twenty or more doses in each package and no waste.

The syringe container has also the advantage of removing all danger of infection through an imperfectly sterilized hypodermic syringe. The syringe, with its plunger and needle, is carefully sterilized in the laboratory before it is filled.

When the rapidly growing importance of bacterin therapy is considered, the value of this improvement in technique introduced by the H. K. Mulford Company will be at once appreciated. The Typho-Bacterin immunization of armies against typhoid fever is becoming a potent agent against a scourge responsible for more deaths in war than the bullets of the enemy; the use of Neisser-Bacterin, in the hands of physicians who have learned to use it, is proving a most effective weapon against the great black plague; the mortality from pneumonia has already been reduced by the use of Pneumo-Bacterin; and other infectious diseases are yielding to bacterins after resisting the usual forms of treatment—all of which goes to prove that bacterin therapy has come to stay, and any system of dispensing bacterins which places these products in the hands of the busy practitioner in a convenient and economical form should be heartily welcomed.

TONSILITIS.—By Charles J. Drueck, M. D., Chicago, Ill., Professor of Physiology at the Illinois School of Dentistry; Lecturer to the Nurses of Mercy Hospital.

In the treatment of tonsillitis it is well to remember that this disease is at first only a local disturbance and if promptly and efficiently treated will remain so.

The systemic symptoms—fever, headache, etc., only develop when there is considerable infection taken up. Therefore the following course should be instituted early in the case. The first indication is to increase local circulation, and the best therapeutic agent is heat. In the first place confine the patient as much as possible to the house. Children should be put to bed. By staying indoors the patient breathes warm air only, usually free from dust and other irritating substances. The external application of the hot water bag greatly increases the venous circulation and so relieves the congestion, as does also the drinking of hot water. This drinking bathes the parts as well as adding a large amount of water to the bowels and so increases the action of both bowels and kidneys, and washes out the infection as it is taken up by the system; the drinking of water also increases arterial tension, which prevents stasis.

A local remedy must fill two requirements. A detergent antiseptic and a degree of permanency of effect. Many of the remedies are antiseptic, but they are not exosmotic enough to increase the circulation, or else their effect is too transient and their use tires the patient. Locally I have grown to use but one remedy and that is Glyco-Thymoline. I prescribe equal parts of Glyco-Thymoline and water to be used in an atomizer. I get better results with this than anything else I have used. I always use it in an atomizer because gargling is necessarily painful,

while a spray is not. Glyco-Thymoline promptly relieves the dry congested condition, and by adhering to the tonsil protects it from external irritation. Its anodyne effect is immediate and lasting. I instruct my patients to use it frequently and because it is pleasant and its action prompt, I find that they need no other instruction but use it thoroughly. As Glyco-Thymoline is non-poisonous, it makes no difference as to how much is swallowed and its action does not upset the stomach, but tends rather to assist the destruction of any of the plugs that may be swallowed.

I find by this method of treatment that my cases are nearly all cured in twenty-four to thirty-six hours. That I need no other medicament at all, because the system does not become clogged with toxins.

I report below two cases, not for their individuality, but because their prototypes are constantly occurring to every physician.

Baby J., child six years old, had been sick for two days and the previous day the mother had seen sore throat and treated it with salt, vinegar, etc., to which the child rebelled. When seen, I put child on spray of equal parts Glyco-Thymoline and hot water and allowed sipping of hot soups and liquids; advised use of spray every half to one hour. Next morning mother telephoned I need not come, as the child was perfectly well.

Mr. H. K., subject to repeated attacks of tonsillitis, but refuses tonsillotomy because he is afraid it may injure his voice—he is a vocalist. Several months ago I recommended spraying the throat with Glyco-Thymoline one-third strength, twice daily and whenever the throat is at all sore to use it frequently. He has not had an attack of sore throat all this winter.

CLINICAL REPORTS OF CHROMIUM SULPHATE.—I have used Chromium Sulphate (Abbott) in one case of chronic nephritis with very gratifying results.

DR. GEO. BAUDRY.

Atchinson, Kans.

PROSTATIC TROUBLE.—The 4-grain tablets of Chromium Sulphate (Abbott) have put to shame all other medicines I have ever used for the reduction of hypertrophy of the prostate in a patient of 75 years. By the time the first 100 were gone, taking four 4-grain tablets (16 grs.) per day his symptoms had all left him. Now he is able to retain his urine from 8 or 9 P. M. to 5 A. M.

DR. J. W. DILL.

Franklin, Ind.

GOOD RESULTS IN GOITER.—I have used Chromium Sulphate (Abbott) for goiter and prostatic trouble and it has given complete satisfaction. I think this is one of the best drugs for troubles of this character that we have.

DR. CHARLES M. STEMEN.

Kansas City, Kans.

CHROMIUM SULPHATE IN SCIATICA.—In the past few months I have cured three cases of chronic sciatica with Chromium Sulphate (Abbott). One of these had been confined to the house for seven or eight



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months. She was so much improved after three weeks that she could get around the house and is now apparently well.

DR. M. L. SHINE.

Winthrop, Iowa.

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PHYSICAL AND DIETIC TREATMENT OF ARTERIO-SCLEROSIS.—Alois Strasser (*Wien. Klin. Woch.*, April 8 and 15, 1909) deals with the physical and dietic treatment of arterio-sclerosis, of which the physical treatment is still based to a great extent upon empiric rather than scientific knowledge. Hydrotherapy in arterio-sclerosis has its chief action on the regulation of the circulation; rightly used it may under certain conditions check the progress of the disease and break the vicious circle in which the arterio-sclerotic patient finds himself. After the primary rise of pressure which has been observed by many workers to follow thermic irritation either with hot or cold water, there is a general reaction in which the state of hypertonus is replaced by widening of the vessels and there is an increase of the blood flow to the capillaries; after further oscillations the condition of the circulation steadies itself, though it may not come back to its original condition, and it is this alteration of condition, which may perhaps be cumulative if the treatment is often repeated, which is to be looked upon as the therapeutic effect of the treatment. In arterio-sclerotic vessels the "reaction" power is not normal, and yet it is only very seldom that the changes in the vessels are so advanced and so widespread that no part of it is capable of reaction. In those cases, however, in which there is advanced sclerosis in the splanchnic region, causing an insufficiency of the regulating function, and also a complicating nephritis, so that a toxic cramp of the vessels still further lessens the power of reaction, the use of cold as a thermic irritant is contraindicated. Insufficiency of the heart muscle contraindicates the use of cold if it is combined with a bad reaction power of the vessels. In Strasser's opinion too much stress has been laid upon the danger in the majority of cases of the primary increase of pressure, because it appears that the almost unavoidable circumstances of daily life often cause a much more considerable rise of pressure than does the

use of cold. For severe cases the safest method of applying cold is partial rubbings with cold water, but in cases of general arterio-sclerosis with anemia of the skin, or where cold causes cramp, hot and cold water may be used alternately, or even better only hot water. A general rubbing down is well borne by many sclerotic patients. Cold baths are only to be used in the first stage without dangerous localization. Cold douches are to be used with caution, and do not, as a rule, give as good a reaction as rubbing; the Scottish douche of alternating hot and cold water is very often better. Hot baths should not be given to sclerotics at a higher temperature than 37° to 38° C., but hot air or light baths are free from danger and of advantage. Strasser considers that where sclerosis is limited especially to the smaller vessels, sweat procedures are much better borne than where there are great changes in the aorta. In giving hot air and light baths the author's practice is to limit the duration of the bath to from ten to fifteen minutes, not to give them at a temperature of over 50° C., to apply cold to the head and often also over the heart, not to give at most more than three sweat baths during the week in severe cases, to let the patient be cooled down by sponging, douching, or by a bath at a temperature of from 30° to 25° C., and to allow the patient to rest for at least an hour after the bath in severe cases. Schweninger's hot foot or arm baths are little known, but are valuable. The contraindications to the use of heat are not many; where interstitial nephritis exists very high temperatures are not permissible, and great caution is to be exercised where there are marked signs of sclerosis of the vessels of the brain, in advanced insufficiency of the myocardium, and severe changes in the bend of the aorta with cardiac insufficiency. Applications of heat over the heart are useful in attacks of angina pectoris. Much discussion has arisen as to the action of CO₂ baths. Strasser's experience is that while CO₂ baths never give rise to cerebral hemorrhage, they never clearly benefit the symptoms of cerebral sclerosis and their chief action is always on the cardiac insufficiency. Oxygen baths are not as effective as CO₂ baths. A general rule of diet is that, while meat is not to be prohibited, a large amount of vegetables should be taken, and also milk. Absolute milk diet is not good for a long time, but may be used as a cure for certain symptoms. It

is important that the daily supply of food should be taken in small quantities frequently. Alcohol, tea, coffee, and tobacco are not to be absolutely forbidden; in angina pectoris, however, smoking is to be absolutely forbidden, and alcohol taken only to the most moderate extent. A reduction of diet is not to be carried to the point of causing a feeling of subjective weakness. Limiting of the amount of water taken undoubtedly spares both heart and vessels, but should not be carried below 1,500 c.cm. a day; even when there is œdema not more than three days consecutively below this limit are to be allowed. Cautiously employed, the mechano-therapeutic treatment is of great service in all forms of arterio-sclerosis, even in sclerosis of the coronary arteries. Where the vessel reaction is absent, or where considerable rise of pressure of long duration is seen, or even insufficiency of the heart after relatively slight muscular work, the treatment must be limited to purely passive movements, or only such a strain on the heart as its reserve strength is equal to. Massage is useful, and it is an erroneous idea that massage of muscles or abdominal massage strongly and lastingly heightens the blood pressure. General and local galvanization and faradization have no significance for the vessel processes; in faradization in paralysis only weak currents are permissible. Strasser has had no personal experience of the effect of high-frequency currents, but concludes from the literature that the method is applicable to arterio-sclerosis.

THE REMEDIAL VALUE OF IRON.—Amid all the doubt that modern skepticism and therapeutic nihilism have aroused in the professional mind, in regard to the medicinal or drug treatment of disease, we have yet to hear any question as to the distinct value of iron in anemic, chlorotic and generally devitalized conditions. This metal is, indeed, the physician's mainstay in such cases, and cannot successfully be omitted or replaced. There does exist, however, considerable difference of opinion as to method of administering iron and as to the most generally eligible preparation of same. The tincture of the olden times, prepared from iron filings, has in these later days, been superseded by the less irritant and more tolerable preparations introduced into modern pharmacy. Among such products none

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has seemed to be so generally acceptable and promptly assimilable as the organo-plastic form represented by Pepto-Mangan (Gude). The ferruginous element in this preparation exists as a true peptonate, in combination with organic manganese, iron's side-partner in reconstructive blood therapy. It is palatable, readily tolerable, quickly absorbable and assimilable and entirely free from irritant or constipating effect. Pepto-Manganum (Gude) rapidly restores vigor to the circulating fluid and because of blandness and ready tolerability is especially valuable in pediatric practice.—*Charlotte Medical Journal*.

OVERSECRETION OF STOMACH JUICE IN SMOKERS.—Skaller (*La Semaine Medicale*) finds that nicotin caused an excessive secretion of gastric juice in dogs. It appeared that the effect was produced through the peripheral nerve centers, the drug acting, not directly on the mucous lining of the stomach, but through its influence on the nerves after absorption into the blood. The

writer observed the same condition in inveterate smokers. In some smokers there exists a really grave form of this affection, in that the over-secretion of stomach juice occurs at certain intervals separated from each other by periods of relative comfort, comparable to the gastric crises seen in cases of locomotor ataxia.—*Charlotte Med. Journal*.

REMOVAL OF THE TONSILS BY BLUNT DISSECTIONS OR TONSILLECTOMY.—Dr. W. C. White places the patient on the right side with the arm and leg flexed under the body and a sand pillow under the neck. This throws the field of operation lower than the trachea and relieves the chance of the patient aspirating blood or mucus. The tonsil is then seized with any suitable volsellum forceps and traction made outward. This places the capsule on a stretch and the line between the tonsil and the pillar is plainly seen. The tongue depressor at this point is given to an assistant and a blunt pointed dissector, very similar to the Allison dissector, is introduced at the upper part of the gland and the capsule is freed from the pillars and supratonsillar space. This dissector is carried all around the tonsil until the gland is only held in position by a pedicle at the base. At this point you introduce your wire snare over your volsellum forceps and push it well down around the base, being careful not to include the uvula within your wire loop. When the wire is in position and the operator holds same there, the assistant tightens the loop by a screw wheel until it cuts through. This wheel is tightened slowly and relieves us of much danger of hemorrhage. The bed is then examined for any bleeding points which, if the operator has followed the capsule, will be very few.—*The Southern Practitioner*, Dec. 1909.—*Charlotte Medical Journal*.

ASTHENOPA DUE TO DISORDERS OF THE STOMACH.—Dr. H. L. Helgartue believes that frequently patients with headache and asthenopia consult oculists, thinking that glasses will correct neuralgia or painful vision. Upon very careful examination of the eye and its appendages, no defect—at least not sufficient to account for the trouble—can be detected. Then it is the duty of every oculist to look beyond the eye for the cause of the trouble. In many such cases,

attention has been directed to the stomach, and a proper examination in most instances has revealed an excessive acidity with excessive secretion. In quite a number of such cases entire relief from all eye symptoms, with proper local and constitutional treatment directed at the stomach, and no treatment for the eye. It is a well known fact that a specialist is prone to attribute all "the ills that flesh is heir to" to an affection of some organ which belongs to his particular specialty. It is, therefore, important to guard against this weakness and to view patients with the greatest possible broadness. The author does not wish to depreciate necessary eye treatment in this particular class of patients; if we find sufficient error of refraction, the proper lens should be ordered; if muscular insufficiency is found, suggest such treatment as seems best suited for the case.—*Texas Medical Journal*, January, 1910.—*Charlotte Medical Journal*.

HYSTERO-EPILEPSY.—Dr. W. T. Mares says that the paroxysmal outbursts in hystero-epilepsy are so strong in many cases that it may not be easy to differentiate one of these from a true epileptic seizure. In hystero-epilepsy there may be extreme passivity which results in a deep sleep similar to epilepsy. But after the patient comes completely out from a paroxysm she is not likely to manifest a tendency toward prolonged somnolency as does the epileptic. After a paroxysm, the hystero-epileptic sufferer is likely to be morose and melancholic for several days and may even attempt suicide. The temperature is normal during a hystero-epileptoid convulsion, while in a true epileptic seizure there is elevation of temperature, often several degrees. During the attack of hystero-epilepsy the characteristic hysterical symptoms may not be manifested and there is absence of any malingering. The spell usually lasts from one to four hours, during which the patient experiences all sorts of hallucinations and mental vagaries.—*The Southern Practitioner*, January, 1910.—*Charlotte Med. Journal*.

CONTAGION AND SEMIOLOGY OF SCARLATINA.—Lesage makes a very forcible and convincing plea for the contagiousness of scarlatina during desquamation. He bases his diagnosis of scarlatina on the evolutive cycle of the tongue and



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Doctor:—This Electric Air Pump is just what you are looking for to give you that steady, continuous air pressure without bother. Powerful, compact, quiet, double compression. sanitary air filter, bronze bearings, gravity valves, with or without motor. Get our prices,— but in any event, Get the Pump. Made by us. Ask for special pump leaflet, also Catalog of Globe Nebulizers and Comprest Air Vibrators. Free.

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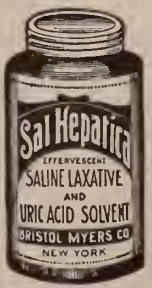
and throat alone. Quarantine should end with the end of the throat and tongue cycle. Exclusion

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from school should be based on the condition of the throat and tongue, not of the skin.—*Gazette des Hopitaux*.—*Charlotte Medical Journal*.

PHARYNGITIS.—In the treatment of pharyngitis equal parts of Katharmon, glycerine and water is a very efficient application to stimulate the follicular secretions to a healthy condition.

EFFECT OF LEECHES.—Wet cupping has almost entirely replaced the use of leeches in therapy, yet the effect of the two is not the same. After cupping, the hemorrhage will soon cease, while after the use of leeches as much as 100 to 200 Cc. can be obtained. The exuding blood resembles that of hemophilia, in that coagulation sets in very slowly. If the soft non-adherent clot is removed, the bleeding will usually continue. In the test-tube, the clotting only affects the plasma; it occurs late and the clot shows no retraction, and is frequently redissolved. The addition of a few drops of human or animal serum will bring about normal clotting. Extracts of organs act in the same way, while the salts of lime have no influence. The hem-

orrhage can be checked by using normal serum. Weil and Boye therefore conclude that the application of leeches induces a local hemophilia, due to a specific secretion. Blood-examination made after the application shows a diminution of hemaglobin and erythrocytes, and an increase of the mononuclear leucocytes. When there is hepatic or cardiac disease, a tendency to hemorrhage, particularly epistaxis, will often be noticed. Typical hemophilia could be induced in rabbits by injecting leech extract. The application of leeches can take the place of venesection except in urgent cases.—*Sem. Méd.*, 1909, No. 46.—*Merck's Archives*.

APPENDIX DYSPEPSIA.—Moynihan reaches the following conclusions: (1) The symptoms of both gastric and duodenal ulcer, especially the former, may be exhibited with great fidelity in cases in which no structural lesion can be found in any parts. (2) In many cases of gastric ulcer, in which the symptoms, pain, vomiting, and hematemesia, are present, and in many cases of intractable dyspepsia of a capricious kind, the only pathological change discoverable during



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operation is a chronic inflammation of the appendix. (3) Removal of the inflamed and obstructed appendix is generally followed by instant and complete relief of all former dyspepsia. The cessation of symptoms, however, may come only by degrees and with the lapse of many weeks. (4) No operation for supposed gastric or duodenal ulcer is complete until an examination has been made of the appendix, small intestine, and mesenteric glands, that is, of the midgut. (5) If, in such an operation no lesion can be found in the stomach or duodenum, it is not permissible to perform any operation as gastroenterostomy. This operation has results not surpassed by any other when performed in properly selected cases. It is worse than useless in chronic appendicitis. (6) The mimicry of the symptoms of gastric ulcer in these cases is due to

an exaggerated action of the pylorus. This tumult of contractile activity can be recognized when the stomach is inspected. (7) Investigation is necessary to ascertain the frequency with which the mucous erosion of the stomach (the "acute" or "medical" ulcer) is dependent on a primary lesion in the appendix or intestine.—*Munchener medizinische Wochenschrift*.—*Charlotte Medical Journal*.

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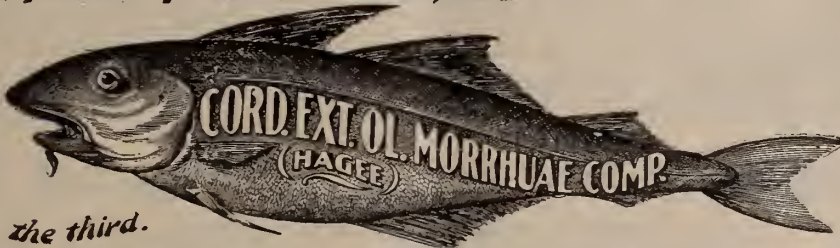
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ALPINE MISADVENTURES DURING THE LAST TWELVEMONTH.—From Oct. 15, 1908, to the same date last year, the deaths due to misadventure on the Alps (Swiss, French, and Italian) were no fewer than 84—a figure which seems to justify the Roman journalist in remarking that what Sir Leslie Stephen called the “playground of Europe” might more aptly be styled its “graveyard.” The statistics from which this return is taken, compiled at Domodossola and just communicated to the press, set forth that the greatest number of casualties befell the Swiss and the Germans; next in order were the English-speaking “Alpinisti,” then the French, and finally the Italian. But if the last-named nationality figures lowest on the numerical side it takes highest place on the tragic, no misadventure equalling that of the three intrepid Milanese “peak-stormers,” the Signori Sommaruga, Bompadre, and Castlenuovo, whose fate seems to have been identical with that of Signor Marinelli Damiano, who, with the two guides Imseng and Pedrazzini, was engulfed past all recovery in one of the crevasses of the Monte Rosa. Search parties, strong in numbers and equipment, succeeding each other at short intervals, have in both cases had to return from the quest baffled and disappointed. Next to the Monte Rosa, on one of the many lichen-frescoed façades of which might be inscribed the warning—

“Mitte sectari Rosa quo locorum
Sera moretur!”

the Ragno-kulm, in the Valle Vigezzo, seems to have been the deadliest lure, drawing to his destruction the Genoese Signor Enrico Cavallo, just when the pious care of their bereaved parents had renewed upon its rocks the tablet recording the tragic end of the brothers Zoja.

On the Swiss side, the Jungfrau still maintains her sinister priority in tempting climbers to their doom—six casualties being registered this year to her account. In nearly every case the false economy which dispenses with an experienced guide is primarily to blame, and next to that the foolhardihood which attracts the nature-student to a rare flower or mineralogical specimen on the brink of an abyss. Refuges such as those in course of erection by the Paduan Alpine Club on the Venetian ranges are well inspired, particularly when available on the sudden descent of a mist; but nothing can excuse the lack of precaution which leaves the skilled

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Resident Physician

guide out of account or which neglects the personal equation in the matter of bodily fitness for the climb. This latter condition is, as *The Lancet* and its contemporaries, Swiss and Italian, have often pointed out, one of vital importance to the mountain climber, particularly when approaching the meridian of a life passed in sedentary work. Half an hour's interview with a physician previously to essaying a mountain ascent would have obviated many a casualty, due ostensibly to misplaced footing but really to cardiac lesion and cardiac failure.—*The Lancet*.—*Merck's Archives*.

PUERPERAL SEPTICEMIA TREATED WITH DIPHThERIA ANTITOXIN.—Aduard M. Deacon, of Birdsboro, Pa., details a case of puerperal septicemia in which infection occurred somewhat late, and the temperature and general symptoms became modified after the use of large doses of diphtheria antitoxin. The patient recovered. The condition of the patient was profoundly septic when the antitoxin was given, and the effect of the serum was very prompt.—*Med. Record*, Jan. 8, 1910.—*Merck's Archives*.

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ORIGINAL ARTICLES.

THE MANAGEMENT OF NORMAL LABOUR.*

BY

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Mr. President, and members of the Franklin County Medical Society.

First I desire to thank you most sincerely for your kind invitation to read a paper before you this afternoon.

Your request that I should discuss the "Management of Normal Labour" filled me with apprehension as to the success of my undertaking, for it is difficult to bring anything new before you in connection with this subject, while in the endeavor to make it interesting I may bore you with unnecessary detail.

Eutocia is defined as natural parturition, and is applied to labours which terminate without artificial aid and without injury to mother or child.

Thus strictly speaking, eutocia must be extremely rare, as injuries to the birth canal occur in a large proportion of women who are delivered of healthy children without artificial aid.

Ordinarily normal labour means spontaneous delivery of a living child, which has presented in a vertex position, with the occiput rotating anteriorly.

Fortunately normal parturition takes place in an overwhelming proportion of cases. Sellheim states that normal labour occurs in 95% of all cases which come to term. This may be the case in Germany but in this country the percentage of normal labours is not quite so high.

In this age of hurry and hustle, of ease and luxury, of chloroform and obstetric forceps, natural delivery is perhaps of not as frequent occurrence as nature originally intended.

To insure natural delivery, the pregnant woman should come under the physician's care early in pregnancy. This subject has been dealt

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with by my predecessors and I will not further enter into it.

In private practice parturition should be conducted with the minimum disturbance of domestic routine. The essentials are privacy, absolute cleanliness of the patient and all that comes in contact with her, and no interference with nature's course. All these may be obtained with intelligence and foresight without entailing a serious strain on the family exchequer.

To treat every case of normal labour with the same rigid technique that should attend a laparotomy is a mistake. Race suicide is encouraged by converting what should be an incident in life, into an imposing, and frequently a *terrorizing* function.

It is desirable to give the nurse and patient written or printed instructions as to what should be provided. In making out such lists only those things which are essential should be included as it is undesirable to add to the expense of the outfit. Simplicity should be the aim and not elaborate luxury.

With regard to the physician's obstetric outfit, it bears not infrequently an inverse proportion to his skill and experience, the more imposing the former, the more inadequate the latter, and vice versa. Suffice it to say that the obstetric bag should always be clean and orderly. It should always be kept ready for emergent use, and among other things should always contain a pelvimeter.

The obstetric forceps in my opinion should *never* be employed to terminate labour until the pelvis has been measured. Such a precaution would save hundreds of lives per annum.

The *labour room* should be amply provided with clean bed linen and should be a large, quiet, well ventilated room, and if possible, should be so situated as to insure that the patient will not overhear all the noise of the domestic machinery of the house.

I am in the habit of giving directions that the room to be occupied should be thoroughly house-cleaned a few days before the expected date of confinement.

The essential furniture in a labour room are the bed, one low table, two ordinary wooden chairs, a slop jar or pail, and an old rug or some

protective paper, to keep the carpet from being soiled.

The situation of the bed is important. Care should be taken that it is not placed so that a direct draught will blow across the patient while she is sleeping or nursing, the reason being obvious.

The mattress should be firm and clean, and the spring of the bed should be so arranged that the patient's weight will not cause it to sag materially. If the bed is very low, wooden blocks should be prepared for placing under the feet. Only boiled water should be employed in the labour room.

I will not go into detail about the making of the labour bed, but will state that clean fresh linen should be employed and the objectional habit of using old newspapers to be placed under the patient as a pad cannot be too strongly condemned. Very good non-absorbent pads may be made of unbleached cotton padded with ordinary cotton batting one yard square and three inches thick. These pads may be sterilized by being placed in the dry heat of an oven for half an hour, or steamed in a boiler.

Preparation of the Patient for Labour. It is of the utmost importance in the conduction of labour that the lower bowel should be thoroughly emptied, therefore I make it a rule that no matter how often the bowels have been said to be moved, the patient shall have an enema after the labour has set in. Another essential is the thorough cleansing of the vulva and thighs. Other things are desirable in the way of preparation, but these are essential.

If the patient has not had a hot bath within 24 hours of the onset of labour and her condition permits of it, she should be placed kneeling or standing in a bath and her whole body cleansed with soap and hot water. I do not like to have my patients in labour sit down in the ordinary household bath and prefer the above method as less likely to lead to infection of the genital canal.

After the bath the pubic hair should be trimmed if necessary, and these parts, as well as the abdomen and thighs, bathed in a 1/2000 solution of bichloride of mercury, or a 2% solution of lysol.

From this time on, the patient should wear an aseptic vulvar pad. Should the labour be prolonged the vulva should be bathed in one

of these antiseptic solutions each time the pad is removed for any cause.

Preferably the patient should be in a freshly laundered night gown, over which she should wear a freshly washed wrapper and clean stockings and slippers. Her hair should be carefully combed, brushed and braided.

These preparations usually occupy, profitably, the early period of labour and if after this toilet has been completed the pains are not occurring with too great frequency, she should be provided with some simple occupation, such as sorting linen, manicuring her nails, or some little duty that may be of help to the nurse.

All nervous and excitable relatives and friends should, if possible, be kept away from the patient who should be entirely under the control of quiet, businesslike attendants.

It will be noted that no mention has been made of a preliminary vaginal douche. Its employment is unnecessary as it has been amply established that the vaginal secretions are sterile and even bacteriocidal in action, and hence a douche will do more harm than good. In fact, while speaking of douches I may state that it is rarely, if ever, necessary to give a vaginal or intra-uterine douche before or after labour whether operative or not.

The antepartum examination of the pregnant woman should always include a careful measurement of her pelvic diameters. This routine may only be omitted in the case of women who have previously been delivered at term without difficulty.

The Examination of the Patient in Labour should be directed towards ascertaining:

1st. The general condition of the mother. This should include the state of her heart's action and her temperature.

2nd. The position occupied by the child and the relation of the presenting part to the inlet of the pelvis.

3rd. The condition of the foetal heart.

4th. The character and frequency of the labour pains, these usually giving satisfactory evidence as to the progress in labour.

All this information can be obtained without entailing the risk of a vaginal examination. In modern obstetrics internal examination has been relegated to a very secondary position in making a diagnosis of the conditions present, as it is conceded that every such examination, no

matter how carefully performed, exposes the patient to a risk of infection.

In normal cases a vaginal examination is rarely necessary. The diagnosis of the presentation and position of the foetus can be made by abdominal palpation, and information as to the condition of the cervix can readily be ascertained by a rectal examination, the physician's hand being protected by a rubber glove or special finger stall.

My attitude toward vaginal examination in labour is that it should never be employed unless information can be obtained by it which cannot be secured in any other way, and that it should never be undertaken without fully appreciating the risk involved and carefully protecting the patient from such risks, by every means in one's power.

In normal cases information as to the condition of the os uteri is all that one desires to obtain by an internal examination. When really necessary this can always be obtained by means of a rectal examination, but in the general run of cases one can judge fairly well by the character of the pains and also of the vaginal discharge. It is only in cases of delay in advance of the presenting part, or when other signs fail that such an examination is really necessary.

In modern obstetric practice abdominal palpation is chiefly depended on for diagnosis of presentation and position. The more skilful one becomes in the art of palpation the less does one require to make a vaginal examination.

The most important point in palpation is to ascertain what part of the foetus is presenting at the pelvic inlet, and what relation the presenting part bears to the inlet. Having defined the part of the foetus presenting, one then notes whether it is *at*, *in*, or *below* the brim, in other words, the extent of the engagement in the pelvis of the presenting part. One may then proceed to locate the position of the back, breech and limbs. The position and rhythm of the foetal heart should then be noted.

If the presenting part is found not to be engaged in the brim, it is advisable to take the external measurements of the pelvis. Should the external conjugate diameter be found to be less than 20 c.m. (8 in.) then a vaginal examination should be undertaken to ascertain whether the promontory can be reached, and if so the diagonal conjugate should be measured.

Should any flattening of the pelvis be present the future course of events depends on the degree of pelvic deformity, the mouldibility and size of the foetal head, and the vigor of the uterine contractions.

It should be borne in mind that even in the presence of moderate degrees of pelvic contraction such as are not uncommonly encountered, at least four hours of second stage pains should be permitted before interference is undertaken.

Our experience at the Montreal Maternity bears out the statement of Williams, of Baltimore, that from 75 to 80% of all cases of contracted pelvis deliver spontaneously.

It is in just such cases as these that much harm is done by unwise interference which is often attempted by hurried practitioners even before the end of the first stage of labour has been reached.

One frequently finds in consultation practice that attempts at delivery have been made before the completion of the first stage of labour. It is an obstetric crime to rely on the forceps to complete dilatation of the os uteri. These instruments should never be applied until the os has been completely dilated either by nature's efforts or by suitably adapted artificial means.

During the first stage of labour the character and frequency of the pains usually indicate fairly well the degree of progress that is being made. The patient should be encouraged to bear her sufferings with fortitude but her strength should be conserved as much as possible and she should be restrained from efforts at "bearing down" as in this stage such effort has practically no value.

If she is restless and hysterical, full doses of chloral (gr. XV) at intervals of four hours, I have found of service in securing quietness between the pains, without markedly interfering either with the frequency or vigor of the uterine contractions.

In the first stage, liquid diet is in order, to sustain the strength and vigor of the patient. Albumen water is my favorite, though a cup of hot freshly brewed tea has undoubted sustaining and stimulating qualities which should not be ignored.

The onset of bearing down or expulsive efforts usually indicates the beginning of the second stage of labour. Usually the membranes rupture at this time. The pains are usually so severe that the patient takes to her bed. The

onset of these symptoms indicates the reclining position.

Usually shortly after the rupture of the membranes the discharge from the vulva becomes distinctly mucoid, which in itself is a valuable sign of the descent of the presenting part of the foetus.

When such signs are present or when the head is known to be engaged well within the pelvis, vaginal examination is unnecessary.

When in spite of expulsive pains the membranes have not ruptured an internal examination is required. If the cervix is found completely dilated, and only when this is the case, the sac of waters has served its purpose and matters may be hastened by its artificial rupture. This cannot be accomplished as a rule by the finger when rubber gloves are worn. A sterilized artery forceps or any other suitable instrument may be employed for this purpose and I can recommend nothing better than a large safety pin, which I constantly use.

The descent of the presenting part may be recognized as it approaches the pelvic floor by applying the finger tips to the perineum at the side and a little in front of the anus, and pressing them firmly inward and upward during the acme of a pain. By this procedure the firm hard head can readily be felt through the tissues.

Preparations for delivery are then in order.

In a convenient position so as to be readily reached by the physician should be placed a small table. On it are placed a basin of warm antiseptic solution preferably 1% lysol, or 1/2000 bichloride, a supply of sterile cotton or gauze swabs, a few sterile towels, sterile ligatures and scissors for the cord, and the sutures and instruments required for the repair of perineal lacerations.

The patient is then placed in position. I prefer the left lateral as being more comfortable both for physician and for the patient. It also renders her movements more easily controlled and leads to less exposure than is the case when the dorsal position is employed.

I usually employ a Kelly pad covered with a sterile towel. This drains into a suitable receptacle at the bedside, which also serves for the reception of soiled swabs, etc. The carpet at the bedside may be protected by several layers of paper or an old rug reversed.

The patient's clothing is rolled up and secured by safety pins so as to protect it from becoming

soiled if possible. She is covered by a sheet, and a light blanket if required.

The vulva is then carefully swabbed with pledgets of cotton wrung out of lysol solution, care being taken to always swab from the pubis towards the anus.

Then freshly boiled rubber gloves are drawn over the physician's hands. The hands should be disinfected just as carefully as though the gloves were not to be worn.

I prefer to use gloves for I find that they not only afford better protection to the patient, but since I have employed them I have not had trouble with sore hands, from the irritation of prolonged immersion in antiseptic solutions. One soon becomes accustomed to them and the tactile sense is soon educated. I prefer a moderately heavy red rubber glove, as being more durable and in every way more satisfactory than the thin gloves.

Chloroform anaesthesia I employ in every case when there is time to use it. The patient's face is smeared with vaseline to protect her skin, and a dropper bottle and mask are given to the nurse or assistant who administers the chloroform under orders of the physician, so many drops with the onset of each pain.

The mask is only applied during the pains, except at the moment of birth when complete anaesthesia is desirable. I have never seen any bad effects from chloroform so administered, and am certain it never leads to the occurrence of post partum haemorrhage.

At intervals during the second stage of labour the foetal heart rate should be taken. The rhythm should be noted during a pain as well as in the interval between. If the rate is very markedly reduced during a uterine contraction or if at any time it falls to about one hundred beats per minute, delivery should be effected as rapidly as possible in the interest of the child.

Protection of the Perineum. Laceration of the perineum cannot always be avoided in spite of the most skilful treatment. He who says he has delivered a thousand or even a hundred women without laceration of the perineum having taken place, is either blind or is a direct descendant of that Ananias of unsavoury fame.

The strain upon the perineum involves four factors at least, the size of the head and shoulders; the elasticity of the maternal tissues; the width of the pubic arch; and the rapidity of the expulsion, not to mention the skill and judg-

ment of the officiating accoucheur. Given a narrow deep pubic arch, a child of average size with a firm head, in a primipara over thirty years of age and you have all the factors for a fairly extensive laceration of the tissues of the pelvic floor.

Lack of knowledge of the mechanism of the escape of the head from the vulva associated with the excessive manipulation and haste on the part of the accoucheur may be put down as contributive factors in perineal laceration.

Too early extension of the head, which is brought about by premature efforts at delivery usually result in the perineum giving away. Throughout the whole of the perineal stage of labour the head should be in complete flexion so that the sub-occipito-bregmatic diameter may distend the vulvar ring at the moment of the escape of the head. Once the parietal eminences have escaped from the ring of the vulva, the whole head slips forward under the pubic arch. Flexion is to be maintained until the parietal protuberances have thus escaped. Throughout the perineal stage the occiput is pressed forward against the pubic arch and escape of the head can only occur when the occiput has completely cleared the inferior border of the pubis.

The physician's duty is to see that the normal mechanism of labour is not interfered with by undue expulsive efforts on the part of the patient at this stage, and that sufficient time is taken for the gradual dilatation of the soft parts.

With the patient in the left lateral position there is nothing to be done except exercise a masterly inactivity until the caput appears at the vulvar cleft. The patient may be encouraged to bear down, and a few whiffs of chloroform administered with each pain.

Fecal matter or mucus escaping from the anus should be swabbed off immediately to prevent contamination of the field.

There is no necessity for supporting the perineum with the palm of the hand or with hot cloths. Far better leave it alone and simply observe what is taking place, and if the head is advancing with too great rapidity, the patient should be told to cry out, so as to release the pressure of the abdominal muscles.

The idea prevails that the perineum should be supported by the physician making pressure upon it with the palm of his hand during the perineal stage of labour.

As a rule such pressure does more harm than good. The tissues of the perineum are thus compressed between the descending head and the physician's hand and are more likely to be damaged than if left alone. If the head is coming down too rapidly, pressure may be applied directly to it, instead of through the perineum.

As soon as the caput appears the forefinger may be inserted under the pubic arch without actually introducing it within the vagina, and the posterior fontanelle and occipito protuberance located, the width of the head estimated, and at the same time its relation to the pubic arch noted. Thus if the head is small and the pubic arch wide but very little strain will be thrown upon the perineum. On the other hand, if the head is large and well ossified, and the pubic arch narrow, or pointed, the result will be that greater stress will be thrown upon the perineum, and laceration much more likely to take place.

With each pain the physician may place one or two fingers just under the pubic arch and promote flexion of the head, and at the same time feel whether the parietal eminences are coming well down towards the vulvar margin.

Throughout this period the perineum should be watched and if it does not distend readily it is far better at the acme of a pain to do a median episiotomy. Usually I slip one blade of a blunt pointed scissors having a cutting edge of about $1\frac{1}{2}$ inches, between the head and the distended perineum. The scissors are then turned and one snip made. If this cut is well timed the head usually escapes with the next pain, as its result is the relaxation of the resistance to the escape of the parietal eminences from under the pubic arch. At the moment of escape pressure should be made between the tip of the coccyx and the anus so as to maintain the flexion of the head, and not as it is commonly supposed to produce extension. This manoeuvre is best carried out with the left hand placed over the patient's thigh, controlling the escape of the head from the vulva, while the right hand guards the perineum as it slips back over the face of the child. Extension of the patient's limbs at the moment of the escape of the head affords a certain amount of relaxation of the perineal tissues, and I think assists in preventing any extension of lacerations.

In favor of episiotomy it may be said that one has a clean cut wound, the surfaces of which are more readily approximated by a single suture

than is the case in an ordinary laceration. In my own experience I have never regretted having made an incision such as described above, and I have frequently been very sorry indeed that I failed to resort to it.

Immediately the child's head has escaped, the mouth and nose should be swabbed off so that mucus shall not be aspirated in case efforts at respiration are made. The finger is then run about the child's neck to ascertain whether the cord encircles it. If it is present it must be pulled over the head or tied and cut, or loosened sufficiently to permit the escape of the child. Usually the shoulders come down in a moment or two, the anterior shoulder pivoting under the pubic arch while the posterior sweeps over the perineum.

During this manoeuvre the child's head should be carried well up over the pubic region of the mother so as to release the pressure of the shoulders on the anterior margin of the perineum. This can usually be accomplished with the right hand supporting the child's head and shoulder, while the left assists with the expulsion of the child by making firm pressure upon the fundus through the abdominal wall.

Immediately the child is delivered, the patient should be placed in the dorsal position, otherwise contaminated discharges may find entrance to the distended passages. In the dorsal position the weight of the uterus and placenta is sufficient to compress and more or less close the patulous vagina, etc.

Considerable discussion has taken place as to whether the cord should be tied immediately after the birth, or delayed until all pulsation in it has ceased.

It has been demonstrated that when the tying of the cord is delayed the initial loss of weight in the first few days is less than in those cases in which the cord is tied immediately.

My rule is to tie the cord when I am ready to attend to it, whether pulsation has ceased or not; except in the case of feeble, ill-nourished children to whom the loss of even a few centimeters of blood is an important matter. These I do not tie until the pulsations in the cord have ceased.

Repair of Lacerations. As soon as possible after the child has been removed it is my habit to carefully examine the vulva for lacerations. This should be done in a good light and does not necessarily entail much manipulation of the

parts. If any lacerations are found they should be sutured at once. I prefer to do this while waiting for the placenta to become detached. An anaesthetic is not usually required for ordinary tears. I use a large curved needle and prefer silkworm gut as suture material. Silk sutures I have found unsatisfactory as they become impregnated with lochial discharges and infection of the wound not infrequently results. Catgut has the same objection and besides it often absorbs too rapidly.

The needle should not be inserted too close to the edge of the wound and should be carried well down to the base.

One requires a short needle holder in order to get the best results even if the patient's buttocks are supported on a bed pan as is my custom, otherwise it is difficult to place the sutures properly, unless the patient is turned so as to lie across the bed with the feet supported on chairs.

The sutures should not be tied until the placenta has been delivered.

A common mistake is to tie the perineal sutures too tightly. This causes them to cut into the tissues which tend to become oedematous after the sutures have been placed, besides making them difficult to remove.

Management of the Third Stage. Experience teaches one that the old saying "The more haste the less speed," is extremely trite when applied to the management of the third stage of labour.

Normally the placenta becomes separated from the uterine wall within twenty minutes to half an hour after the birth of the child, and slips into the lower segment of the uterus.

The separation of the placenta is usually indicated by a change in the position of the fundus. Immediately after delivery the fundus occupies a position half way between the umbilicus and the symphysis. When the placenta has become separated from the uterine wall, the fundus rises to the level or even above the umbilicus.

There are three signs available to indicate that the placenta has separated from its site. First, the above described change in the position of the fundus; secondly, what is known as Winckle's sign; if the extended finger tips are applied to the abdominal wall immediately above the symphysis pubis and pressure is made downwards and backwards, the cord will be drawn into the vulva if the placenta is still within the uterus, while if this is not the case the cord will be ex-

truded for a short distance. Again if the placenta is still adherent to the uterus, compression of the fundus between the fingers and thumb will cause a fluid wave to be transmitted down the cord. This wave is very easily felt when the cord is lightly held between two fingers of the other hand.

My rule is to wait till I have ascertained that the placenta has become detached before making any efforts to express it.

The fundus is lightly held through the abdominal wall, the fingers of one hand being placed behind it and the thumb in front. Should the organ relax it is gently massaged until it is felt to contract, but no pressure is applied. When the placenta has separated pressure on the fundus in the axis of the pelvic inlet is sufficient to cause its expulsion.

If in half an hour the placenta is still adherent to the uterus wall, Crede's method of compression is resorted to in order to detach and expel it.

Crede's method consists in compressing the uterus between the fingers and thumb of one hand applied as previously described, while at the same time firm pressure is exerted downwards in the axis of the pelvic inlet, *just after a uterine contraction has reached its acme and is beginning to subside*.

The latter point is important for pressure so applied to a relaxed and flabby uterus fails to accomplish the object of the manoeuvre, and may lead to inversion of the uterus, and very serious consequences.

Premature efforts at expression of the placenta before it has become detached not infrequently lead to incomplete separation of the organ and favor retention of the unseparated portions, giving rise to a whole train of evil consequences, immediate and remote, which I will not enlarge upon.

Retained placenta is an extremely rare event when the third stage of labour is managed as I have described. It is one of the most infrequent complications of labour in our experience at the Montreal Maternity.

The administration of ergot in the third stage of labour in order to facilitate the expulsion of the placenta is condemned by all authorities. It tends to produce tetanic contractions and thus favors retention of the organ.

If portions of membranes are found to be retained or fail to come away with the placenta, should they be manually removed?

This question I usually answer in the negative.

My practice is to leave them unless their retention gives rise to haemorrhage, in which case their removal by introducing the gloved hand within the uterus is necessary, and is often very difficult.

These retained membranes usually come away about the third or fourth day without trouble. Should they fail to come away at this time and the discharges become foul, then a hot intra-uterine douche usually effects their removal without difficulty.

INFLAMMATION.*

BY

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The picture of inflammation as understood to-day is far different from the old view, in which the dominating idea was that inflammation is essentially an injurious process, leading to cell and tissue destruction. To-day inflammation is regarded as a series of reactive processes set up in the tissues in response to an irritant. And we now regard the irritant as the cause of cell and tissue destruction and inflammation not as a destructive but as a conservative process. The conception of inflammation was originally a clinical one in which the process was marked by special symptoms, viz., redness, heat, swelling, pain and impaired function.

It is only within the past decade or two, that the processes and lesions involved in inflammation have been seriously considered by pathologists and as biological problems, separated for the purposes of research, from the traditional clinical conceptions. In view of our increased knowledge of the structure and physiology of cells and of the impulses immediate and hereditary, which determine their performances, it seems possible now to resolve the complex processes and lesions embraced in the general notion of inflammation, into simple factors, which are

*Read before Vermont State Medical Society at thirty-sixth annual meeting at White River Jet., Oct. 15, 1909.

tangible and understandable. Because of the fact that the inflammatory process is really at the foundation of all pathology, I thought it would be worth our while to review briefly the modern view of the inflammatory phenomena.

If we accept the definition laid down by modern pathologists, that inflammation is the condition or series of conditions into which the tissues enter as a reaction to irritation it follows that we must first have a clear idea of what constitutes the inflammatory process if we are to understand disease of all orders and further than this to apply our treatment intelligently. With this end in view it seems wise as a preliminary to this paper to rehearse as simply and briefly as is practical some of the more typical of the phenomena and lesions which are commonly grouped under the term inflammation and in doing this I shall quote freely from the writings of pathologists.

And I might say here that in this paper I have nothing new to offer, nothing but what may be found in recent literature, but my hope is that I may present some points which will be of interest and elicit discussion.

"Injury to the tissue, whether it be mechanical, chemical, thermal, or bacterial, is followed by the occurrence of the phenomena of inflammation. The presence of bacteria is not a necessary factor in the production of inflammation, for all tissue injuries are attended by a certain amount of cell destruction and the destroyed cells at once become irritants and induce inflammation in the adjacent tissues. Some degree of inflammatory reaction accompanies every tissue injury.

An uncomplicated aseptic incision heals with a minimum of reaction, but in a septic wound, infective agents have been introduced, which are constantly increasing. These extend the cell necrosis and antagonize the process of repair, and in this case a severe inflammatory reaction would be expected."

"The external manifestations of acute inflammation under favorable conditions, where the region injured is a loose and vascular tissue and where the injury is sufficiently severe or extensive, are as follows:

1. Redness. From the congestion of the vessels—hyperemia.
2. Swelling. From the exudation of fluid and corpuscles from the congested vessels.

3. Heat. From the increased amount of blood in the region.

4. Pain. From the irritation of the terminations of the nerves in the region.

To these four symptoms may be added:

5. Disturbance of function."

These are gross symptoms and symptoms that to us who studied medicine fifteen years ago were synonymous with inflammation. In fact that was all there was to it. More recent investigations with the microscope have revealed a series of changes which we might term microscopical changes. The microscopical changes are: Dilatation, first of the arteries and then of the veins with increasing rapidity of the blood flow. At this early period the capillaries show little evidence of dilatation but in the course of an hour they become more or less distended. This first stage lasts about an hour and is followed by increased dilatation with slowing of the blood flow and possibly stasis.

"The normal blood current is composed of two parts:

1. An axial or corpuscular stream.
2. A parietal or plasmatic stream, devoid of corpuscles.

During the period of acceleration the two streams can be easily recognized, but with increasing dilatation and slowing of the current the axial stream widens and the plasmatic stream grows correspondingly thinner.

"It can now be seen that the plasmatic stream contains a progressively increasing number of leucocytes. At first these roll along the vessel wall; later, they become attached at some point and hang off into the slowly moving stream as pear shaped bodies, the small end of the pear corresponding to the point of attachment.

This so-called margination of the leucocytes is most conspicuous in the small veins.

As the current becomes yet slower, all distinction between axial and plasmatic streams is lost and the corpuscles, closely packed together, fill the whole lumen.

As the result of their amoeboid movement the leucocytes attached to the vessel wall pass through and appear in the perivascular tissues.

This is an active process induced by positive chemotaxis and is called emigration.

It is accomplished by the leucocyte first sending a process or pseudopod through the vessel wall, the remainder of the cell body then flowing

after the process until finally the entire cell body is outside of the vessel.

Once beyond the vessel their amoeboid movement carries them through the tissues; the direction of their wandering being determined partly by mechanical stimuli and partly by chemotaxis.

Coincidentally with this emigration of leucocytes there is an exudation of fluid from the blood vessels. The fluid is characterized by a relatively high albumen content and is rich in fibrin. This exudation may be a mere filtrate due to increased vascular tension and alteration of the selective activity of the endothelial cells or it may be due to a combination of the two processes.

Certain things may be said in regard to this exudate, viz.: the exudate varies in amount and in character with the nature and intensity of the irritant, the condition of the organism and the region of the irritation. This exudate may be beneficial in diluting the irritant and flushing out the injured area.

By the development of fibrin in this exudate the inflamed area may be circumscribed and morbid materials prevented from passing outward. The exudate may have digestive functions or contain substances capable of hindering bacterial growth and of destroying pathogenic microbes. Another item that enters into the inflammatory phenomena and needs explanation is a term already used, chemotaxis. Investigation some twenty-five years ago, carried on by Stahl demonstrated that chemical substances exert an influence upon amoeboid cells. Stahl found that if one of these organisms was placed upon a moistened surface close to a drop of infusion of oak bark the plasmodium moved actively toward and into the infusion; if placed similarly near to a solution of glucose it moved with equal rapidity away.

This influence when it attracts cells is known as positive chemotaxis; when it repels cells, as negative chemotaxis. Bacterial products, bacterio proteins and many of the early products of tissue disintegration exert an attraction upon mobile cells.

Thus it is seen that the active movements of the leucocytes and wandering cells in inflammation depend on positive chemotaxis exerted by the diffusible products of bacteria tissues and other substances.

The changes in the vessel walls, the modification of the endothelium, the vascular dilatation and slowing of the current and the disarrangement of the corpuscles in the stream, all favor emigration, but the determining factor is the presence of chemotactic substances in the tissues, in consequence of which the cells advance, as long as the amoeboid motion is intact, toward the point of greatest attraction."

Still one more process requires to be mentioned in this brief resumé of the inflammatory phenomena. We will now consider for a moment, phagocytosis and opsonins.

"Certain cells have the property of taking up into their interior, microorganisms, animal cells and other substances and of destroying them by a process of intercellular digestion. Such cells are called phagocytes. Although many cells of the body are competent to perform the function of phagocytes, the typical phagocytes are as follows: Polymorphonuclear leucocytes, the large mononuclear leucocytes and the eosinophiles."

The process is called phagocytosis and is largely dependent on positive chemotaxis on the part of microorganisms or their products. The phagocytes vary in their action toward different bacteria. The polymorphonuclear leucocytes and the eosinophiles are phagocytic for microorganisms, especially in acute infectious processes. The large mononuclear leucocytes seize by preference microorganisms of certain chronic diseases such as leprosy, tuberculosis and actinomycosis.

"The incorporation of micro-organisms by phagocytes does not always or necessarily lead to the death of the bacteria; their products may on the contrary destroy the phagocytes so that in many cases the disease progresses in spite of well marked phagocytosis. The more virulent the bacteria, the less marked as a general rule is the accumulation of leucocytes and the phenomenon of phagocytosis. Phagocytosis of bacteria by leucocytes seems not to be merely a reaction between the leucocytes and the bacteria. Wright and Douglass have demonstrated that certain substances in the blood-serum are necessary to prepare the bacteria for phagocytosis, these substances being termed by them opsonins (from the Latin *opsono*, I prepare food for). Wright says, there exists in normal blood, and there exists in larger quantity in the serum of the successfully inoculated patient, an element

which enters into chemical combination with the staphylococcus, the tubercle bacillus or other microorganisms in such a manner as to prepare it for phagocytosis. We have demonstrated that phagocytosis cannot take place, apart from the action exerted by the specific opsonin upon the microorganism.

Hollister summarizes the theory as follows:

"1. Before entrance of the bacterium into the tissue, there are already present opsonins in the serum.

2. When the bacterium enters the tissue, these opsonins, if they are sufficient in strength and quantity to satisfy the germ, so act upon this germ that it is taken up by the leucocyte, and it is only due to this action of the opsonins upon the germ that phagocytosis takes place.

3. If the leucocytes' food (the invading germ) has been opsonically prepared, it is destroyed.

4. Further, the invasion of the germ and its toxins brings about at least two actions that have a bearing here:

(a) The number of leucocytes is increased (chemotaxis).

(b) The serum is stimulated so that there occurs in this serum a larger number or amount of opsonins.

The specific opsonins of an infected patient are low if that patient is not getting better. Therefore we see that the more opsonic power there is present to act upon the germ, or myriads of germs, so that they will become subject to the ingestive action of the leucocytes the more surely the irritating organism will be destroyed.

These, then are very brief, indeed, some of the more important phenomena of acute inflammation, or in other words they are the expressions of nature in her attempt to rid herself or render inert noxious irritants arising from within or introduced from without.

Inflammation, then, becomes not a disease but an outward and visible sign that something abnormal has occurred in the tissues, something which has brought about a reaction on their part. And, in approaching a given case when inflammation is present, it is not sufficient to know that you have rubor, calor, tumor, dolor, etc., but the physician must ask himself what the probable cause of this reaction is, and second how is this individual case to be treated? And as regards treatment we all recognize that there are widely different methods. We must de-

termine which in the particular case will insure the speediest and most thorough return to the normal. But in this paper time does not permit me to discuss individual or particular conditions of inflammation but only to refer briefly to general principles which should govern treatment.

Treatment of conditions causing inflammation is either operative or non-operative; either the surgical assistance of nature in her effort to remove the irritant and repair the injury or the guidance of the reactive processes of the organism so that without operative interference, the irritant shall be neutralized and destroyed.

Time and again and wisely operation will at once recommend itself to the surgeon. For even under favorable circumstances, the methods of nature are leisurely, and reaction too often inadequate, so that in bacterial inflammation the essential cause of the disturbance has been given time to grow and extend beyond the original focus, whereby the infection becomes unduly generalized, and even if eventually the microbes are neutralized and destroyed, the reparative forces over the larger area, the formation of cicatrices and adhesions may be so extensive as to produce deformity, arrest of action of the part and yet graver sequels.

And where germs are not primarily responsible, operation is often demanded. For instance, in cases where there are sequestra and dead tissue, which so long as they remain are a source of irritation and only slowly undergo absorption; and so long as they remain, should the reactive processes of the individual become lowered they offer a place of least resistance, and may become a focus of infection, even though unconnected with the exterior.

Another indication for operation may be here spoken of, viz.: that in conditions which have passed from being purely localized to becoming generalized, the removal of the primary focus is frequently advisable. Thus it has been noted in connection with tuberculous peritonitis, that laparotomy is more often followed with good results if it be accompanied with excision of the original focus, be it mesenteric glands, the fallopian tubes or other tissues which show signs of most advanced and oldest tuberculous change. So, also, it has been observed that in anthrax, where already general febrile symptoms have become prominent, removal of the primary malignant carbuncle may be followed by recovery.

It is impossible to cite every particular case in a general article like this, but it may be said that when the indications are that an inflammatory focus can be freely excised with a reasonable expectation of thereby removing satisfactorily the cause of the condition and without injury to the other tissues, or subsequent disfigurement, excision is to be recommended.

But this is not always possible. For cosmetic reasons free opening may be objectionable; the part may be so situated that the prevention from infection from without after incision is difficult to guard against; the inflammation may be so extensive and the inflammatory agent so virulent that grave danger exists that the act of operating, instead of wholly removing the irritant, may lead to its spread into previously healthy tissues.

In fact there are many conditions where other form of treatment than operative is to be preferred and this consists in promoting and modifying the inflammatory reaction in the hope that thereby the tissues and fluids of the body will be able to neutralize and destroy the irritant agent or condition and bring about a return to normal.

In any given case the inflammatory reaction may be just right or it may be excessive or thirdly it may be inadequate. On nature's reaction must depend our treatment. When the reaction is just sufficient, the case needs no treatment except placebos. These are the cases in which the general health and power of resistance are satisfactory. It is our aim to bring every wound and injury to this state. This is why we render our wounds aseptic and the reason for removing foreign and dead matter. When once we have an adequate reaction no further local means are necessary.

But a more common condition we meet with is an inadequate reaction. We might at first think from the extreme redness, swelling, heat and pain which indicates a severe condition that the reaction is excessive, but these severe symptoms indicate that the forces of nature are unable to neutralize the irritant which may be virulent. And if operation is contraindicated the rational treatment is not to seek to reduce the inflammation, but to promote it and thereby improve the chances of causing local destruction of the irritant matter and lessen the chances of the infection to become generalized. This principle has been recognized, empirically perhaps

for generations. The poulticing, hot fomentations and the various methods of bringing inflammation to a head are all different means of bringing more blood to the part. The painting with some caustic in advance of a spreading erysipelas, by producing an injury and calling more blood together with its phagocytes to fight the erysipelatous poison has the same effect. The good effects of a laparotomy in cases of tubercular peritonitis are due to the additional hyperaemia and leucocytic migration which the operation induces. Irritating the ends of broken bones in cases of delayed union, either by injecting irritating substances or by allowing the patient freedom of motion, like walking with crutches, stimulates the same process. Following the same line of thought some surgeons are guarding against peritoneal infection in aseptic cases by preliminary injection into the abdominal cavity something like salt solution or some harmless irritant to stimulate in advance of operation hyperaemia and leucocytic migration. This is found in animal experimentation to render the peritoneum much more immune to infection. Surgeons of experience tell us of the little likelihood of wounds becoming infected after operation for malignant growths because here nature has her protecting wall of leucocytes thrown up about the growth.

The whole principle of the Bier treatment is that of increasing the inflammatory reaction by increasing the hyperaemia in an already inflamed area. While Dr. Bier cannot have the credit of first recognizing the principle yet to him is due the credit of systemizing treatment and bringing it to the attention of the profession. The absence of pulmonary tuberculosis in cases of chronic heart disease where there was pulmonary hyperemia was noted before his time. To increase this beneficent inflammatory hyperaemia resulting from the fight of the living body against invasion is the aim of Bier's hyperemic treatment.

Hitherto, it has been considered the physician's first duty to fight every kind of inflammation, since inflammation was looked upon as detrimental. Bier teaches just the opposite, viz.: to artificially increase the redness, swelling and heat, three of the four cardinal symptoms of inflammation. Hence all means that tend to subdue an inflammation are to be discarded. To cite an example; according to Bier, it is a direct mistake if a

physician orders an ice bag at the time of beginning inflammation for by so doing he resists the healthy reaction of the body, he suppresses the salubrious effects of the inflammation and favors the deleterious influence of the bacteria. The fact that the ice bag often brings comfort to the patient and reduces the pain, at least temporarily, does not invalidate the truth of the above dictum any more than the fact that an ice cold drink momentarily comforts a feverish patient.

This is not the place to enter into the detail of the Bier treatment. His idea that inflammation is not a process inimical to the organ and as such to be combatted, is in accord with the pathology of the situation and to quote Adami, as I have done many times before in this paper, his theory "would seem to be confirmed by the epoch making work of A. E. Wright, who has demonstrated the presence in the blood of what he designates antitropins, precipitins, lysins, and opsonins. It would seem that he has also proven to a demonstration that the opsonins are even of more value than the leucocytes as the latter are dependent upon the former for their efficiency. That the leucocytes cannot digest or neutralize the bacteria until they have been acted upon, weakened or rendered vulnerable by the opsonins." These researches would seem to show that, truly, it is not that Bier's method of hyperemia simply flushes out the inflamed area, but that the more active blood supply brings in through the efferent vessels fresh supplies of leucocytes and opsonins on the one hand, and on the other hand causes a rapid removal of the dead bacteria from the field of action.

And, lastly in this connection I will bring to your attention, briefly, the subject of opsonic treatment or treatment by vaccination. In infectious processes, we have found that the more opsonic power there is present to act upon the germ or myriads of germs, so that they will become subject to the ingestive action of the leucocytes, the more surely the irritating organism will be destroyed. If we could add by artificial means to the organism more opsonins, we could assist the combined action of the opsonins and leucocytes to the detriment of the germ. We can do this because we now know that not only the presence of living pathogenic organisms will bring about an elaboration of opsonins, but also that an emulsion of sterilized organisms will

induce the same elaboration of opsonins. We can cause to be elaborated by injection of a specific vaccine a larger supply of opsonins which will be carried by the serum of the general circulation to the locality where the germs rest.

To this end, vaccines are now being manufactured which are in reality an emulsion of sterilized organisms. By injecting the specific vaccine of the gonococcus or the staphylococcus we increase the opsonic power of the organism to that particular germ. And in cases of general or local infection where the particular organism is not known, be it staphylococcus or streptococcus or some other form of bacterial life, many clinicians are using vaccines of a mixture of the more common pathogenic bacteria, a sort of a shotgun prescription as it were, in the hope to hit the one nature needs.

This subject might be extended indefinitely, entering into the inflammatory phenomena and theory of its treatment in many different phases, but time does not permit.

DISCUSSION BY DR. F. E. CLARK.

Mr. President and Members of the Vermont State Medical Society:—

I would say that the subject of inflammation from the standpoint of a pathologist, perhaps has offered some difficulties. What I have to say in discussing this paper will be in a great measure a repetition of what you already know.

The multiplicity of terms that have been used with reference to this phenomena have made it exceedingly confusing and difficult for the average student to grasp. In this discussion, I shall endeavor to simplify the subject as much as possible.

We used to regard inflammation as a condition that is characterized by heat, pain, redness, swelling, and impaired function, but these phenomena are but symptoms of the condition and do not in any way explain the processes that are at work. It is now pretty clearly understood to be a process set up by injury and tending toward counteraction of the same. A simple and most convenient definition is that it is a reaction to injury. I would have you understand from the first that inflammation gives us no new phenomena, but that it is an exaggeration of the condition that is taking place all the time. The chief exciting causes of inflammation are mechanical, chemical, thermal, electrical and bacteriocidal. In addition to these chief exciting

causes, there are many contributing and predisposing factors such as reduced vitality, and previously existing disease.

Before we consider the phenomena of inflammation let us see what we have in every tissue to react to injury. There are principally two chief things, viz.: the fixed cells of the tissue and the vascular supply. As all tissues are made up of cells, injury causes a certain amount of destruction of these cells which subsequently has to be repaired, therefore, the reaction on the part of the cells is first degenerative, and then proliferative. Now the vascular phenomena of inflammation is the result of injury, or irritation, to the blood vessels supplying the part. This gives us marked changes in the current rate which is sooner or later followed by the formation of an exudate. I believe that because of these two reactions on the part of the cells, and the vascular supply, we can classify all inflammatory conditions under two great types, viz.: first, the exudative type and second, the productive type. Under the first, the chief characteristic feature is the formation of the exudate as seen in most acute inflammations and under the second the chief characteristic feature is the proliferation of production of new tissue such as is seen in the healing of wounds more especially in chronic productive inflammation.

There are five steps in phenomena of reaction to injury in most every acute exudative inflammation. First, the primary degeneration following initial injury. In every injury there are certain cells that are destroyed and these degenerated cells become irritants to the surrounding tissue. Take for instance the application of a drop of chloride of zinc to the cornea of the eye. Primary degeneration will follow the initial injury as destruction of the cell is brought about by the application of the irritant. The irritation produced immediately stimulates the healthy cells of the part to the proliferative and reparative process and the healing of the injury. If the injury has been a slight one, the whole phenomena is purely a cellular one, giving us first our primary degeneration followed immediately by regeneration and repair. This is one of the simplest forms of acute inflammation and illustrates the reaction of all cells to injury. It is a degenerative and reparative phenomena; on the part of the blood supply it is a vascular and exudative phenomena. From

what has been said I would have you understand that inflammation may stop at any one of these stages and go on to repair. That is the inflammatory process may consist in:

(1) A reaction limited entirely to the fixed cells of the tissue, or

(2) A cellular reaction plus congestion of the vessels, or

(3) Cellular reaction with congestion to which is added exudation of blood cells and serum, or

(4) Cellular reaction may be delayed and the exudation may be very prominent and consist largely of leucocytes (suppurative inflammation), or

(5) To the suppurative process may be added death of tissue and abscess formation (necrotic inflammation), or

(6) Necrosis of tissue may be prominent from the first (diphtheria inflammation) or

(7) Rapid necrosis of large areas of tissue may be the chief feature (gangrenous inflammation) or

(8) Bacteria may temporarily or permanently invade the blood stream (septicaemia, bacteraemia), or

(9) Productive changes in connective and epithelial tissue.

The second step in inflammatory phenomena is a vascular one and is characterized by momentary contraction of the blood vessel wall with acceleration of the current which is almost immediately followed by relaxation of its walls and a slowing of the current to almost stasis. Here also the relation of the plasma zone to the corpuscular zone is entirely changed and the whole vessel is diluted and engorged with the products of the blood stream.

The third phenomena is known as the exudative process or the formation of the exudate. In this process, we get transudation of serum, immigration of the leucocyte, diapedesis of the red blood cells or if there is actual injury to the blood vessel wall, we may have hemorrhage into the tissues.

The fourth phenomena comprises the secondary degenerative process and necrosis of the tissue. This secondary degeneration is due to the irritation set up by the dead cells of the part and the products of the exudate together with any pathogenic or pyogenic bacteria that may have invaded the wound. It is during this stage, that the greatest amount of degeneration and necrosis takes place in an active exuda-

tive inflammation with abscess formation. So long as active exudation and suppuration or necrosis are taking place, this stage will continue, and healing can not be expected until exudation and suppuration are checked or controlled, when the process passes into the fifth phenomena which is purely regenerative and reparative. Thus you will see that the phenomena present in a typical case of exudative inflammation are:

First. Primary degeneration following initial injury.

Second. Vascular reaction.

Third. Formation of the exudate.

Fourth. Secondary degenerative and necrotic processes.

Fifth. Regeneration and repair. Or putting it in other words, on the part of the cells.

The proliferative or productive inflammations are usually characterized by an increased amount of newly formed connective tissue. They are invariably the result of the more acute inflammatory processes with marked evidences of degeneration of the parenchyma or more active business portion of the organ.

EXAMINATION OF AND THROUGH THE RECTUM OF CHILDREN.*

BY

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Complaints are frequent from the proctologist in his essays directed to the general practitioner that the rectal region is forgotten in the physical examination of the patient. If this is so with adults it is doubly true in early life. Examinations of the rectum are not often made unless the parent calls the physician's attention to this area. That intra-abdominal conditions lend themselves to a much freer examination when the palpating finger is introduced through the rectum is a fact that is too often forgotten when a child is under examination. Much valuable information can be obtained in this way and a diagnosis that has been obscure may be cleared up. While it is true that in many cases such exploration would be uncalled for and unnecessary, it will be the endeavor in this paper to show in a general way when and how to use this diagnostic means.

It is well to recollect that the sacrum and especially the coccyx in infants are quite straight and that the curves of the rectum both the antero-posterior and lateral are not yet developed; only the lower-most curve being well marked. The rectum however is relatively larger than in the adult. The pelvis is shallow and the so-called pelvic organs of the adult are found to be partly or wholly abdominal in the infant.

The obstetrician should not neglect to make a careful examination of the anus and rectum of the infant he has delivered for possible malformations. If he forgets to do this his attention may be called to the fact that no *meconium* has been passed for several days, much to his confusion and what is more important the delay may jeopardize the life of the infant. When in embryonic life the perineal septum fails to separate the mesenteron from the urinary tract, a malformation or defect is produced in which there is a communication between the rectum and the bladder or urethra. If the mesenteron does not descend to, or join with, the proctodeum one of the forms of imperforate anus results.

The examiner may find (1) that the anus is absent and on further surgical exploration the rectum may be found to end in a cul-de-sac—or (2) the anus may be normal externally but ends in a blind pouch while the rectum ending in a cul-de-sac is connected with it by a septum or band.

More favorable from the surgical standpoint are the cases in which there is only a narrowing of the anus and rectum without complete occlusion or those in which there is found an imperforate anus covered with a membrane or integument. The most frequent of these conditions unfortunately is that in which there is absence of the anus, with the rectum terminating in the bladder, vagina, urethra or in a cloaca; it is a condition handled with difficulty by the surgeon and often ending in loss of life.

If the anus is absent and the rectum is a sinus only, ending in some anomalous position as the anterior abdominal wall or emptying into another structure as the vagina, delay can be counseled for some months if sufficient evacuation of feces is possible.

If the imperforation has escaped attention there will be noted on the first or second day, straining, restlessness, refusal to take the breast and later if no relief has been forthcoming dis-

*Written for the Vermont Medical Monthly.

tion of the abdomen and straining without defecation. The cases that have come to my notice did not have any vomiting or symptoms of stercoremia until after the fifth day. It seems strange that an ano-rectal deformity should be overlooked but the fact remains that most of these cases are not brought to the hospital until the infant is several days old. Where observations of the stools are daily recorded on a chart the condition is soon discovered.

Anal fissures are a source of much annoyance to an infant and in my opinion are often present when the child is said to be suffering from colic. These children give a history of constipation with rectal spasm and the feces are passed with pain and no immediate relief is obtained after the stool is passed. This should be suggestive and careful examination of the anus should be made especially if there are excoriations about the anus and the stool is blood tinged. The fissures are usually found on the posterior wall and may not be seen unless the light is good and the sphincter separated. In some cases a small speculum is necessary and for this purpose the writer uses a dilating urethral speculum. It is surprising how large a speculum may be passed if the child is placed under a general anesthetic.

Proctitis does not differ essentially from that found in adults except that the possibility of a gonorrhoeal or diphtheritic condition should not be forgotten. Syphilitic lesions about the anus are quite common in leucic children, as are condylomata but the diagnosis usually offers no difficulties.

A prolapsed rectum may be confused with an intussusception that has descended through the anus. Both look purplish and have a central opening but in the graver condition the finger can be introduced below the tumor and the anal margin, and between the tumor and the sphincter; while in a prolapse the tumor merges into the anal margin itself.

Rectal tenesmus and blood after the stool or on the latter part of the mass should lead to a rectal exploration for polypi. These myxo-adenomata are usually pedunculated, rarely sessile and sometimes more than one are present. They are rarely found above the reach of the finger. If one is protruded a search should be made for others above.

Closer connection with our tropical colonies may bring in some cases of polypoid adenomata due to the bilharzia. Darcy Power has described these cases in Egypt and tells us that they are due to the irritation produced by the ova of the bilharzia hematobia. The polypi themselves contain the eggs and in the urine which is usually bloody the bilharzia is found, rectal tenesmus, bleeding and diarrhoea accompanying this chronic condition.

The well greased index finger in the case of the child, or the little finger in the infant, can be used for rectal exploration of the abdomen and with the help of the other hand, bimanual examination is easily made. The abdominal wall is usually thin and offers little or no resistance to the palpating finger. As a rule no anesthetic is required, as the sphincter relaxes easily, the discomfort is temporary. The child should lie on its back with hips elevated, and the thighs flexed on the abdomen, the examiner standing on the right side of the patient explores with the well lubricated finger of the right hand, and uses the left hand for abdominal palpation. The operation is reversed for the left side of the body. Any abnormalities, new growths, or diseased conditions of the structures and viscera in the lower abdomen can then be palpated.

In cases of tuberculous peritonitis the abnormal omental thickening and the matting of the intestines, can often well be made out, the diagnosis confirmed, and the prognosis made more definite. Enlarged mesenteric and retro-peritoneal glands are easily palpable by a sweeping motion of the introduced finger without the necessity of changing hands.

Intra-abdominal sarcomata can be quite definitely located; calculi in the bladder or ureters palpated, malformations of the kidneys or enlarged kidneys, as in hydro- or pyro-nephrosis may be distinguished.

Thus it is made evident that in an abdominal case where the diagnosis is not absolutely clear and uncomplicated, we cannot afford to pass judgment upon a given case without recourse to a thorough examination through the rectum.

After the extraction of a foreign body from the cornea, a drop of castor oil between the lids will ameliorate the pain.—*Merck's Archives*.

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EDITORIAL.

As a prophet is rarely honored in his own country, the local health officer is seldom given the appreciation which his office and efforts demand. Few of the laity and—be it said with shame—not many of the medical profession, realize the importance of a competent health officer and the seriousness of his work. Often unaided and not infrequently opposed, he stands as the sole safeguard of his community against the ravages of epidemics and disease. On his decisions may hang the lives of scores of people.

Fortunately in Vermont, the appointment of health officer has been as nearly as possible taken out of politics and now rests entirely at the discretion of the State Board of Health. This is the first step toward improving the status of these important public servants. The rest for the present at least remains first with the health officer himself and secondly with the town or city he serves.

The local health officer through association of the ideas of his constituents has in many instances come to think of his office as a subordinate one and it is partly due to such a feeling that he does not now command a higher regard. Public health officials now plainly see signs of a time when even more will be demanded of the health officer than at present and recognition of his importance will be brought about by sheer force of circumstances. Already the question regarding quarantine and prevention of disease requires a technical knowledge which is not possessed by the average practitioner of medicine and with every one of the now fast occurring discoveries in preventive medicine these questions become more complex. The health officer comes to be looked upon as a specialist in his line in the same way as a surgeon may be. If he is a man fit to meet such responsibilities, he can aid in the development of this condition. He must necessarily acquaint himself with the latest methods of disease prevention, stand guard over the water and food supplies of his community and be ready and willing to serve as public consultant in any case where contagious disease is suspected. He must be the adviser of school teachers and parents in every case of public health and show by precept and practice how the welfare of the people may best be conserved. In addition to all this, he may adopt the lecture platform as a means of instruction, making use of lantern slides himself and obtaining the services of other public health speakers. These and other ways which may be suggested by local conditions surely mark out the lines of progress which the local health officer must take to retain the respect which is due his office. The part of the town lies in the direction of compensation. No man who has not an independent income can devote sufficient time and attention to the problems now confronting the health officials, while the salary is such as is generally paid.

It is proverbial among public officials that the health officer is the poorest paid of any. For this reason medical men often refuse to accept the office, preferring unfettered private practice to the poorly paid, little appreciated and much criticized duties of public office. If the present signs amount to anything, the time is not far distant when towns will be forced to make an allowance for the salary of a health officer sufficient to maintain him without the necessity of doing other work. The time and knowledge required will demand it. With the changing public health conditions it may be that the position of health officer could be made a county office instead of a local one. In a county largely rural, this would probably work out advantageously to all with more efficient service than could be given by individuals in small districts. A county health officer equipped with a suitable conveyance could look after the quarantining and fumigation of contagious diseases and attend to public nuisances while the issuing of various permits could be assigned to local deputies at a cost only of the fees received. Such an organization has been tried and found quite successful. No branch of science is making more rapid strides of progress than that of preventive medicine, which is in reality public health service, and the day of the thoroughly trained and adequately paid health officer is without doubt near at hand.

While there has been a gradual diminution in the occurrence of and mortality from almost every disease to which man is heir, and while the span of human life as a result of the knowledge of etiology of disease and consequent to that of methods of prevention and cure, has been constantly increasing, the death rate from cancer has been on the increase. The mortality statistics recently published in the

Report of the Registrar Examiner of England, shows a steadily increasing annual death rate from this cause, from four hundred and forty-five and six-tenths per million during the five year period following 1870, to eight hundred and forty-six during a similar period following 1900, and nine hundred and twenty for the year 1908. Dr. Councilman whose constant study of this problem for the last ten years makes his opinion of special weight commenting on this phase of the problem in an address before the Cancer Commission of Harvard University, said that he had found after a careful analysis of statistics from all sources, and after making allowance for the absence of epidemics, and other factors favoring the preservation of life, to the cancer stage, an increase in the prevalence of cancer to be undeniable. Up to the present time cancer has presented the most baffling problem that the student of human pathology has had to wrestle with. The fact that it seems to follow none of the established laws of the other diseases, chronic or acute, communicable or non-communicable; that it attacks more frequently those dwelling in prosperous and hygienic surroundings; that poverty, alcoholism or vice, seem to play no part in the etiology, have seemed to place it apart from all other known maladies; while its steady increase in spite of all the means for fighting it, which have been devised by man after the patient and painstaking study of years, seems to indicate that it is in some way a part of the inexorable price which we must pay for the civilization which we enjoy. Up to the present, research has accomplished much toward clearing up the nature of the malady but little which promised hope of diminishing its mortality or alleviating the sufferings caused by it. It has been proven that it is in many instances at least, communicable from man to certain animals (to mice and rats) and from one animal to another. It has been

shown that mice acquiring the disease and developing considerable tumors, would occasionally spontaneously recover and furthermore, that these cured mice could not be subsequently infected. Erlich has further proved that an immunity can be induced in animals by introducing into their circulation, cancer tissue of weak virulence. All this points towards a reaction of immunity, thus indicating that in these cases at least, the disease is comparable to others and better understood self limiting infection. Now at last the results of Hodenpyls' experiment with the injection of acetic fluid from a case of human carcinoma which had undergone spontaneous recovery seems to prove beyond peradventure that these principles of immunity, are applicable in this most puzzling of pathological problems. The case which led to these apparently epoch making observations, is in itself, a remarkable one. The wife of a New York physician developed carcinoma of the breast at thirty-eight years of age; operation was followed by recurrence in and around the scar and metastasis, in lymphatic glands and liver. When beyond any hope from further surgical intervention, to the surprise of every one, the patient began to show signs of improvement, and ultimately recovered, the carcinomatous growth being replaced by scar tissue. Although apparently absolutely free from the original malignant trouble, the woman was left with a scarred and sclerotic liver which resulted naturally in ascites. Dr. Hodenpyl conceived the idea of trying the effect of this fluid on other cases of malignant disease, the results were beyond his anticipation. Dr. Hodenpyl describes them in the following words:

"After experimental tests of the harmlessness of the fluid, first in animals, then in human beings, injections of the fluid in cases of carcinoma of various types in man were undertaken. These injections have been made in small quantities

near or directly into the tumors, or in large quantities into the veins. The general effects of these injections in man has been nearly uniformly to induce a temporary local redness, tenderness, and swelling about the tumors, which soon subside. Then occur softening and necrosis of the tumor tissue, which is now absorbed or discharged externally, with the subsequent formation of more or less connective tissue. In all cases, the tumors have grown smaller; *in some they have disappeared altogether*. In no instance has any tissue in the body, other than the tumor, shown the least reaction after the injections, nor have any systemic efforts been manifest even after large venous infusions.

The greater number of the forty-seven cases thus far treated were distinctly unfavorable. Many of the cases are still under observation by the writer or by other physicians in and out of New York."

These results contained the greatest promise of the solution of the cancer problem yet achieved. They seem to prove the theory that the factors of immunity so well understood in acute infectious diseases, are operative to some extent with cancer, and suggest that once susceptible animals of sufficient size are found, a serum of curative value may be developed. Such animals have not as yet been discovered but it is hardly conceivable that this will be a permanent obstacle when one's attention is earnestly turned in this direction. Once found the analogy indicates that such animals may be inoculated, as in the case of Erlich's mice first with weak cancer strains and then after developing approximate immunity, with stronger strains until there appears in its blood, cancericidal serum of curative power. That there may be opportunity of carrying on these researches, the Harvard Cancer Commission are contemplating the establishment of a hospital for incurable cancer cases, under the charge of the commission. Here these

cases otherwise incurable can be carefully watched and the effects of various sera tried upon them noted. This will be a new departure in experimental pathology and will furnish in an unobjectionable form, the means of human experimentation never before offered, supplementing laboratory investigations in a manner which should be productive of important results.

The question of the disposal of garbage and refuse is one which should be seriously considered by boards of health, particularly during the summer months. Garbage consists of table and kitchen waste, which if allowed to stand, becomes sour, putrid and foul smelling. While it may not contain actual disease bacteria, it is a fruitful breeding place for flies and other insect parasites, and soon becomes a nuisance. The usual method of disposal is by feeding to swine or poultry—probably as good a method as any if it can be fed while fresh. But in the larger towns and cities where collections are made only once or twice a week, ample time is allowed for putrefaction to begin, and it is very doubtful if such material is fit even as animal food. Burying in the ground, rendering to extract the grease and incineration or burning, have all been tried and in most cases discarded as being too costly, or creating a public nuisance. The method now much in vogue in English cities and which is being gradually introduced into this country is one by which not only the garbage, but the refuse consisting of papers, rags and other rough material and ashes, are all collected together and destroyed by burning under forced draft. With a properly constructed plant and efficient handling this mixed refuse is entirely self-combustible and the resulting clinker is useful for purposes of filling or may be used as a foundation for cement or paving blocks. The mixed collection mitigates the odor

and dust occasioned by separate gathering and the destructors are said to be without offense in any way. The system seems to be applicable to towns and small cities as well as to the larger centers and will no doubt become more generally in use during the next few years.

COMMUNICATIONS.

To the Editor of the Vermont Medical Monthly:

Sir:—Permit me to call to the attention of the State Board of Health of Vermont through your columns what seems to be an omission in the Pure Food laws of Vermont. This is the non-supervision by the health authorities of the food sold to the patrons of hotels, restaurants and other public eating places. While the stores may not sell an adulterated, misbranded, colored or artificial article of food or even an innocently artificially preserved article of food without labeling it to conform to our rigidly enforced law yet the public eating places may and do without breaking the law and without shame place before guests artificial foods that would be condemned utterly by the Board of Health if they were to apply the same test to it that they compel the retail store keeper to submit his goods to. And butter that in no way is butter except in color and that is artificial is served to the person who eats at many public places. There is no inspection of the food at eating places and they sell by the mouthful to unsuspecting guests such food that a retailer would be prosecuted for selling if he did not tell the purchaser of it that it was artificially preserved or colored.

JOHN S. WHITE.

ANNOUNCEMENT BY THE BOARD OF LICENSE CENSORS.

Vermont State Board of License Censors announces that reciprocity has been arranged with the eighteen following states:

Arkansas, Illinois, Maine, New Hampshire, North Dakota, Wisconsin, Nebraska, Indiana, Maryland, New York, Ohio, Wyoming, Virginia, West Virginia, Michigan, New Jersey, Texas, District of Columbia.

In the case of Virginia, reciprocity has only opened to those who obtain a rate of 80% in

their examinations; 75% being the passing rate in this state.

The examinations are open to those who have completed the studies of the second year in a medical school and such subjects as they pass will be credited in the subsequent examination given after graduation.

UNIVERSITY OF VERMONT COLLEGE OF MEDICINE.

The University of Vermont College of Medicine has prepared a special program of Post Graduate Work for the week beginning May 16th.

It has been the aim in arranging this program of demonstrations, lectures and clinics to provide a course of instruction on some of the more important subjects calling attention to the importance and application of some of the more recent advances in medicine.

Graduates of medicine are cordially invited to attend these exercises. There will be no expense in any way for the course, and it is hoped that many may be able to avail themselves of this opportunity.

It is the intention of the Faculty to provide a special course for the physicians of the state each year.

May 9, 1910.

The program of exercises for Post Graduate Week, May 16-20, inclusive, University of Vermont College of Medicine, is as follows:

MONDAY.

2.30 p. m.—The Early Diagnosis of Tuberculosis, demonstrating tests, Dr. Jenne.

3.30 p. m.—Principles and practice of Serum and Vaccine Therapy, Dr. Stone.

4.30 p. m.—Demonstration of the Relations of Thoracic to Abdominal Viscera, Dr. Tinkham.

8.00 p. m.—Discussion of the Treatment of Pneumonia, Drs. Kelly, Jenne, Beecher, Clark and Norton. General Discussion.

9.00 p. m.—Collation.

TUESDAY.

9.30 a. m.—Pathology of Diseases of the Kidneys, Dr. Clark.

10.30 a. m.—The Interpretation of Stomach Symptoms and Significance of Findings in Examination of Stomach Contents, Dr. Kelly.

11.30 a. m.—Technique and Interpretation of Blood Examinations, Dr. Stone.

2.30 p. m.—Medical Clinic, Diseases having Abnormal Arterial Tension with Method of Determining Arterial Tension, and a discussion of the drugs which modify it, Dr. Jenne.

4.30 p. m.—Experimental Study of the Effects of Certain Drugs on Arterial Tension, Dr. Scane.

8.00 p. m.—Puerperal Fever, Dr. King.

General Discussion of Treatment.

9.00 p. m.—Collation.

WEDNESDAY.

9.00 a. m.—Surgical Clinic, Drs. Wheeler and Tinkham.

2.30 p. m.—Pathology of Cardio-Vascular Diseases, Dr. McCrae.

3.30 p. m.—Pathological Reflexes, Dr. Shirres.

4.30 p. m.—Medical Clinic. Disorders of the Myocardium with Special Reference to the Recognition of the Functional Capacity of the Heart, Dr. Kelly.

8.00 p. m.—Lantern Demonstration of Some of the More Important Conditions in Nervous Diseases, Dr. Shirres.

9. p. m.—Collation.

THURSDAY.

9.00 a. m.—Surgical Clinic, Drs. Wheeler and Tinkham.

2.30 p. m.—Medical Clinic, Valvular Diseases of the Heart, Dr. Beecher.

4.30 p. m.—Outline of the Treatment of Gonorrhoea with Special Reference to Determining When the Disease is Cured, Dr. Townsend.

8.00 p. m.—Discussion of the Diagnosis and Treatment of the Disorders of the Upper Abdomen, Drs. Wheeler, Kelly, Tinkham and Jenne. General Discussion.

9.00 p. m.—Collation.

FRIDAY.

9.00 a. m.—Clinic, Orthopedic Surgery, Dr. Shands.

NEWS ITEMS.

Dr. and Mrs. C. W. Peck are in New York City, where Dr. Peck expects to undergo a surgical operation.

Fire destroyed the large hen house at the Vermont Sanatorium at Pittsford, March 31st, and a large number of young and old birds were burned, together with about twenty-five pigs that were housed in the same building. The loss is estimated at several hundred dollars and the insurance is \$400.

Dr. D. B. Smith of Plainfield was found dead April 20th on the floor of one of the rooms of his residence. He had lately suffered two strokes of paralysis. Dr. Smith was 75 years of age and had lived in Plainfield over 40 years. He once represented Plainfield in the Legislature.

Two deaths from scarlet fever occurred at Rutland, Wednesday, April 27th and there are twenty-five other cases in the city, seven in one family.

Dr. David Marvin was re-elected president of the village of Essex Junction at the annual village meeting held April 30th.

Dr. Everal C. Haviland for many years first assistant physician at the Brattleboro Retreat, has resigned that position. For the present he will remain in Brattleboro.

The Brooklyn, New York *Life* of April 23rd announces the engagement of Miss Edith Walbridge of that city to Dr. George R. Anderson of Brattleboro, Vt.

Dr. C. B. Hammond of Nashua, N. H., died suddenly April 8th.

Dr. Arthur Lamoureux has returned to Montreal from Somersworth, N. H., for the purpose of study.

Dr. O. N. Eastman has located in Dover, N. H.

Mrs. Erskine, wife of Dr. J. B. Erskine of Tilton, N. H., died April 15th after giving birth to twins, one of whom survives.

Dr. Park R. Hoyt of Lakeport, N. H., has returned to his home town to practice.

Dr. Thomas J. Dougherty of Somersworth, N. H., was recently re-elected mayor of that city. This is his second term and he was elected both times by both parties—no candidate running against him. He also has served as chairman of the school board for several years.

Dr. Burrell of Boston died on Wednesday, April 27th, aged 53 years, of cardiac trouble. Dr. Burrell was a native of Boston and a graduate of the Harvard Medical School, class of 1879. For several years he held the chair of surgery in that institution and was one of the well known surgeons of Boston. In 1907 he was made president of the American Medical Association and he served his term most acceptably.

The New York State Department of Health has arranged a course of lectures, laboratory exercises and demonstrations which is offered free to all health officers in New York State who desire such opportunities for modern training in public health work. The first course of the year will be given in Albany during the week beginning May 9th. The period will begin with introductory work at the State Hygienic Laboratory and will be continued throughout the week with morning and afternoon sessions. There will be no charge either for instruction or for the use of the laboratories and apparatus. A full corps of teachers has been provided to aid in the individual work in the laboratories.

The meeting of the American Medical Association will be held in St. Louis, June 6th to 10th, 1910. A special train consisting of buffet, library, smoking car, dining car, standard Pullman sleeping car, and state-room observation car, will start from New York, Grand Central terminal, Sunday, June 5th, at 5.30 p. m. The fare for the round trip from New York by this train is \$36.40.

The twelfth annual meeting of the American Proctological Society will be held at St. Louis, at the Planters' Hotel, June 6th and 7th, 1910.

The forty-first annual meeting of the American Medical Editors' Association will be held at Planters' Hotel, St. Louis, June 4th and 6th, 1910.

Fabry and Zweig report excellent results from the treatment of warts, corns, and tylosis with carbonic acid snow.

"I knew you was going to vaccinate me and sister," said the little East Side girl to the young doctor from the board of health, "but we didn't know what arm, so we washed both."

The appearance of an epidemic of goiter in San Pete, Iron, Sevier and Cache counties, Utah, during the past year, led the State Board of Health under Dr. Theodore B. Beatty to investigate the cause. Dr. John Sundwall, professor of anatomy at the University of Utah, has conducted the investigation. He found that in the small town of Monroe, eight per cent of the female population and five per cent of the males were afflicted. In certain districts further south, it is found that more than half the women were affected. Dr. Beatty states that chemical tests show no constituents in the water not found in other regions where goiter is not prevalent. Geologic conditions will also be investigated.

The State Board of Health of Virginia has let the contract for six new buildings at the State Tuberculosis Sanatorium at Catawba. When completed this will give the sanatorium a capacity of one hundred and twelve patients.

Cards have been sent out for a reunion of the alumni of the Johns Hopkins Medical School on May 6th and 7th. There are about 600 graduates and this will be their first meeting since 1893, when the school was opened. The object is to effect a permanent organization.

Governor Hughes has signed the bill providing that persons who sell or furnish cocaine or eucain as permitted by law, on a physician's prescription shall, at the time of sale give to the purchaser a certificate stating the seller's name and address and the name and address of the physician on whose prescription the drug was furnished, and the date of sale and the amount sold.

A play in which all of the characters represented bacteria was produced recently by the women students of the bacteriological department of the University of Wisconsin. The play, which was entitled "Germland," represented the conflict between the human race and bacteria. It was produced under the direction of Dr. M. P. Ravenel.

Dr. George F. Simpson of North Adams, Mass., died at his home April 10th, 1910, aged 64 years. He was a graduate of the University of Vermont in 1873, and for many years was Health Officer of North Adams.

Dr. Newton Stephen Bell of Windsor, Conn., died at his home, April 11, 1910, aged 70 years. He graduated from the University of Vermont in 1864. Dr. Bell had been medical examiner and health officer of Windsor. He was a member of the Hartford County Medical Society and the Connecticut State Medical Society.

Paul Schmidt, who was arrested some time ago on the charge of practicing medicine without a license, brought suit against the New York County Medical Society for \$100,000 and a verdict in his favor was rendered to the amount of \$7,500.

The bi-monthly meeting of the Burlington and Chittenden County Medical Society was held at the College of Medicine April 22nd. A paper on the management of Venereal Disease was given by Dr. Seymour Reynolds of New York City.

A meeting of the Caledonia Medical Society was held at the Avenue House in St. Johnsbury, April 14th. Papers were presented by Drs. Allen of St. Johnsbury, Townsend of Rutland. After the meeting a banquet was tendered to the society and invited guests by Drs. Cramton and Allen.

The annual meeting of the Connecticut River Valley Medical Association was held at Hotel Rockingham, Bellows Falls, Vt., on Tuesday, May 3, 1910, at 1 o'clock p. m., with the following programme: President's Address, Dr. J. D. Proctor, Keene, N. H.; Some of the Less Common Rectal Diseases, Dr. D. C. Hawley, Burlington, Vt.; The Organic Causes of Indigestion, Dr. J. M. Gile, Hanover, N. H.; Carcinoma, Dr. H. C. Tinkham, Burlington, Vt.; Reports of Cases and Discussion.

A meeting of the Rutland County Society was held in Rutland the first week in May. Papers were presented by Dr. H. C. Tinkham of Burlington and others.

The Burlington and Chittenden County Clinical Society held its bi-monthly meeting at the Medical College Friday evening, May 6th, at 8.30 p. m., with the following programme: In-

testinal Obstruction in Children, Dr. R. F. Dennett. Refreshments were served.

A reunion of the graduates of McGill University Medical College is being arranged for June 6th and 7th. At that time, it is expected that new buildings which are being erected for the accommodation of medical faculty and to replace those which were destroyed by fire three years ago, will be ready for occupancy. The following provisional program has been arranged: Monday, June 6th, Informal lunch at the McGill Union. Opening Ceremonies and Convocation. Addresses. Conversation. Tuesday, June 7th, Class Reunions. Clinics and Demonstrations in Hospitals and Laboratories. Private Entertainments. Banquet.

Mrs. Katie I. Anthoin, wife of Dr. Isaiah Anthoin of Nashua, N. H., died April 21.

Announcement has been made that Mrs. Helen Hartley Jenkins has made to New York University a gift of \$100,000 for the endowment of a chair of medicine in the University and Bellevue Hospital Medical College. The gift was made through Dr. A. Alexander Smith. The foundation will be named the Marcellus Hartley chair of medicine after Mrs. Jenkins' father, who was a member of the university corporation.

The third International Congress on School Hygiene will be held in Paris, August 2-7, 1910. Dr. L. Dufestel, medical inspector of the public schools of Paris, 10 Boulevard Magenta, is secretary-general of the Congress, and Dr. Thomas A. Storey of the College of the City of New York, 139th street and Convent avenue, has copies of the circulars relating to the Congress, which will be sent to anyone upon request.

Sunday, April 24th, was designated by the National Society for the Prevention of Tuberculosis as Tuberculosis Sunday. Addresses on the subject were given in a large proportion of the churches throughout the country.

Dr. W. Burton Thorning, wife and child of Winchendon, Mass., sailed Saturday morning, April 2nd, from New York for Europe to spend a year in study.

Dr. Edward B. Riley of class of '07, University of Vermont College of Medicine, has moved from Dorchester, Mass., to Aberdeen, Finch

Building, Washington, where he has opened an office for the practice of medicine.

Calvin May Fitch, University of Vermont 1849, New York University, New York 1852, for more than half a century a practitioner in Chicago, died at his country home, Twin Lakes, Wis., April 6th, from nephritis, prostatitis and bronchitis, aged 81 years.

CURRENT MEDICAL LITERATURE.

LUETIC LYMPHOMA.

D. W. MONTGOMERY and G. D. CULVER, San Francisco (*Journal A. M. A.*, February 19), describe a case of swelling of the neck resembling a lymphosarcoma, in the classic position for such a tumor. A study of the case almost confirmed this diagnosis as there was a negative history of lues given by the patient which was not modified by any admissions in view of the serious nature of the operation required for lymphosarcoma. The bad prognosis of such procedures, however, induced the authors to try a vigorous antisyphilitic treatment by injections and by the mouth which proved successful. Later information gave a suspicious history confirming the diagnosis. The diagnosis of these cases is discussed at length, and the rarity of luetic lymphomas noted. The authors suggest for such cases that the proper attitude should be to consider the possibility of syphilis and to use a very vigorous course of antisyphilitic treatment before assuming that there must necessarily be a malignant lymphosarcoma to treat, necessitating an almost hopeless surgical operation.

DR. A. F. A. KING (*Washington Annals* for March) presents an interesting discussion on the possible relation of the mouse to measles. After acknowledging his lack of experimental demonstration, and clinical proof, he cites instances in which measles apparently followed contact with straw. He next cites the well-known fact that measles occur during the months that mice remain indoors. He then shows a certain relationship between the published death rates from measles and the occurrence of mouse plague and shows an exemption of certain islands from mice and measles. He then proceeds to show how measles if primarily a disease of the intestinal tract of mice, might be easily transmitted through the agency of dust to the human respiratory passages.

VACCINE THERAPY IN COLON BACILLUS INFECTION OF THE URINARY TRACT.

FRANK BILLINGS, M. D., Professor of Medicine at Rush Medical College, in the *American Journal of the Medical Sciences* (May, 1910) describes the method and results of treatment of infections of the urinary tract by using vaccines. Such infection is common, and may or may not be attended by definite symptoms, or associated with pathological conditions in

the tract, such as urinary calculus, tuberculosis, gonorrhoea, or other bacterial infection. The bacteriemia may be from the colon bacillus alone or from a mixed infection. Some systemic conditions, such as chronic arthritis seem to be related to the colon bacilluria. The germs may gain access to the urinary tract by the urethra, but far more often by the gastro-intestinal route, especially when the mucous membrane is injured by continued diarrhoea or constipation.

The diagnosis of the condition is made by microscopic examination of the urine and by cultural methods, and a careful physical examination of the patient is indicated before treatment is begun, to ascertain if there be any anatomical faults present which would tend to perpetuate the condition, such as enlarged prostate, stricture, calculi, pressure obstruction, etc. If any such faults are present they should, as far as possible, be corrected.

Of the cases of bacteriemia seen at the medical clinic of Rush Medical College, over one-half were found to be infections with the colon bacillus, though gonococci were often present also, as were other bacteria, some of which were unrecognized. The accepted treatment for colon bacillus has consisted of rest, liquid diet and urinary antiseptics, a long and often unsatisfactory procedure. For the last five years, however, the author and his associates have been employing autogenous vaccines with good results, and he briefly reviews several cases, some complicated with tuberculosis or other trouble, in which the vaccines were successfully used. It is his conclusion that improvement may follow such treatment in all cases, but that surgical interference may be necessary to correct anatomical faults before entire recovery can occur.

The bacilli isolated from different cases have differed in size, cultural characteristics, etc., so that it has appeared advisable to use autogenous vaccines. Stock cultures have not been tried. The vaccine used consists of fresh suspensions of bacteria killed by heating for 30 minutes at 60° C., and the usual first dose has been 200,000,000, later increased according to the reaction, with 1,000,000,000 as the maximum. Absolute rest and liquid diet improve and hasten results of treatment.

A local inflammatory reaction at site of injection begins an hour or two after the vaccination, and a general systemic reaction, malaise, fever, etc. occurs somewhat later. That the vaccine is specific is shown, the writer holds, by these reactions, as well as by our increased opsonic index, and by immunity later.

THE UNIVERSITY AND THE MEDICAL SCHOOL.

J. G. SCHURMAN, President of Cornell University, Ithaca, N. Y. (*Journal A. M. A.*, April 16), says that while he is persuaded that no medical school of the highest class can be maintained apart from a university, he is also fully persuaded that the idea that the university needs a medical department to round out and complete its organization is not necessarily correct. The word university signifies a guild or corporation, it has nothing to do with universal knowledge. In view of the costliness of medical education the first advice he would be disposed to give to a university proposing to start a medical department would be the single word "don't." Institution ambition is as unhallowed a motive for the multiplica-

tion of medical colleges as is that of personal gain or professional advantage, which have filled our country with low grade institutions. There may be a first class university without a medical department. If there is no first class medical college in the state or locality and the university has both the opportunity and the funds, by all means let the university start a medical department, but it should have a vital organic connection with the university. The medical department should be animated by the spirit of the university and controlled by its standards and a genuine department is as likely to receive endowments as any other department, for nothing appeals so strongly to the interests and sympathies of generous persons of wealth than does the prevention and cure of disease. Besides putting the medical school on a proper and dignified basis the university can inspire it with its educational ideals. Technical and professional education is arid and narrow unless it is interfused with a broad and general culture in the sciences and liberal arts. Physicians and surgeons are not mere practitioners. The university must train them for manhood and citizenship also. We have now reached a point in the higher education of the country in which it is recognized that the proper time to begin professional work or specialize for it is at the end of the sophomore year in college and that is the minimum desideratum at the present time though some institutions would prescribe even a longer time of preparation. As regards subjects of study which should form the preparation for the medical studies, Schurman would name the English language and literature, French and German, history, economics, advanced algebra and trigonometry, and chemistry, physics and biology. To these he would add another, the importance of which is not fully realized by medical men, and that is modern experimental psychology. If a young man has received a thorough training in these subjects he may be regarded as a liberally educated man and as scientifically qualified for admission to a medical college. The last service which he mentions that a university can and should perform for a medical college is to provide it with capable and devoted teachers and investigators imbued with the spirit of research. Our medical faculties are sadly in need of reorganization in this regard. There is no difficulty in applying the rule that the instructors should give their whole time to instruction and research to the professorships of anatomy, physiology, and biochemistry, pathology, and bacteriology. There is some difficulty, however, when we come to the practical professional branches, for men are not qualified to teach medicine, surgery, etc., unless they are engaged in the treatment of the diseases involved. Schurman thinks, however, they should give a fixed portion of their time and work to their subjects and not merely the fag ends of their time, and if the rest of the time were not devoted to general practice but to consultation work and work in a hospital controlled by the college we would probably have the best solution of the problem.

VACCINATION.

J. F. SCHAMBERG, Philadelphia (*Journal A. M. A.*, March 19-26), gives a history of vaccination, including statistical tables showing how it has suppressed smallpox in various countries and how others suffer from its neglect. The immunity from smallpox which it

affords cannot be better illustrated than by the freedom from the contagion enjoyed by physicians and nurses in smallpox hospitals. He takes up also the subject of animal experimentation, showing how we have learned beyond question that vaccine virus can be developed from smallpox virus by inoculation into calves. This enables us to always have a fresh supply and also insures the advantages of the use of bovine virus from a fresh source whenever needed. His conclusions are given as follows: "1. Vaccination, when properly and adequately employed, protects one against smallpox. Even those intimately exposed to the disease, as physicians and nurses in smallpox hospitals, may be rendered completely immune against smallpox by vaccination and revaccination. 2. Vaccination protects against smallpox in the same manner that one attack of the smallpox protects against a second attack. Vaccination has the special advantage, in that the immunity which it confers against smallpox may be renewed when it becomes impaired or exhausted. 3. Vaccination in order to confer protection must be genuine: the mere production of a "sore arm" is of itself no proof that the subject has been successfully vaccinated. The vaccination must run a definite course before a protective substance is left in the body. 4. Smallpox may develop in vaccinated persons if they have permitted years to elapse without being revaccinated. 5. Vaccination and revaccination universally applied are capable of exterminating smallpox as an epidemic disease. The experience of Germany during the past thirty-five years proves this. 6. In isolated instances, individuals in a generally well-vaccinated community may develop smallpox because their protection is imperfect as a result of the use of an inert virus or because of some other fault of technic. These cases, however, will never appreciably influence the prevalence of the disease in such a community. 7. Smallpox was an ever-present and terrible pestilence in the days before vaccination. In most civilized centers it is today a relatively rare disease. This change has been effected almost exclusively by vaccination. Epidemics of smallpox prevail from time to time when the spark of infection is introduced into the community and a sufficient amount of unvaccinated combustible material exists to lead to a general conflagration. In countries where vaccination is neglected, as in Persia, Asiatic Russia, etc., smallpox is still a death-dealing scourge. 8. The foes of vaccination commonly refer to the infrequency of smallpox at the present day and to the remote liability of contracting the disease. They forget that the relative security which we now enjoy is caused by vaccination. This security can be made absolute or it can be largely destroyed according as vaccination and revaccination are generally employed or generally neglected. 9. The dangers connected with vaccination have been greatly exaggerated by the opponents of this measure. Vaccination causes an abrasion of the skin and in rare instances this wound, like other wounds may become infected, especially when neglected or maltreated. With the selection of a proper virus and care of the vaccination site during and after vaccination, the risk in any individual instance is an entirely negligible quantity. The risk connected with vaccination is infinitesimal compared with the peril of remaining unvaccinated." Schamberg considers the use of calves for the propagation of vaccine lymph the most important improvement in vaccination since its discovery over a hundred years ago. A number of charts accompany the article.

CHRONIC BACKACHE.

EDWARD REYNOLDS and R. W. LOVETT, Boston (*Journal A. M. A.*, March 26), have experimentally and clinically studied that form of backache in which the pain is dull in character, felt in one or both sacro-iliac joints and sometimes extending down the leg, is aggravated by standing and relieved by the use of cushion to the lower back when sitting or recumbent. Local tenderness may or may not be present. The nervous element may be slight or may predominate. It has been called hysterical spine, neurasthenic spine, irritable spine, weak back, and among the laity is often attributed to kidney disease. The cause of the condition was the object of their investigation. In women, in whom it is most frequently encountered, it is generally referred to a gynecologic disorder. The authors took up the mechanics of the erect posture and describe their methods of experimentation in detail. They used nude female models obtained from the art school, preferring females because the disease usually occurs in them. Starting with the determination of the center of gravity in the erect position which must fall within the trapezoidal area formed by the feet, and the muscular apparatus required to maintain it, they took up their experimental studies on the disturbances of balance. They first discuss the effect of corsets on balance, distinguishing the various forms of corsets as good, bad and indifferent. The great majority are of the latter class. The bad type is that which produces the form of backache here discussed. They exert their greatest pressure at the waist and are capable of exerting pressure at top and bottom only against the back. They uniformly shift the center of gravity backward. The good form of corset is also described. It should fit tightly in the space between the trochanters and the iliac crests and over the iliac crests and above them it should merely fit the patient, snugly in the hollow of the waist in the back but not be hollowed in in front, where it should be straight without constriction at the waist. It should be laced in three sections, sacral, lumbar, and dorsal, the sacral as tight as can be borne, the lumbar snugly comfortable, and the dorsal as loose as comfortable. The effect on balance of corsets and high heeled shoes are considered separately and together, and a number of clinical cases are reported. The treatment is discussed under the heads of the causes. 1. The gynecologic or intrapelvic origin. 2. The orthopedic or mechanical of static origin. 3. The borderline cases, which are frequently encountered but are indefinitely distinguishable from the others. Static backache is frequently a prominent symptom of intrapelvic growths and then calls for operation. On the other hand, many of the pelvic ptoses are secondary to sexual abnormalities which should be first corrected and the question as to which is primary is important in the treatment. The natural efforts of the patient to relieve the pain of pelvic disorders produce abnormal positions and static defects, and then the pelvic tenderness should be first relieved. In cases of static origin, the orthopedist will be wise to refer the case to the gynecologist for preliminary examination, especially when there are symptoms of intrapelvic disease. The accepted orthopedic treatment is unsatisfactory in most cases. As a practical conclusion they find that proper corsets properly applied relieve the backache by correcting vicious balance, by carrying the center of gravity backward, relieving

muscular strain, partially splinting the lower back and furnishing an artificial annular ligament to the glutei muscles. High-heeled shoes, when comfortable, also carry back the center of gravity and may be recommended temporarily. Many patients are relieved by the use of corsets and high-heeled shoes alone, but in the severe cases the active day should be a short one and recumbency insisted on for several hours a day. The general condition of course should be attended to from the outset. It is a common mistake to overdo the massage and exercise treatment at first. The authors say in conclusion that: "We believe that static backache is essentially a mechanical disorder; that is, that it is the result of a loss of balance producing local strain on the tissues in the lumbosacral region and elsewhere in the posterior musculature. We further believe, and regard it as our most essential point, that whatever the local mechanism which produces the symptoms may be, such backache is in a large proportion of all cases not a disease in itself (as suggested by such terms as 'hysterical spine,' and 'relaxation of the sacroiliac joints'), but is a mere symptom-complex reflecting the probable presence of some determining cause elsewhere in the body. We believe that in diagnosis the local condition should be regarded as primary only after every cause elsewhere has been excluded."

SERUM REACTION AND SYPHILIS.

W. J. BUTLER, Chicago (*Journal A. M. A.*, April 2), describes and discusses the serum tests of syphilis. In connection with Dr. Mefford he has investigated the precipitate reaction with lecithin, sodium glycocholate and also sodium taurocholate, controlled by the Wassermann reaction, in 75 cases of syphilis, parasyphilis, tuberculosis, carcinoma, etc. Ninety-three per cent. of the individuals with active syphilis gave a positive result with the Wassermann reaction, a glycocholate reaction was positive in 79 per cent., the taurocholate in 61 per cent., while the lecithin was positive in 91 per cent. In the control cases the Wassermann reaction was uniformly negative. The lecithin test was found positive in fully 50 per cent. of non-syphilitics suffering from other diseases. It is therefore valueless in the diagnosis of syphilis. The others also show a small percentage of positive results in non-syphilitics. The serum reaction therefore must be considered the most reliable. It requires a considerable acquaintance with laboratory technic and immunity, as well as experience with the reaction itself; otherwise the results are not dependable. In reading the Wassermann reaction there must be complete or almost complete inhibition of hemolysis to call it positive. Butler considers it not only of decisive value, when positive, in the diagnosis of syphilis and almost equally so when negative, but also an excellent control for treatment. In the secondary stage fully 98 per cent. give a positive reaction; in the tertiary stage from 90 to 95 per cent. are positive. In latent syphilis previous treatment and the age of the infection play a part. From 60 to 70 per cent. of individuals who have not had their infection more than two or three years and in whom the disease is apparently latent and has not been treated, will give the reaction. Those who have been infected for a number of years will give a re-

action in 40 to 50 per cent. of the cases. The better the treatment in the early years the less frequent the reaction later. In visceral syphilis and in parasyphilis the reaction is obtained in from 75 to 80 per cent. of cases and would probably be more in parasyphilis as an incorrect clinical diagnosis is often accepted when the reaction is negative. In the primary stage the results vary, some authorities having observed it before the initial lesion and others think that it does not appear as soon as the initial sclerosis but a few days or weeks later. In nearly all patients given vigorous specific treatment the reaction weakens and finally disappears, though rarely before the disappearance of the symptoms. It may reappear, however, with the symptoms again, which Butler considers an incontestable evidence that it means an active process of the disease. He recommends it therefore as a guide to treatment. Patients should never be assured that they can be or have been cured, but the continuous treatment of the first three or four years following infection should be succeeded by the chronic intermittent treatment. No patient should be allowed to go longer than three months, following the chronic intermittent cures, in the earlier years, or longer than six months in later years without a serum test being made. He does not consider it safe to lay down rules as regards matrimony on the basis of this test alone, but in every case it is safe to say that the patient's blood should be negative to the serum test and the rules for controlling the case, as outlined above, should be followed. In hereditary syphilis the test is constantly positive and appears slow to disappear under treatment, possibly because the treatment is not continued long enough. For the protection of the individual he recommends the measures indicated. The apparent inconstancy of reactions in tabes are, he suggests, possibly accountable for by the fact that a large proportion of tabetics have been subjected to specific treatment, as a result of which abeyance of the virus activity may occur while at the same time the pathologic processes of tabes still progress. We know also that chronic infections may have periods of quiescence irrespective of treatment. The serum reaction is found positive in practically all cases of general paresis.

DUTIES OF MEDICAL OFFICERS.

L. B. ASHTON, Quincy, Ill. (*Journal A. M. A.*, April 2), after noting the history of modern military surgery and pointing out some of the mistakes that have been made, advocates the endowment of chairs of military surgery and sanitation in the principal medical colleges of the country and the assignment of this branch of medicine to some correlated section in the state and national medical organizations. The British Medical Association has a Section of Navy, Army and Ambulance. Ashton points out some of the duties of the military surgeon and especially as they are required in the tropical dependencies of the country at the present time, where, in the conquest of tropical diseases, American military surgeons have already earned a distinguished name. He regrets that more militia surgeons have not availed themselves of the advantages given by the throwing open of the Army Medical School at Washington, admitting them to its privileges with the regular army officers.

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Each fluid ounce represents: Black Haw, 60 grains; Hydrastine, representing 30 minims fluid extract Hydrastis; Jamaica Dogwood, 30 grains; combined with aromatics.



Utero-ovarian sedative and anodyne of the highest merit. In the treatment of functional dysmenorrhea, menorrhagia, ovarian irritability and menstrual irregularity it has been prescribed with marked success in many thousands of cases.

LIQUOR SEDANS, R₂ (WITHOUT SUGAR) has the same formula as **Liquor Sedans** except for the omission noted.

LIQUOR SEDANS WITH CASCARA is identical with **Liquor Sedans** except that each fluid ounce contains 40 minims of the fluid extract of cascara sagrada.

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Each fluid ounce represents: Red Clover Blossoms, 32 grains; Lappa, 16 grains; Berberis Aquifolium, 16 grains; Xanthoxylum, 4 grains; Stillingia, 16 grains; Phytolacca Root, 16 grains; Cascara Amarga, 16 grains; Potassium Iodide, 8 grains.



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HIGHEST THERAPEUTICAL VALUE.—Dioivurnia has stood the critical test of the most exacting physicians for years and has been pronounced of the highest therapeutical value. Can always be relied upon in all functional disorders of the uterus and appendages, whether Acute, Sub-Acute or Chronic.

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FEMALE NEUROSES.—There is scarcely a writer of prominence today who does not lay much stress upon the importance of early prolonged treatment of the primary manifestations of an almost infinite variety of nervous affections with the view of preventing the constant development of still graver troubles as well as to relieve present suffering. In the treatment of Female Neuroses, a combination of Dioivurnia and Neurosine (equal parts) administered in dessert spoonful doses every three hours will prove most efficient.

The extract of cod liver oil used in the preparation of Hagee's Cordial of the Extract of Cod Liver Oil Compound, is made under such conditions that the medicinally active principles of the oil are separated from the fatty materials without in the least changing their state of combination or solubility, so that even the most complex specific lecithine of cod liver oil is contained as such in the extract and transferred unchanged to the cordial.

Clinical experience with Hagee's Cordial, (an experience which has now extended over many years throughout the United States) justifies the assertion that its therapeutic indications are precisely those which belong to cod liver oil in its natural condition.

CLINICAL REPORTS ON CHROMIUM SULPHATE.—I have used Chromium Sulphate (Abbott) in one case of chronic nephritis with very gratifying results.

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PROSTATIC TROUBLE.—The 4-grain tablets of Chromium Sulphate (Abbott) have put to shame all other medicines I have ever used for the reduction

of Hypertrophy of the prostate in the patient of 75 years. By the time the first 100 were gone, taking four 4-grain tablets (16 grs.) per day his symptoms had all left him. Now he is able to retain his urine from 8 or 9 p. m. to 5 a. m.

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CHROMIUM SULPHATE IN SCIATICA.—In the past few months I have cured three cases of chronic sciatica with Chromium Sulphate (Abbott). One of these had been confined to the house for seven or eight months. She was so much improved after three weeks that she could get around the house and is now apparently well.

Dr. M. L. Shine.

Winthrop, Iowa.

In lieu of samples, The Abbott Alkaloidal Co., Chicago, will send 2-500's, 4-grain tablets, coated, uncoated or one of each on receipt of \$1.25.


FAITH IN DRUGS.—"The courage to try to do a thing before you know how, the patience to keep on trying after you have found out that you didn't know how, and the perseverance to renew the trial as many times as necessary until you do know how, are the three conditions of the acquisition of physical skill, mental power, moral virtue or personal excellence."—Hyde.

We do not know where this quotation is more applicable than to our friends of the old school who have been trying for years to work out some therapeutic salvation. They have many good men in the ranks; men who are broad-minded, honest and sincere, and standing foremost among them we find Drs. Abbott and Waugh. We remember distinctly, a few years ago, when we were closely associated professionally and socially with a practitioner of the old school—one of the best fellows that ever lived—who said to us that he had absolutely no faith in the use of drugs, and while he used them for their moral effect, he gave nature the credit for restoring people to health. Since that time he has been using Abbott's alkaloids and is now one of the most enthusiastic prescribers that one would wish to meet—and he is successful. He is simply one of the many of the old school who have been so instructed in the use of drugs that they get results and have faith in them.—Dr. Dale M. King, in *The Medical Counselor*.

CHLORAL HYDRATE AS A LOCAL APPLICATION.
 —Heller (*Munchener medicinische Wochenschrift*) mentions the value of chloral hydrate as a local application which possesses antiseptic and anesthetic properties and so relieves pain. In cases of lacunar tonsillitis he recommends that a spray of chloral in watery solution should be used for about twenty seconds to a minute three times a day. The strength employed is about two per cent. The writer finds it useful in treating diphtheria, Vincent's angina, and syphilitic ulceration. In nasal diphtheria when the secretion is profuse and purulent a solution of one per cent of chloral hydrate dissolved in normal saline solution has proved very useful in his hand as a nasal wash. So, too, a two-per-cent in spray is useful in ulcerative stomatitis. An additional advantage of this application is that it is not only antiseptic but deodorant.—*Charlotte Med. Journal.*

TREATMENT OF ARTICULAR RHEUMATISM.—Fully convinced that articular rheumatism in the majority of cases constitutes a pyemic process, Dr. Singer, of the Imperial Hospital, Vienna, has for more than ten years used collargol and unguentum Credé in the treatment of this disease. Unguentum Credé may be applied locally to the affected parts, or used percutaneously over a larger area, like mercuric ointment. Collargol is best used in form of enemata, $7\frac{1}{2}$ up to 75 grn. in 3 to 6 oz. of distilled water being given. In a great number of cases where the smaller joints were affected, excellent results have been obtained, although at times the remedy failed to produce improvement. Various other therapeutic agents are used at the hospital in the treatment of articular rheumatism, but in obstinate cases Dr. Singer, both in his private practice and at the hospital, always falls back upon argentum colloidal, giving preference to the Credé preparations.—Michael Spitzer, in *Med. Klinik*, Oct. 31, 1909.—*Merck's Archives.*

CONGENITAL STRICTURE OF THE URETHRA.—Gallois says that congenital stricture of the urethra is rare. It is due to the fact that the urethra is developed in three separate portions derived from different structures; the posterior urethra is developed from the cloaca, the middle portion from the urogenital sinus, the an-



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terior portion from the balanic layer. If these portions do not adhere perfectly or the lumen is not entirely hollowed out there is an opportunity for the development of stricture. The lesion found automatically is a subepithelial sclerosis, there being no changes in the mucosa. The stricture may appear acutely, or be preceded by a period of imperfect urination, frequent, with small stream, and slow. This is followed by acute retention or incontinence. The sound shows the existence of a stricture.—*Le Nord Medical*.—*Charlotte Medical Journal*.

ARTERIOSCLEROSIS.—A. G. Brown, of Richmond, Va., summarizes the treatment of arteriosclerosis substantially as follows: In the early arterial stage, a strict diet regimen and anti-toxic treatment, consisting in elimination, intestinal disinfection, diaphoresis, and diuresis. When hypertension persists, the nitrites and iodides should be given, the latter in effective doses, and kept up for a given length of time. When the blood pressure has become lowered, the intoxication relieved, the kidneys act normally, and the symptoms of arterial spasm disappear, the patients may be considered cured, though a careful observance of the prophylactic regimen must still be kept up. In the cardioarterial stage, a permanent cure is not to be expected, but much can be done to relieve symptoms and to ward off a grave termination. Relief of symptoms, elimination of intoxicants, and stimulation of kidney activity are the chief indications. This is accomplished by catharsis followed by nitrites, sparteine sulphate, etc. With the tension lower and the skin, bowels, and kidneys active, and diet carefully regulated, the use of nitroglycerin, erythrol tetranitrate, potassium or sodium iodide, thyroid extract, and general medical supervision, the disease may be arrested and the serious accidents forestalled. In the myovalvular and cardiectatic stages, which merge into each other so as to form one continued progress to broken compensation, with dilatation of cardiac cavities and frequently orifices, lowered arterial tension, more or less visceral congestion and edema, and dropsy, are to be treated with the digitalis group, theobromine, interdiction of salt intake, restriction of diet to milk, and careful elimination of fluids. In these cases, often appearing hopeless, much can be done to restore the patient to modified activity, and the subject

offers a field for the skill of the best powers as physicians.—*Jour. A. M. A.*, Jan. 8, 1910.—*Merck's Archives*.

CHINESE PRACTICE.—It is commonly understood that the Chinese family physician is under salary while his patients are in health. When sickness supervenes, accounts differ, some saying that his salary ceases, others merely that it is not increased. We do not agree with those who believe the system would work well in civilized lands. Our anxiety to keep our clients at the top notch of condition would certainly lead to our becoming a sort of police, strikingly uniformed to secure attention and respect, nervously interfering with the pleasures of the public. We should be present and gazing reproachfully at motor races, college athletic sports, and aeroplane exhibitions; busy establishing filters and boilers at springs and waterworks; spraying bacteria and computing calories at banquets and family meals; peering anxiously at closed bedroom windows; and flitting through the parlor at the courtship hour to drop a tract on osculatory perils. The convivial diner, about to pledge a neighbor in a sparkling bumper, would find one of us at his elbow, a minatory forefinger upraised and a deprecatory smile upon the lips. Compared to one of us, a skeleton at the feast would be a companion of joy, and the sword of Damocles a *hors d'oeuvre* of piquancy.—*N. Y. Med. Jour.*—*Merck's Archives*.

POINTS ABOUT BANDAGING.—The general practitioner often forgets this art of his interne days.

Always "fix" the bandage at the start.

Avoid wrinkles and creases as much as possible.

Be careful that the bandage fits smoothly and snugly, yet does not constrict.

Always bandage from below upward, toward the body.

Remember that a bandage that does not begin at the fingers or toes tends to produce edema of the part uncovered.

Never bury the end of a bandage applied to the head, but leave it free, so that it may be tied to the other end.

A bandage that requires pins or adhesive plas-

ter to maintain its position has not been applied properly.

Rest of the injured area, for self-evident reasons, is of great importance, since motion and friction disturb the apposition of the wound surfaces. Cases of severe wounds should be confined to bed, particularly if accompanied by shock. Usually the limited motion of the part occasioned by the dressing is sufficient, although quite often a splint will prove a valuable adjunct. Damreuther, in *The International Journal of Surgery*.

CHOREA, LATENT.—The author holds that (rheumatic) chorea declares itself first by symptoms significant of general nervous instability. He urges that in dealing with children suffering from nervous disorders of many kinds special care should be taken to exclude the possibility of their having originated from a slight rheumatic infection. The well-known association between rheumatism and nervous instability is not to be explained by considering that the infection is specially prone to attack neurotic children, but by regarding the nervousness as in most cases the outcome of an infection already present (latent chorea). The mental depression and headache in rheumatic children are usually to be attributed to the disease and not to its treatment by salicylates. The recognition of latent chorea in children suffering from obvious acute rheumatism affords strong evidence that chorea is a rheumatic condition. R. Miller (*Lancet*, December 18, 1909).—*Monthly Cyclopedia and Medical Bulletin*.

BRONCHITIS, CHRONIC, TREATMENT OF.—In chronic bronchitis, before the advent of emphysema or asthma or dilated heart, the writer used internally the iodides, especially potassium iodide, with syrup of hydriodic acid. In dyspnea, even slight, or nervous irritability shown in any way, the iodide should be combined with Hoffmann's anodyne. Hydriodic acid may be alternated advantageously with terpin hydrate in fairly large doses. Invariably counter-irritation to the chest should be insisted upon, and kept up for many days, or weeks, with occasional intermissions when the skin becomes tender. Nothing equals the compound tincture of iodine for its resolute qualities, and the derivative effect toward the skin in all that is desirable. The au-

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thor is opposed to the use of sedatives or anodynes, unless imperatively required. The least objectionable are the combined bromides, henbane, or codeine. A mercurial, followed by Rochelle or Epsom salt, is useful once a week or oftener, and diminishes cough and expectoration for a time in a pronounced degree. Vapor inhalations, especially of creosote, are very valuable when properly used, and if persisted in are more curative than any other one thing, unless it is change of climate and, at times, habits and occupation. The inhalations should be used with the perforated zinc inhaler; equal parts of creosote, alcohol, and spirit of chloroform is unequalled. Internally, creosote may also be given with the happiest effects, in small repeated doses, and, combined with the best whiskey and glycerine, will rarely disagree with the patient. The patients cannot, should not, be housed. If so, they soon get worse, and their bronchial mucous membrane will not bear the slightest change without increased cough and expectoration. If

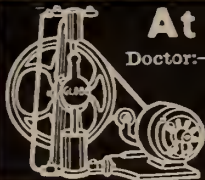
a change of climate may be indulged in, one should go, preferably, to the sand hills of Georgia in winter, and in summer to the Adirondacks, at a moderate elevation. If permanent banishment seems desirable, California, not too near the coast, is the one place of best resort. Beverly Robinson (*American Journal Medical Sciences*, December, 1909).—*Monthly Cyclopaedia and Medical Bulletin*.

PYELITIS IN INFANTS.—A curious fact in the history of pyelitis is the late discovery of its frequent occurrence in young infants. In the belief of many the infection is generally an ascending one. The author has observed nine cases in children ranging in age from nine months to 2½ years. Eight of these were females. In six instances the condition developed in association with or following some form of intestinal disturbance, which the author believes to have been indirectly causative of the renal condition. One case was tuberculous, another followed an attack of malaria. In one case the pyelitis was apparently primary. Analysis of the symptoms shows that six cases had high fever, three had chills, one had pain and one tenderness in the right lumbar region. None vomited. In five cases there was frequent micturition, and in all the cases the urine was markedly acid. One case, after an initial chill, showed an abrupt rise of temperature to 105 degrees and pain in the side, closely resembling pneumonia. In two instances the temperature did not exceed 102 degrees. The case with malarial history had a chill on three successive mornings with temperature of 104 degrees in the afternoons, and the failure of quinine to end the fever led to discovery of the pyelitis. The impression left from a study of the cases is that of a very indefinite picture, the only common symptom being fever, and the diagnosis depends on the urinary findings. Pyelitis must be differentiated from cystitis, but it is questionable whether any reliance can be placed on the differences between the epithelial cells. In all cases, pus was abundant. Microscopically were found also epithelial cells and in a few instances some blood corpuscles; no casts. The amount of albumin did not appear to be greater than could be accounted for by the pus and blood. From these instances the author draws two conclusions: 1. Many cases of surgical kidney or of obscure Bright's disease in young people may

have originated in a pyelitis in infancy. 2. Pyelitis should be borne in mind when confronting an obscure fever in an infant. As for treatment urotropin gives uniform and rapid results. In very young infants ½ to ¾ grain every two hours, during the day only, is sufficient. Older children can take two grains every two hours. Some writers advocate alkaline treatment, but this appears to the author irrational, as the colon bacillus grows more actively and virulently in an alkaline or neutral medium than in an acid one.—T. N. Gray (*Journal of the Medical Society of New Jersey*, February, 1910).

THE SWISS SCOURGE.—The prevalence of goitre in Switzerland is graphically shown by the figures recently issued by the Federal Military Department demonstrating the mortality due to it among only the men in the military service. From 2,200 to 2,500 are each year rejected by reason of some degree of goitre; at this rate of rejection the services of an entire division and even of an army corps are lost. The cantons of Valais and the Grisons, being the most mountainous parts of Switzerland, present the greater proportion of the patients; but people in other parts are also afflicted to a distressing extent. The drinking of snow water is considered causative. The scourge has become so serious and progressive in recent years that the Swiss government will appoint a commission for its study in order that preventive measures may be adopted and that an effective campaign against goitre may be initiated.—*N. Y. Med. Times*.

THE WORRY HABIT.—How many physicians daily meet patients whose chief ailment comes from the habit they have of worrying over their troubles. It may be that their troubles are large; if not large, then small ones appear large. We all of us know optimistic individuals who have troubles of the major kind, but they possess sunny dispositions and brush away their cares with ease. Others manufacture troubles, if there is no other way of securing them, and sleepless nights and a general disposition to worry is the result. The physician who can successfully cultivate the habit of being sunny himself, and can get his patients to look on the bright side, rather than the dull side of things,



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will always possess a valuable asset.—*Medical Sentinel.*

PROGRESS DUE TO CHEMISTRY.—In speaking of the Influence of Chemistry on Civilization, Maximilian Toch, the chairman of the Society of Chemical Industry, observed that twenty-five years ago the chemist was a man who made analyses, while today nearly all works maintain laboratories for research; by-products which formerly were waste have been converted by this means into products of commercial value.—*N. Y. Medical Times.*

A NEW CURE FOR SEASICKNESS.—Fraulein Dr. M. Ritter, of Breslau, Germany, prescribes calamus, juglaus negia (walnut) and satureja mon-

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tana (an herb allied to the pungent common savory). It is to be taken six hours before going aboard; and it "proved a veritable blessing" to officials of the German Dockyard and Navy Department who were detailed to attend some dirty weather trials aboard a torpedo boat in the North Sea.—*N. Y. Med. Times*.

THE SOAP ENEMA.—Cutaneous eruptions sometimes follow the use of a soap enema, and F. J. Shepherd, in the *Journal of Cutaneous Diseases*, reports the results of his inquiries into the cause of these phenomena. His investigations led him to trace the cause to the fact that common yellow soap is frequently used in enemata given prior to operation. On the other hand, he found that no evil results followed when an enema of Castile soap was given to patients who had suffered from eruptions after the use of a common soap enema. On analyzing common yellow soap the writer discovered that a considerable quantity of resin was present, and attributes the cause of many rashes seen after abdominal operations to the presence of this substance in the soap enema given at the time of preparation.

THE MIND AND THE BODY.—More than twenty centuries ago. Plato wrote: "The office of the physician extends equally to the purification of mind and body; to neglect the one is to expose the other to evident peril. It is not only the body that by its sound constitution strengthens the soul, but the well regulated soul by its authoritative power maintains the body in perfect health."

And still the Christian Scientists, the New-thoughters and the innumerable brood of quacks and fakirs who make the mind their special province, think, and they try to make the people think, that they have discovered something new, when they tell you that the mind has a great influence on the body. Of course it has; but not any greater—if as great—than the body has on the mind.—*Critic and Guide*.

USE OF STERILIZED LINEN IN NURSINGS.—Edmund Weill (*Lyon Médical*) has demonstrated that sterilized linen used for dressing infants is a preventive, as well as a curative measure, in the skin suppurations of infants. In an old hospital connected with the University of Lyons there were many cases of pemphigus and pyoder-



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matitis, the buildings being permanently infected by long use with pus microorganisms. Almost all of the children who came there suffered from these skin affections. The author now has all the linen sterilized in bags, in which it is kept until it is to be used for dressing the children. The clothing that has been only washed shows by cultures plenty of colonies of streptococcus and staphylococcus, while the sterilized clothing gives none at all. He recommends the sterilization of all clothing to be used in infants' hospitals. Even when a child has become infected, he says, the use of sterilized linen will promptly cure him.—*Medical Record, Archives of Pediatrics*.

ARTERIO-SCLEROSIS AND SUPRARENAL TREATMENT.—Josué in *Le Progrès médical*, October 9, 1909, is quoted as authority for the statement that

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Borothymoline

We will send a Pint Sample to any Physicians sending a postal card with name and address.

we need not fear arterial changes if the suprarenal medication is given per orem, or hypodermically, although the intravenous method has not this safety.—*N. Y. Med. Times*.

FOR MEDICAL RESEARCH.—Otto Beit, brother of Alfred Beit, the late South African multimillionaire, has increased the latter's bequest of 250,000 to upward of one million, to provide fellowships for medical research in memory of his brother.—*N. Y. Med. Times*.

SCIATICA.—Careful examination of the corresponding hip joint should be made in all cases of sciatica and a radiogram taken if possible. Most cases of sciatica seem to be associated with some arthritic change in the joint.—*William Bruce*.

A Delightful Revelation.

¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

¶ It is the same pleasant, gentle laxative, however, which for many years past physicians have entrusted to domestic use because of its non-irritant and non-debilitating character, its wide range of usefulness and its freedom from every objectionable quality. It is well and generally known that the component parts of Syrup of Figs and Elixir of Senna are as follows:—

Syrup of Californian Figs	75 parts
Aromatic Elixir of Senna, manufactured by our original method, known to the California Fig Syrup Company only	25 parts

¶ Its production satisfied the demand of the profession for an elegant pharmaceutical laxative of agreeable quality and high standard, and it is, therefore, a scientific accomplishment of value, as our method ensures that perfect purity and uniformity of product required by the careful physician. It is a laxative which physicians may sanction for family use because its constituents are known to the profession and the remedy itself proven to be prompt and reliable in its action, acceptable to the taste and never followed by the slightest debilitation.

ITS ETHICAL CHARACTER.

¶ Syrup of Figs and Elixir of Senna is an ethical proprietary remedy and has been mentioned favorably, as a laxative, in the medical literature of the age, by some of the most eminent living authorities. The method of manufacture is known to us only, but we have always informed the profession fully, as to its component parts. It is, therefore, not a secret remedy, and we make no empirical claims for it. The value of senna, as a laxative, is too well known to physicians to call for any special comment, but in this scientific age, it is important to get it in its best and most acceptable form and of the choicest quality, which we are enabled to offer in Syrup of Figs and Elixir of Senna, as our facilities and equipment are exceptional and our best efforts devoted to the one purpose.

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Uric acid solvent and alkaline urinary antiseptic.

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Cystogen —5 grain Tablets.

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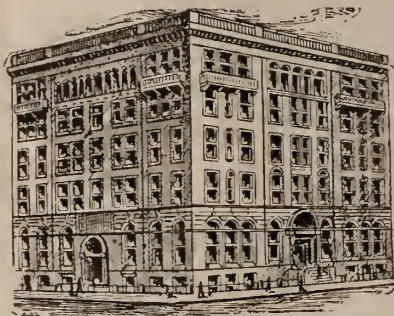
is of unequalled value, for it sharpens the appetite, increases digestive power and materially augments the whole bodily nutrition. ¶ Thus lactation is promoted naturally, with not only substantial benefit to both mother and child, but with complete avoidance of every ill effect.

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Your syphilitic patients during the state of secondary incubation the indicated remedy is



It is during this period that anaemia manifests itself and that the erythrocytes lose their hemoglobin.

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THE SCAPEGOAT.

Teacher—"I shall not keep you after school, Johnnie. You may go home now."

Johnnie—"I don't want ter go home. There's a baby just come to our house."

Teacher—"You ought to be glad, Johnnie. A dear little baby—"

Johnnie (vehemently)—"I ain't glad. Pa'll blame me—he blames me for everything."—*Lippincott's Magazine.*

TYPHOID VACCINATION.—Dr. Charles E. MacDonald, of the Medical Corps of the United States Army, post surgeon at Fort Mott, N. J., recently delivered a lecture to the men on duty, and spoke of the advantages of typhoid vaccination as a means of prevention. On closing his lecture he asked for volunteers for typhoid vaccination and 220 out of 225 men on duty offered themselves.

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Antiphlogistine
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W E find that the use of Antiphlogistine in vaginal tampons is a new thought to many a physician, but when he once learns of it he wonders that he has not used it in that way before. In fact, Antiphlogistine makes the ideal tampon, for while its hygroscopic properties deplete the congested parts, its plastic nature affords the required support.

Technique—Place the requisite quantity of Antiphlogistine in the center of a square of gauze, gather the edges up around the Antiphlogistine bag-fashion, tie a string around the neck of the bag and insert through a speculum.

Wherever inflammation or congestion is a factor, Antiphlogistine is indicated and should always be applied warm and thick and covered with absorbent cotton.

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The following Cases designed by Dr. Abbott contain the greatest amount of positive medication in the smallest possible space—they combine convenience with effectiveness. Every case is guaranteed both as to material and filling.



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to be the most desirable from the customer's standpoint. Should we not please you, you are at liberty to return any bottle in exchange for similar-priced goods. We shall be pleased to send lists showing "our selection," for any case filling on request. These lists have been studied carefully, and are often very useful as leaders in helping the doctor to make his choice.

The doctor looking for a new case is apt to be influenced by price (first expense) to take one which he later finds too small. We would warn against this. It is better to have one too large. Of course the case that will fit is determined in a great measure by the practice one does, but when we see an order go through for No. 8, we always feel that there is a man who will be satisfied—one who will have a case second to none. We will send Free with Every Case Order,



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If no selection is made we fill what we believe

we fill what we believe

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**DYSMENORRHEA**

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Alumni

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Tetanus Antitoxin

as a prophylactic for Fourth of July injuries and contaminated wounds

1908 "Every annual compilation that we make of this subject adds to the now conclusive evidence that Tetanus Antitoxin is an almost infallible prophylactic, and that it should be used at the earliest possible moment for every case of penetrating wound caused by fourth of July injuries."—Ed., *Journal A. M. A.*, 1908, Vol. II, page 42.

"The tetanus mortality has dropped in six years from 406 to 55. We have made extensive inquiries into the treatment received by those injured in Fourth of July accidents, and have yet to learn of a single case in which tetanus developed in a person who had early received a prophylactic dose of antitoxin."—Ed., *J. A. M. A.*, 1908, Vol. II, page 848.

1909 "The following simple rules for the prevention of tetanus are given :

- "1. Freely incise every wound.
- "2. Carefully and thoroughly remove from the wound every particle of foreign matter.
- "3. Cauterize the wound thoroughly with a 25% solution of phenol (carbolic acid).
- "4. Apply a loose wet boric acid pack.
- "5. Inject subcutaneously 1500 units of antitetanic serum.
- "6. In no case should the wound be closed; it should be allowed to heal by granulation.

The dressing and packing should be removed every day."—Ed., *J. A. M. A.*, 1909, Vol. II, page 954.

"To put the matter in a nutshell, it may be stated dogmatically that the value of Tetanus Antitoxin as a prophylactic agent is very great, and its efficiency nearly absolute. To neglect to use antitoxin as a curative agent is also unwarranted in the light of our present knowledge."—Ed. *J. A. M. A.*, 1909, Vol. II, page 955.

1910 "The use of prophylactic injections of Tetanus Antitoxin in cases of large and contused wounds contaminated with earth or street dirt, is generally recommended as good routine practice."—Busch, in *Archiv für klinische Chirurgie*, Band lxxxii, Heft 1.

"Tetanus Antitoxin is effective, and will, in most cases, forestall a fatal issue if injected immediately or very soon after the wound has been incurred. This agency is no longer 'of doubtful value' or 'in the experimental stage'; indeed, in our belief, this has now been so well demonstrated that the physician neglecting its use would be held legally negligent in the event of any suit.

"Prophylactic doses of Tetanus Antitoxin (1500 units) given immediately upon the injury are almost absolutely effective. Nevertheless, they should be given at any time up to the appearance of the symptoms."—Ed., *Boston Med. and Surg. Jour.*, 1910, Vol. I, page 684.

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SALTING BABIES.

The strange custom of salting new-born babies is still practiced in certain regions of Europe and Asia. The method varies with the different nationalities of the peoples employing it. The Armenians of Russia cover the entire skin of the infant with a very fine salt. This is left on the baby for three hours or more, when it is washed off with warm water. A mountain tribe of Asia Minor are even more peculiar in this regard than the Armenians, for they are alleged to keep their new-born babies covered with salt for a period of twenty-four hours. The modern Greeks also sprinkle their babies with salt; and even in certain portions of Germany salt is still used on a child at birth. The mothers imagine that this practice brings health and strength to their offspring, and serves as well to keep away evil spirits.—*Harper's Weekly*.

If one fails to quiet a frightened, crying child sufficiently to determine the presence of a tender area, necessary to diagnosis, the administration of chloroform to the point of *primary* anesthesia will make the examination easy and, at this stage of narcosis, pressure on a tender spot will be answered by reflex movements.—*Amer. Journ. of Surgery*.

SPINAL CENTERS FOR MICTURITION AND DEFECATION.—By a series of experiments, Roussy, of Paris, and Italo Rossi, of Milan, demonstrate in the cauda equina and the sacral segment of the spinal cord, centers of micturition and defecation. Müller, in 1901, argued in favor of a pelvic center located in the ganglia of the sympathetic system.—*N. Y. Med. Times*.

KARL THEODOR, DUKE IN BAVARIA AND M. D., who died recently, became so dissatisfied with the social duties and the perfunctory military routine pertaining to his rank, that he gave way to his natural bent and became one of the most skillful of European oculists. For years he worked hard in the charitable clinic and hospital he had established.—*N. Y. Med. Times*.

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Resident Physician

TOBACCO CUTS SHORT A LIFE.—It is reported that Juava Corona, a lady who had smoked cigarettes for 106 years died at 116 at Patagonia, Arizona.—*N. Y. Med. Times*.

A short drainage tube, and its early post-operative removal, are perhaps the best safeguards against the formation of an empyema sinus.—*American Journal of Surgery*.

Litigation of the cystic artery at the beginning of a cholecystectomy often makes the removal of the gall-bladder a bloodless procedure.—*American Journal of Surgery*.

IT WAS PURE.

An old negro, being asked if the water of certain springs was pure, replied:

"Yessum. Dis yar water hab been scandalized by de best phrunologers in de lan', and dey say, dey do, as how it muntain ten parts er oxhide acid, ten parts er cowbonic acid, and de balance am clar hydrophobia—yessum."

ORIGINAL ARTICLES.

WHAT CAN BE DONE TO CONTROL THE SPREAD OF THE VENEREAL DIS- EASES?

BY

WALTER S. REYNOLDS, M. D.,
New York.Chief of Clinic and Instructor in Genito-Urinary
Diseases, Col. P. and S. (Columbia University)
New York; Professor Venereal Diseases,
Medical Department University of Ver-
mont.

What can be done to control the spread of the venereal diseases?

It has been shown that a large proportion of the blind in our institutions have been rendered so on account of a gonococcus infection acquired during birth. Just what the proportion is I am not able to state, but it is so large that one is astounded by the number. Gynecologists have also told us that from 50 to 75% of the operations which they have been called upon to perform have been due to infection of this kind.

Statistics of this sort only show to a slight extent the baneful results attending one of the most widespread and serious infections which physicians have to treat. It seems therefore that a discussion of the question as to the best means of preventing the spread of such diseases should interest us all. Until very recent years little seems to have been done in any systematic way by physicians to check their spread and the question naturally arises is it because we are brought in such close contact with conditions of this sort in our work, that our feelings have become blunted, and, instead of attempting to better such a state of affairs, we have passively accepted conditions as we have found them; or, is it because we believe efforts directed to their betterment are impossible under existing conditions?

That we have not been altogether oblivious to surrounding conditions or remiss in our duties as medical advisers is shown by the results which have been accomplished in the way of

treatment of the child's eyes after birth, to prevent such horrible results as were formerly seen. But treating the child's eyes is not getting at the root or cause of the trouble and the question still presents itself as to what can be done to prevent the spread of diseases which give rise to such results.

That gonorrheal infection is widespread is I believe unquestioned. (It is said that 75% or over of all men have at one time been infected.) Nor is it confined to any particular class, but is found in all social ranks. As women are the ones who are likely to be, more often, the innocent victims of these infections, rather than the man, who generally recognizes the possibility of infection in the gratification of his sexual desires in promiscuous intercourse, our sympathy and assistance should be with the woman rather than the man. Heretofore the prostitute has largely been the objective to which attention has been directed. In this country the advocates of such measures meet with very little encouragement.

We have no means of telling how many women have derived their infection in a perfectly innocent manner, but we cannot help but believe that the proportion is very large, and the responsibility must therefore be laid on the men.

The question then arises as to whether the man is knowingly responsible or not. Here again we are unable to state how often he knowingly allows a woman to become infected. It is to be hoped that the proportion is a very small one for in that case we can take a more hopeful view of the situation. Probably all of us have, however, seen many instances where the contrary was true, and where a *man* (?) has attempted to relieve his own infirmity by transferring it to another.

In this connection I wish to say that I firmly believe that physicians are themselves responsible to a considerable extent for the spread of these diseases in not sufficiently impressing their patient with the seriousness of the malady or warning them of the danger to others with whom they associate.

We have all, I presume been compelled to temporarily forbid the marriage of a young man because infection was still present, but how many

there are, who, still being infectious though perhaps unaware of it, enter into marriage, can only be surmised.

Syphilis in my experience presents a somewhat different condition from gonorrhoea, inasmuch as the great majority of syphilitics are anxious to ascertain whether they are fully cured and can marry without fear of infecting others. There are of course, unfortunately, many examples where the contrary is true. This to my mind seems to show that there is a difference in the way in which the two diseases are regarded by the public—syphilis being considered as a most serious disease, probably because its effects have been in the past more visible, while the results of gonorrheal infection are less obvious. As I have already referred to the responsibility which physicians must bear in this regard, it may seem unnecessary to again refer to it. But I wish to emphasize the importance of treating gonorrhoea as a serious disease and impressing the patient with its dangers, not only to himself but to others whom he may thoughtlessly expose.

In attempting to deal with this subject and to offer a remedy for the evil we are compelled to recognize the fact that we have to deal with one of the strongest instincts implanted in mankind—the gratification of his sexual desires, and man, because he has intelligence and is influenced by his thoughts, is probably more often subject to stimulation of this instinct than the dumb animal. It may be argued that man has been given his intelligence and reasoning power for the purpose of control, which may be so theoretically, but which practically does not in most instances seem to follow.

The different standards of morality which have probably always existed is another condition which must be taken into consideration. Then again the fact that these diseases have existed from time immemorial and probably will, so long as man is constituted as he is, must be dealt with.

If it is not possible, therefore to entirely eradicate these diseases can we not by some measure or measures, keep them in check and prevent their spread? To such an end a number of plans have been proposed or advocated. The one which so far has received the greatest attention is that directed to the supervision of prostitutes. In several other

countries, Germany especially, where such things can apparently be more easily accomplished than here, regular examinations of prostitutes have for some time been carried on. But in this country, where people do not seem to wish to give recognition to women of this class, nothing I believe has been attempted along these lines. I, personally, believe that the prostitute (and by such term I mean a woman, an *inmate* of a disreputable house) is less often the agent in spreading infection than the woman of the street. In the first instance a house of ill-fame has to maintain a reputation for cleanliness of its inmates, whereas the latter is under no such obligation. When therefore we maintain supervision over the prostitutes we are doing very little, it seems to me, that they themselves are not attempting to do.

We all know the difficulty which exists in determining whether a woman is infectious or not, so that even with careful supervision we cannot be assured that there is *no* risk in cohabiting with a woman who has obtained a clean bill of health. This it seems to me would give rise to a false sense of security which would not be warranted.

Legislation has been passed in some of our states in an attempt to control these infections. Washington, I believe, requires a physical examination of both parties before a marriage certificate can be issued. This law it is said is largely evaded by the parties going to an adjoining state to become married.

In Indiana it is necessary for a man to make statement that he is free from certain diseases before a license to marry can be obtained.

One of the principal reasons probably why so little has been attempted or accomplished in the control of these diseases is because the discussion of such conditions has been, until very recent years, a matter which could be carried on only behind closed doors or in meetings of medical men. With the formation of societies in the last few years whose object has been to discuss these subjects there has been a marked change in the manner in which the public has come to regard them. As these societies include not only men of other professions than medicine, but also women, a free discussion from all points of view has resulted.

As a consequence of the discussions which have been carried on, not only in regard to the control of these diseases, but also to matters

closely related to them, there has been a marked awakening to the importance of some concerted action which shall lessen or at least minimize these evils.

It is recognized by all that very often young men and women, through ignorance, have been led into evils which they might have escaped had they received proper instruction in regard to these matters.

I believe that a great good would be accomplished if we could wipe out the words, "venereal diseases," and consider them in some other way. In fact they are often—syphilis more especially—not venereal in their origin. We might then discuss them without so much fear of bringing to the attention of the young especially, subjects which we all feel must be approached with the greatest delicacy. It is unfortunately true that few parents do or indeed are competent to instruct their children in regard to the knowledge, which I believe you will all agree they are entitled to, concerning the sexual functions. As a consequence, what they learn of this subject is generally acquired from older boys or girls and that is usually erroneous and most pernicious. I have no new or novel methods to advocate to control the spread of these diseases.

In regard to legislation, there seems to be an increasing demand that physicians shall report cases of this kind to the health authorities in the same manner in which other communicable diseases are reported. It is somewhat uncertain as to how much effect such a law would have in controlling the spread of these diseases. It would probably, at first at least, be pretty generally evaded. Without the additional authority to also place the individual in quarantine, certainly at least until the danger of infection is passed, reporting would it seems to me, have but little effect in controlling the spread of these diseases.

In the states where compulsory examinations or statement of physical condition before obtaining a marriage certificate are necessary, as has been said, considerable evasion of the laws is reported. Such laws if they accomplish nothing more, certainly direct the attention of people to the dangers of infections being carried to innocent parties who have the most right to expect every protection. The Indiana law would seem to be more easily en-

forceable than that of Washington, at the present time at least.

It is my conviction that more can be accomplished in the way of education than in other ways that have been considered. The difficulty of making mankind moral by laws is pretty generally acknowledged. If on the other hand they can be brought to appreciate the fact that self preservation depends upon their own acts we are then appealing to an instinct on which we can generally rely to accomplish a great deal. In this connection the question of prophylactic measures should be considered. Something along this line has been attempted in the U. S. army, I believe. What the results have been I am unable to say, but Major Wilson can probably give us information on that point. It is only to be expected that improvement of conditions along educational lines will be slow. Young men and women must first be instructed in regard to the sexual functions and instruction of this kind must be undertaken in a very careful manner so that they are not robbed of more than the knowledge is worth. When this has been accomplished these diseases can be more freely discussed. In all these things the physician must take an active part. He is in a position to give the young man or woman advice which others cannot. If he evades his responsibilities or is negligent in giving warning to patients whom he may have under his care, as to the dangers of these diseases, and the care necessary to prevent their spread, he is unworthy of the trust reposed in him.

RENAL EFFICIENCY.*

BY

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In the study of renal efficiency one is at once impressed with the absolute lack of scientific accuracy in its positive determination. However, scientific suggestiveness is assured by the various tests of kidney function taken in connection with other clinical symptoms and manipulations and by these we are led to surgi-

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cal procedures that we would otherwise be chary of attempting, as, for example, one would not attempt to nephrectomize a tuberculous kidney without first determining its fellow's functional capacity, for, as is well understood, a tuberculous kidney will permit the filtration of a large amount of serum albumen and the formation of numerous casts, and yet a goodly part of such kidney substance may still be functioning and the other kidney while not showing tubercular disease may not be competent to carry on a sufficient elimination by itself and needs the association of its crippled partner.

In a recent issue of the *American Journal of Physiology* it was stated that the physiology of a kidney as it concerned the formation of the urine from the blood was not thoroughly understood. If this is so—and it certainly is—when an authority or physiological chemist, like Doctor Victor C. Vaughn of Ann Arbor, assures us that “nearly one hundred years have passed since the question of the nature of the toxic constituents of the urine was first submitted to experimental inquiry, and yet today it cannot be regarded as settled. We cannot name all of the poisonous constituents of the urine.” And in the same writing he corroborates the findings of others that urea and uric acid are not important toxic constituents and that neither one can be regarded as the active agent in the causation of those symptoms that result from failure to function on the part of the kidney, and that eighty-five percent of the toxicity of the urine is due to its inorganic constituents. This point I wish to emphasize inasmuch as it has an important bearing on an estimation test to be spoken of later.

With this questionable knowledge of the physiology and chemistry of the urine, it is not to be wondered at that the positive determination of renal function is impossible. There are many conditions that influence renal function, some understood, as, for example, the various vaso-motor disturbances, and on the other hand, a number of conditions that are not so well understood, i. e., the reno-renal reflex inhibition, which Watson has emphasized in an article¹ in a recent issue of the *Journal of Urology*. This condition is met with most frequently in calculus anuria, and it also manifests itself in other conditions.

There are very few morbid conditions in which the efficiency of the kidneys is not considered.

Especially is this so in surgical work. Not that the operative work per se induces a greater task of elimination on the part of the kidneys, but the question arises whether or not they will stand an anaesthetic. In experiments performed to ascertain the renal function of ether anaesthesia in a series of seventy cases investigated by Watson,² with the Phloridzin test, the results and deductions were, that in kidneys that are normal, ether acts as a functional stimulant, whereas, in kidneys that were known to be diseased, the function (in these experiments the elimination of sugar) was greatly impeded.

This leads us to the discussion of the various tests to determine renal efficiency, the most common of which is the ordinary chemical and microscopic examination of the mixed and divided urine.

R. C. Cabot's work, “Examination of Urine—And Clinical Study of Common Methods,”³ was epoch-making in a way as it demonstrated that the diagnosis of conditions, such as Bright's Disease, from urinary analysis, as had been taught, was useless in Dr. Cabot's opinion. He carried on his investigations at the Massachusetts General Hospital by comparing the reports of urinary findings with the reports of autopsies on the same subjects, covering a period of seven years, and he found great disagreements to exist.

I do not wish to deprecate the value of urinary analysis, for it is most essential in arriving at conclusions, but there is no doubt but what oftentimes too much importance is attached to the presence of casts and albumen. Always investigate the character of the albumen. Whether it be nucleo or serum albumen should be definitely determined, for pathological conditions of the lower urinary tract will produce an albumenuria of the nucleo variety.

There has been much dispute regarding the cause of casts. The oldest theory is that they consist of coagulated fibrin and are the result of inflammatory changes. This theory has no longer any substantial following, as conditions of renal congestion and simple amyloid kidney produce casts; and then again casts do not show the same chemical reaction that fibrin does. Epithelial casts and albumen, I believe, are always indicative of a pathological condition of the kidney. Of course, hyaline casts and cylinders without other symptoms of renal ineffi-

ciency are practically of negative value in individuals over the age of forty-five.

The specific gravity and the estimation of the solids of a twenty-four hours' collection of urine is considered by a great many observers to be a most suggestive test of renal function, and when we recall the facts recited in the beginning of this paper, the fact that was the result of extensive experimentation by Vaughn,⁴ namely that eighty-five percent of the toxicity of the urine was due to inorganic substances, the value of the estimation of these inorganic substances is shown to be of great importance.

At the Mayos's clinic they depend almost wholly upon this quantitative test of the mixed twenty-four hours' collection and the quantitative estimation of the divided urine taken by ureteral catheterization. Right here, however, it is important to recall the fact that kidney function is often stimulated and suppressed by the invasion of the kidney pelvis or ureter by a catheter, so a proper appreciation of this fact must be entertained when catheterizing the ureters and experiencing an increased flow or a suppression.

Regarding specific gravity it is well to recall that a specific gravity of 1,040 in a woman is not an unusual finding. French⁵ examined specimens for a considerable length of time, taken from 150 healthy nurses, and found a relatively higher specific gravity in women than in men.

Before concluding with a description of the common functional tests of renal efficiency, permit me to impress upon you the importance of interrogating the commoner symptoms of renal disease and consequent renal deficiency. These commoner ones are those obtained by kidney palpation, dyspnoea, hazy memory, headache, nausea, increased blood pressure, and the very important aid to be gained by the use of the X-ray⁶ in the diagnosis of diseased kidneys. The use of a metal ureteral catheter and an X-ray skiagraph taken of it in situ clears up many problems of kidney position and disease due to kinked ureters and consequent imperfect drainage.

Dr. Edwin Keyes, Jr., has done some excellent diagnostic kidney work by injecting concentrated solutions of argyrol through ureteral catheters and then having skiagraphs made. This method clears up many knotty problems of kidney disease. The methods described, the

chemical and microscopic examination of the mixed urine and other physical symptoms afford us a fairly good conception of the amount of united excretory work that is being performed by the kidneys, but in contemplated kidney operative work as clear a conception of individual capacity of the kidneys must be obtained as possible, hence the necessity of obtaining the divided urine by segregation or ureteral catheterization and the application of one of the tests of kidney permeability.

Cryoscopy, which means the determination of molecular concentration of fluids, was first suggested to be applied to the urine by Koranyi. This test determines the freezing point of the urine taken separately from each kidney and compared with the freezing point of distilled water. The freezing point of the same individual's blood must also be taken. This test is so influenced by extraneous conditions that I think it has been practically abandoned except by a few urologists who use it in connection with other tests.

The phloridzin test was devised by Katzsamner and depends upon the power of the epithelial cells of the kidney to extract sugar from the blood. This test, I think, taken with other symptoms and based upon the time of the appearance of the sugar in the urine and not upon the quantity, as was first suggested, is a valuable aid in determining kidney function.

The methelyn blue and its modification, the injection of indigo-carmin depends upon the ability of the kidney cells to extract aniline coloring matter which circulates as chromogen from the blood. In normal functioning kidneys it should appear in the urine in about 10 to 20 minutes and an idea may be gained of the functional activity of the kidney by any deviation from this time which is assumed to be the normal, i. e., 10 to 20 minutes.

Albarren is now using a test devised by him which is a modified cryoscopic test. By this I mean he has the patients drink a stated quantity of diuretic water and the urine is collected by means of a ureteral catheter every half hour for three hours and its freezing point obtained and compared. He has done this in cases that were known to possess normal kidneys and thereby obtained a standard which he uses for comparison. These tests, the technique of which I will not inflict upon you, can be ascertained in

any of the text books treating upon urological subjects.⁷

Personally, in my limited experience, I have used the indigo-carmin test, and it with the specific gravity and the estimation of solids in the mixed and divided urine and the microscopical findings from all three specimens, bladder and both kidneys, I think has served me well. I have been able to determine something regarding the functioning of the diseased and normal kidneys which it has been my pleasure to observe, but as stated in the opening paragraph of this paper, an accurate scientific determination is impossible, and will be until the physiological chemist teaches us the physiology and chemistry of the urine. But in conclusion let me state that with the ureteral catheter or segregator and the injection into the blood stream of substances which the kidneys are called upon to eliminate, considered with the other objective symptoms, the X-ray and physical findings, the second paragraph of this paper, i. e., the assurance of scientific suggestiveness may be fulfilled and will act as a valuable aid in determining renal efficiency.

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THE TROUBLE WITH THERAPY.*

BY

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I assume that most pharmacists and physicians appreciate that the present state of therapeutics is not satisfactory to either profession.

This paper deals with the situation in a general way, as to its causes and the remedies.

Medical knowledge has advanced rapidly in

the last few years, but therapy has not advanced as rapidly as the other departments of medicine, and in fact has held them back. This condition is not altogether the fault of the teachers of, or the instruction given in therapeutics and materia medica in the medical and pharmaceutical schools. There are many other factors involved in the production of the present lack of progress in therapy, and the confusion that exists; the whole of both professions being more or less responsible.

The instruction in the courses of materia medica and therapeutics must be extensive enough so that the graduates can satisfy the requirements of the state boards—covering as they do not only all the official drugs and their preparations but often, unfortunately, many of the new and unofficial remedies. Necessarily this condition of things leaves the young man at the beginning of practice with a very general knowledge of the subject. In his subsequent work he is confronted with the immensity of the subject, and often, because of indolence, he largely abandons to the detail men of the pharmaceutical houses or the prospectuses of the various manufacturers his duty of prescribing for the individual patient, accepting their interested advice in therapy as well as materia, just the same as some older men have gradually done for the same reason, laziness, or through their ignorance of the fundamental branches of chemistry, pathology, bacteriology, etc. This combination of indolence and ignorance has brought about the common use of proprietary and patent remedies of whose ingredients and action the practitioner is often wholly ignorant. It is also much to blame for the present method of many physicians' doing their own dispensing, and of many pharmacists' counter prescribing.

We are indolent in failing to study the needs of each and every case we are called upon to treat—finding it easier to give a prescription for a ready-made proprietary, or to dispense a handful of pills, or "Tonic No. 1," "Cough No. II," which some interested one has recommended. or the hospital or dispensary has supplied, than to think out what that particular patient requires. For example, a case presents anemia, we find it easier to give a prescription for Somebody's Pepto-Mangan, or present him with a handful of Someone's Blood Tablets, than to take the trouble to ascertain whether the

*Read at the joint meeting of the Rutland County Medical Society and the Rutland Druggists.

one is sufficient and ethical, or the other has some unnecessary or even harmful ingredients for that particular case.

We are ignorant in some of the fundamental branches of medicine (chemistry, physiological pathology, and bacteriology, etc.), and so fail to realize the absurd claims made for the nostrums, for example, the so-called cordials of cod-liver oil which contain no globules of oil, no soap, and no fatty acids, hence no oil. Again the uselessness of some so-called intestinal antiseptics in ridding the system of typhoid bacilli that they never come in contact with, etc., etc.

The tendency to fads on the part of the medical profession has helped add to the confusion. One believes in surgery for every ill; another never lets a patient come to the operating table; some would substitute the laboratory for the bedside; others the bedside for the laboratory; one believes every case needs massage; another that electricity or hydrotherapy is the proper thing in all cases; many give medicine, even volatile drugs, only in pills, while others prescribe even nasty messes in liquids. The internist loses sight of some special condition in caring for a general disorder, and the specialist loses the patient while curing the local trouble.

The confusion within the profession is echoed by the "isms" and "paths" without; each attacking the profession at what he believes to be a weak point and booming his cure-all.

Indolence and ignorance, with our indifference to conditions with which we are familiar are the main causes then of the present state of therapy; and the main evils resulting are—the extension of the slovenness in therapy to diagnosis, a lack of progress in therapy, and direct and indirect danger to our patients.

To remedy the present conditions we must be interested in the progress of therapy and the welfare of our patients; we must realize that no one of the various elements in therapy is the whole thing, that the various factors each have some value; and we must study the individual patient.

State Board examinations should be confined to pharmacopeial remedies, (about 1,500 preparations).

Join the associations which are using their influence in this movement for reform in therapy—druggists, the State and American Pharmaceuti-

cal Associations; physicians, the State Medical Society and the American Medical Association—and so keep in touch with others and abreast of progress.

Continue the study of the fundamental branches of medicine; study the Pharmacopeia, the National Formulary, and the New and Non-Official Remedies approved by the Council of Pharmacy and Chemistry of the American Medical Association. These contain all the essential and worthy remedies, and also some that we could well dispense with. Confine prescriptions to this trio, (the Pharmacopeia, the National Formulary, and the New and Non-Official Remedies), but use them with intelligence, as the remedies are not more scientific, or efficient or safe under the official title than in proprietary mixtures.

Cut out dispensing when and where possible if you expect the druggist to cut out prescribing. He may know less about the therapy of his counter-prescribed doses than you do, but he knows more about the science and art of pharmacy than you, and your combination will be of benefit not only to both pharmacist and physician, but especially to your patients.

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PUERPERAL SEPTICAEMIA WITH HISTORY OF A CASE.*

BY

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Mr. President and brother physicians: The subject of my paper today, Puerperal Septicaemia with history of a case, I am not dealing very deeply with in many of its phases such as causative factors, pathology, etc., but would rather confine my remarks to those phases of the disease which more directly interest and confront the country physician. You will observe that I shall not discuss puerperal sapraemia but confine my remarks to the gravest of puerperal infections, that produced by the streptococcus. Although there are very serious puerperal infections produced by the diphtheritic bacilli as well as other bacilli, the mode of infection is in general laid at the doors of the obstetrician

*Read at Orleans County Medical Society, Mar. 9, 1910.

himself and while I believe this is true in general, it is often present in the system of the patient, lying dormant in the milk ducts or some part of the parturient canal only awaiting the opportune time to gain access to that germ vitalizing medium, the blood, wherein, when it has once begun to thrive it soon enters the blood stream in general and we are at once confronted with an almost paralyzing picture of puerperal septicaemia. The patient's system is generally invaded on the second, third, or fourth day, rarely later. The onset is marked by chilliness rather than rigor, with fever moderate at first which rises and tends to become of the continued type, with decided daily remissions. There is headache, anorexia, prostration, delirium or apathy, the pulse is small, rapid and compressible, the tongue shows a marginal redness and a dry brown center, there may be nausea and vomiting with obstinate constipation or diarrhea, the abdomen may or may not be distended, there is usually tenderness in lower abdomen with pain. The spleen is usually palpable. Petechial spots are not uncommon. Usually slight toxæmic jaundice, herpes, and albumin in the urine.

This, gentlemen, is the usual picture, but where the septicaemia is cryptogenetic and especially when due to the streptococcus the fever is very high and irregular with recurrent chills and a marked septic nature. When the source of infection cannot be found, we accept the term cryptogenetic septicaemia and it goes without saying, that the more thorough we are in looking into our cases, the rarer will cryptogenetic septicaemia be. The physician must be thoroughly alive to the fact that any infection, it does not matter how or where it may originate, may be followed by septicaemia. The diagnosis of puerperal fever is usually made without difficulty. If the patient is doing well, after delivery and has a chill with marked rise of temperature on the second, third or fourth day, the case should be regarded as significant but there are other diseases which may present themselves at this time of lowered vitality. First of all, for differential diagnosis, let us consider auto-intoxication of the bowels, this condition may readily be determined by the giving of purgatives of which, I believe, salines are best. If this procedure be followed by a rapid fall in temperature and remains normal, we may eradicate puerperal septicaemia. Again we have inflam-

matory troubles about the breasts in the early puerperal period but this is readily cleared up by the subsequent history. Or we may have suppurative processes in the pelvis which we should never fail to recognize by proper examination. There are two diseases however, malarial and typhoid fever that are frequently confounded with puerperal septicaemia and are oft-times made the scapegoat to shield the practitioner who has neglected aseptic and antiseptic precautions in the management of his obstetrical cases. If these symptoms are due to malarial or typhoid fever, one should be able to demonstrate the malarial parasite or the bacilli typhosus in the blood. Therefore, when we are confronted with a doubtful case of puerperal septicaemia, we should at the earliest possible moment take a proper culture of the uterine and vaginal secretions together with a blood culture for malaria and typhoid fever. And the bacteriological laboratory will prove or disprove the presence of one or more if them. And let me urge upon you the necessity of using the bacteriological laboratory more and more that we may accurately diagnose many a difficult case and thereby institute proper treatment. There is another disease which may be mistaken for puerperal septicaemia and that is tubercular meningitis, this may be diagnosed largely by the exclusion of all the others, its frequency in children as a secondary result of some primary tubercular foci elsewhere, the scaphoid abdomen, persistent vomiting, intense headache and irregular pulse, together with the symptoms of meningeal involvement.

The best treatment for puerperal septicaemia should be begun as soon as the physician enters the lying-in-room. He should, where time and circumstances allow, thoroughly disinfect his hands, not merely rinse them off but scrub up with a good antiseptic soap and scrub brush and pay particular attention to his finger nails, then wash his hands and let them soak for five long minutes in a 1 to 1,000 bichloride of mercury solution. He should wash the patient thoroughly in a 1 to 1,000 bichloride of mercury solution after using the soap and water. He should previous to this, see that the patient's bowels are evacuated by a soap suds enema and that the bladder is empty or emptied and then apply a sterile towel to the vulva and now if you have a perineal laceration you have a clean field to work upon and the danger of puerperal

septicaemia is markedly lessened. When possible, have a clean sheet as near sterile as circumstances allow under your patient. I speak of these things, gentlemen, because we are oft-times hurried and careless in our methods. Let us bear in mind that right here we do more in the prevention of puerperal septicaemia than we can do any other way. The specific treatment for puerperal septicaemia is the serum treatment but bear in mind that it does not do good in septicopyemia as its action depends upon a positive leucocytic reaction and it does little good in the pus cases because here we have an intoxication which must be relieved by the evacuation of the pus. The serum should be administered at least three times a day in doses of ten, twenty or even eighty c.c. Don't be afraid to use it as it markedly lessens the septic condition of the patient, lowers the temperature and slows the pulse. In treating the toxæmia there is nothing to compare with the normal salt solution, either given by rectum, hypodermoclysis or intravenous injections depending upon the severity of the case, but be careful you use a normal salt solution and that you give it aseptically and at the right temperature because if you do not, you get a destruction of the blood corpuscles and a depleting effect upon the patient. Don't use too much at a time or too often as you may waterlog the tissues, embarrass the heart's action and do more harm to your patient in your over-zealous attempt to dilute the toxins and stimulate the heart and kidneys to increased activity, here you may cause congestion of the kidneys by too much saline. I believe in the use of hydropathic measures if for no other use than the quieting and stimulating effect upon most patients, although it does not lower the septic temperature in these cases and is the only condition where, to my knowledge, it does not lower the temperature. The diet should be as liberal and nutritive as is warranted by the condition of the gastrointestinal tract. Wherever pus is found it should be evacuated. Throughout the course of the disease give stimulants as indicated of whiskey, as these cases bear whiskey very well, also of camphor, strychnine and digitalin and nitroglycerin. If your patient needs a sedative use morphine as it is in proper doses the most stimulating heart tonic we have among the hypnotics. I have seen morphine slow, regulate and strengthen the heart where the combined

use of stimulants could not. And right here I would like to say that upon certain patients strychnine slows and regulates the heart instead, as many physicians believe, that it always quickens the frequency of the pulse thereby acting as a whip to the over-tired horse. Treatment in general, should consist in first emptying the bowels with grains one to ten of calomel, dry on the tongue, followed by a saturated solution of epsom salts, preceded by a high enema of normal salt solution, to which if the bowels are obstinately constipated with marked distention, may be added turpentine and glycerine. To the abdomen should be applied unguentum crede. If there is a tendency to distention of the bowels, a constant use of turpentine or in some cases the application of the ice bag is very effectual. If all these measures fail use physostigma hypodermically. Again if the bowels seem to be spasmodically contracted causing obstruction, the administration of two ounces of castor oil with thirty m. deodorized tr. of opii often gives excellent results. I do not believe in the giving of quinine or atropine in cases showing much cerebral irritation as it only increases the congestion and delirium and has no influence whatsoever on the fever. I do believe in the giving of small doses of the tincture chlorid of iron in glycerine if the stomach will stand it throughout the disease. I do not believe in curettage of uterus unless you are satisfied it contains debris and then as gently as possible. The uterine cavity should be washed out when there is evidence of foul discharge, here you can do no damage as the damage has already been done.

CASE HISTORY.

Mrs. C. C. W., age thirty-one, taken sick on Saturday, Jan. 15th, about thirty-six hours after a miscarriage at five months.

Family History.—Two uncles died of tubercular brain lesions and two aunts died of general tuberculosis.

Previous History.—Scarlet fever when a child. Always rather anaemic, cheery disposition up to one year from death, when patient became rather irritable, showed lack of interest, did not care to get out among her friends and took less interest than usual in her dress. Some eight years ago patient was told by a physician that she had tuberculosis of the lungs and was

examined three months previous to her death and positive signs of tuberculosis of the lungs were in evidence. Patient had suffered a good deal from headaches during the past two years, had had during the eight years of her married life three living children and three miscarriages. During her second puerperal period had trouble with breast which was opened with a subsidence of the trouble but the child at about eight months developed a streptococcic infection in the submaxillary glands and the mother's milk upon examination, was found to contain streptococci in abundance.

Present History.—A few days previous to miscarriage she had a slight uterine discharge which upon examination revealed the os uteri, about as large as a U. S. five cent piece with membranes protruding slightly. On Friday, Jan. 14th, the patient miscarried, everything coming away intact. A few hours later in the day the patient remarked she felt the best she had in three years. The next day, Jan. 15th, the uterine discharge seemed a little odoriferous, and an intrauterine douche was given which produced intense uterine colic. One-fourth grain of morphine was given hypodermically with relief and within eight hours from the time the intrauterine douche was given, the patient had a severe chill with rise in temperature to 107. Was fairly comfortable on Sunday but developed another chill that evening with temperature rising to 106 and pulse 170. This subsided somewhat but on Monday forenoon, Jan. 17th, temperature and pulse remained about the same. Ten c.c. of antistreptococcic serum was given with a fall in temperature to 97 and pulse to 80, but began to rise throughout the day, reaching 104 that night with pulse 140. At four o'clock Tuesday morning, Jan. 18th, patient had a collapse being pulseless and presenting a moribund appearance. One-tenth grain of strychnine sulphate with one-one hundredth of a grain of digitalin and one-one hundredth of nitroglycerine with atropine and several hypodermics of brandy were given with good results, the patient slowly reviving until she was running a pulse of 110 and a temperature of 100 next forenoon, Jan. 19th. During these few days patient had been delirious, at times picking the bed clothes, screaming and low mutterings, had considerable headache, abdomen distended over region of stomach but not painful or tender over abdomen nor was it so at any time during the course of

the disease. The bowels were rather constipated and obstruction was feared but under atropine, calomel, concentrated salt solution and high turpentine and glycerine enema, bowels were kept fairly active. The urine had to be drawn from this date for several days. On Jan. 20th, the fifth day of the disease, the pulse reached at ten p. m., 132 and temperature 104. Here the first saline was given by hypodermoclysis and the quinine and atropine discontinued, because it was thought it increased the delirium and ergone given hypodermically in ten m. doses, once in four hours for three doses and a rectal injection of sixty grains of ammonium bromide given with a subsidence of the delirium to quite an extent. Turpentine stupes were kept on the abdomen for several days. Again four c.c. of antistreptococcic serum was given. On Jan. 21st, the temperature ranged from 101 to 105 with pulse from 100 to 108. Salines were given by hypodermoclysis twice during the day, sixteen ounces at a time and six c.c. of antistreptococcic serum were given. The patient seemed to be getting along as well as could be expected. Brandy, strychnine, nitroglycerine and digitalin were given constantly from the start about one-sixtieth to one-fortieth of a grain of strychnine every four hours. On Jan. 22nd, the temperature ran between 102 and 105 falling during that night to 99, the pulse varying from 104 to 110. Two subcutaneous salines of one pint each were given during the day, also ten c.c. of antistreptococcic serum. To the administration of the serum we attributed the falling temperature and pulse. The patient slept little during the early part of the disease, was very restless, although apathetic. The uterus was washed out and presented no tenderness. On Jan. 23rd, calomel and salts were again given with good results following a high turpentine and glycerine enema. One pint of normal salt solution was given subcutaneously. The temperature ran from 99 to 105 and pulse from 108 to 130, at times the pulse being only 108 while the temperature was 104. Patient vomited in the evening, although she had not vomited since the first three days when she had been very much nauseated and vomited what looked to be almost fecal matter. On Jan. 24th, tem. ranged from 102 to 104 and pulse 108 to 130 and ten c.c. of antistreptococcic serum were given and an intrauterine douche which came away very clear. The uterus was high up in the pelvis and

movable, not at all tender, there being no signs of any trouble in the pelvis. The abdominal distention had now nearly gone but the extremities became swollen and the patient passed less urine, became more nervous and delirious. The feet were curled in and the toes drawn downward and the wrists and ankle joints very tender to touch. Rectal salines were given during the disease for retention. The patient throughout her sickness took as much nourishment as one could wish. On Jan. 25th, patient voided urine in good quantity and antistreptococcic serum was given in ten c.c. The stimulants were increased somewhat as the pulse was very thready in character. Patient seemed to rest comfortably. Another subcutaneous saline of one pint was given which should not have been given as the tissues were already becoming waterlogged. On Jan. 26th, the tem. reached 107 preceded by a severe chill, the temperature dropping during that evening and the next forenoon, Jan. 27th, until it reached 97, pulse ranging from 92 to 160. The patient was very apprehensive of impending death, she was absolutely pulseless during the chill and one-twentieth grain strychnine, one-sixtieth grain digitalin and one-one hundredth grain atropine and brandy hypodermically was given. Upon the above date, ice bag was applied to the abdomen in place of hot dry flannels. The patient voided urine freely and passed involuntary movements with much flatus. Jan. 28th, 29th and 30th, the temperature ranged from 100 to 105½ with daily remissions, pulse running from 100 to 128. Patient had to be catheterized from now to the end. Patient becoming more irrational, more nervous. On Jan. 31st, patient again had a severe chill, tem. reaching 107 and within nine hours dropping to 97. During this time and throughout sickness there had been a small, dry hacking cough. It was now that a markedly modified type of Cheyne Stokes breathing asserted itself, although the breathing had been peculiar from the start and at times it was the reverse of the tubercular meningitis type. Also was the very peculiar and rare condition of catatonia observed, although Kernig's sign had been present for several days as well as ankle clonus. The face became covered with an eruption similar to chicken pox. From now the tem. ran about the same from day to day, with chills or chilliness, the pulse getting weaker and weaker, although at times considering the tem.

and the nearness to the inevitable end, the pulse was of very good character. On Feb. 2nd, opisthotonos developed and persisted until Feb. 9th, when the patient peacefully passed away. From Feb. 1st to 9th, the patient was constantly under the influence of morphine.

A NEW TREATMENT FOR BURNS.

BY

E. P. LUNDERVILLE, M. D.,
Richford, Vt.

A type of traumatism very frequently encountered in medical practice is a burning or scalding of the body by flame, hot water or other superheated liquid. Few cases appeal to our sympathy more than those injured in this way, and they call to us to put forth our best efforts because of the great suffering present, the tendency to disfigurement, the danger of infection, and in extensive burns the shock which sometimes is so intense as to threaten the life of the victim.

There is no specific local treatment for burns and scalds; a variety of procedures are advocated, more or less confidently. Of course one must be governed somewhat by the degree of the injury. Burns of the first, second and third degrees, involving considerable destruction of tissue, demand prompt and effective treatment. After the control of the shock, which is to be dealt with practically the same as shock occurring from any other injury, comes the local treatment—directed to the abolition of the pain and the encouragement of healing, with as little scar-formation, as little disfigurement, and as little deformity as possible.

The dressing theoretically best suited to these cases is both analgesic and antiseptic. One should have due regard for asepsis and antiseptics in applying local treatment to this type of injury, and it should not be forgotten that the surgeon's fingers may be carriers of infection, serving to prolong suppuration and seriously interfere with the healing process. Vesicles ought to be punctured with a sterile needle and their contents allowed to escape, but the epidermal covering should not be removed, for it serves, in a measure, to protect the tissue underneath. As one writer points out, the surgeon

often makes the mistake of trying to render the injured surface aseptic, as a preliminary to dressing, when he ought to use every practical effort to cleanse and sterilize the uninjured skin that surrounds the burn. "The wound, as a rule, is of such a very painful nature that extensive washing for the purpose of sterilization is simply out of the question. The heat will have destroyed all the germs on or in the skin at the time of injury, so that only those coming in contact with the surface afterward need be destroyed or removed." Other writers agree that the burned area is usually sterilized by the heat which caused the burn, but, on the other hand, the adjoining skin has not been so sterilized.

At the present time picric acid and carron oil are often used for dressing burns. By some practitioners the former is regarded as "a sovereign remedy"; a 1 percent aqueous solution is usually employed. The objections to picric acid are, that it is a poisonous substance, that it is sometimes irritating, and that it does not appear to limit scar-formation as well as certain other dressings. Cases of poisoning from its use have been reported. It is well known that burned areas, especially large superficial burns, absorb very rapidly any soluble substance applied upon them. One must be very careful, therefore, in the use of poisonous substances as a dressing or antiseptic wash, either in liquid or powder form. Acetanilide has almost fatally poisoned patients when used as a dressing on a raw surface. At this point it may be said that dry dressings are rarely, if ever, applicable to fresh burns.

Carron oil is an old favorite and still has many friends, although it is slowly being abandoned because, as an organic oil, it soon becomes rancid, foul and septic, and therefore must be changed at least every twenty-four hours. Now it is conceded that in burns too frequent change of dressings is meddling surgery. Carron oil, moreover, is not sterilized and has no antiseptic properties. Even if sterilized just before using, germs gain access to the dressings and find in them a very suitable medium for their growth. Finally, the oil has a very offensive and persistent odor.

An oleaginous dressing in which the base is an inorganic oil is best for most burns, and after some study I have concluded that Chloretone Inhalant, marketed by Parke, Davis & Co.,

is all that can be desired. This product contains camphor, menthol, and oil of cinnamon, in refined liquid petrolatum. It is at once analgesic, antiseptic, and protective inasmuch as it excludes the air. As an antiseptic, chloretone, which is a derivative of chloroform and acetone, is sixteen times more powerful than boric acid, and no offensive odor or reactionary effect mars its usefulness.

Last year I had opportunity to put Chloretone Inhalant to the test. By the explosion of a grain elevator, which caused the death of sixteen people, a number of those who survived were severely burned. Among them was a man whose hands, arms, neck, face, ears and scalp were literally a mass of blisters. I bound all the burned surface with absorbent cotton saturated with Chloretone Inhalant, using about half a pint of the liquid. I saw the patient an hour or two afterward, and on inquiry was gratified to learn that there was no pain, a striking testimony to the analgesic power of this dressing. In the case of another victim the practitioner in attendance used oil or ointment. I was called in to see this case, when the doctor was out of town, because the patient was suffering intensely. I immediately gave him half a grain of morphine, hypodermically, and waited half an hour before the former dressing could be removed. I used the same treatment as in my own case, with equal success, and it was continued by the attending physician, with the result that the patient made a complete recovery. There was a renewed growth of hair and healing without formation of scar tissue.

During the past six or seven years I have treated many victims of burns and frost bite in this way with uniformly good results.

We had a physician in our city whose smile was commonly reckoned as being worth five thousand dollars a year to him, in the days too of moderate incomes. You cannot put on such a smile as that any more than you can get sunshine without sun; there was a tranquil and kindly nature under it that irradiated the pleasant face it made one happier to meet on his daily rounds. But you can cultivate the disposition, and it will work its way through to the surface.
—*Oliver Wendell Holmes.*

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H. C. TINKHAM, M. D., }*Editors.*
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EDITORIAL.

In connection with the recent work of Hodenpyl on the treatment of cancer by acitic fluid from a case of spontaneously cured malignant disease, the work of J. W. Vaughn reported in the *Journal of the American Medical Association*, May 7th, 1910, is of great interest.

Working on the theory that the cancer cell might act as an antigen (stimulating the production of antibodies) and utilizing the principle proven by Victor C. Vaughn that any proteid body which had the properties of an antigen may be split by the use of proper chemicals, into a poisonous and non-poisonous part and that the non-poisonous part or residue, has all the antigen properties of the whole molecule, J. W. Vaughn has applied the residue of the cancer mass to the treatment of a large number of cases of malignant disease. His method is to obtain cancer tissue, if possible, from the patient to be treated. This is then treated successively by water, salt solution, alcohol and ether,

thereby freeing it of fats, waxes, carbohydrates and several proteid bodies and salts. The mass is then treated with a twenty times its weight of a two percent solution of sodium hydroxide in absolute alcohol. This affects the cleavage into a toxic portion and a residue, the former part being soluble in alcohol is removed in this manner and the non-toxic residue is used for treatment by hypodermic injection. Vaughn reports the results of this treatment on eight post-operative cases, all of which showed definite signs of recurrence at the time of commencing the injections. The results are given in his own language as follows: "Immediately after the first injection of cancer residue the symptom of pain ceases. While the growth of new tissue in all patients treated has not been entirely stopped, yet it may safely be stated that its rapidity has been lessened." These results taken in connection with those of Hodenpyl form a very strong argument in favor of the theory that cancer follows the laws of infection and immunity. Vaughn's method is one of producing active immunity while the method of Hodenpyl produces the result in a passive manner.

These investigations coming after years of rather unfruitful research on the cancer problem, are inspiring. They suggest that possibly too much time has been devoted in the past in the attempt to find some one specific etiological factor in the disease. It really makes very little difference whether this factor is some outside agency, parasitic, mechanical or chemical or whether the cancer cell has inherent in itself its tendency to excessive multiplication and deficient differentiation, if it finally comes to act as a parasite. If it has the properties of an antigen, it may be considered to be an invader. Work like this detailed above attacking the cancer problem in an entirely different way, may eventually bring us much nearer to the ulti-

mate cause than the more direct route. Certain it is as is amply proven by the experience with vaccination in smallpox and rabies, that principles may be established and wonderful curative results obtained without an actual knowledge of the specific cause of the disease.

Paper money as an avenue by which disease can be transmitted has been an object of suspicion for some time. Indeed this particular form of exchange has been shown more or less conclusively to be under favoring conditions an actual menace to the health of the community. Hilditch of the Sheffield Laboratory of Bacteriology and Hygiene, Yale University, and Park of the Research Laboratory of the Board of Health of New York have demonstrated that dirty paper money is similar to other paper and rags and capable of carrying living tubercle and diphtheria bacilli for some days or longer. Hilditch, however, does not regard the danger as very great. He obtained twenty-four bills, the very dirtiest he was able to procure and subjected them to a minute examination, the outcome of which he found the average number of bacteria in each of twenty-one bills to be 142,000 while by far the most common forms were the varieties of the pyogenic staphylococci. Further it was established by subsequent experiments that these organisms were not in possession of their full virulence. The publication of these results was apt to create a feeling of comparative harmlessness of the dirtiest paper money, or at least to seem to demonstrate that as sources for spreading infection such was not greatly to be feared. In a recent issue of the *Popular Science Monthly*, A. Cressy Morrison writes to point out that the menace of paper money must not be wholly judged from the virulence or the nature of the germs discovered.

He pertinently draws attention to the fact that the infection of drinking water with the germs of typhoid fever should not be estimated from the number of the typhoid bacilli found for if that were the case water would be seldom condemned, and those bacilli are seldom discovered. In brief, Morrison contends and it appears contends with justice, that it is not so much the question of the virulence or even of the nature of the organisms found on paper money but that experiments have established that money is a medium of bacterial communication from one individual to another. In order therefore to elucidate the matter, paper money known to have been exposed to contamination by highly infectious organisms should be examined by scientific experts. It has been ascertained that money can be infected by handling, it has also been shown that the germs of diphtheria and tuberculosis may live on infected bills for several days. Morrison says, "It seems but a step then, to the final demonstration of the actual transmission of these and similar diseases by money in circulation and to the prevention of such spread of disease by the proper measures to eradicate such possibilities." If paper money does spread disease, though but to an extremely small extent, this is reason sufficient to insist upon the more rapid withdrawal from circulation of soiled bills and the issuing of new and clean notes.

We anticipate that nearly every one is pleased to see the general signs of the enforcement of a more sane Fourth of July. The day can be celebrated in a way as fitting without the noise, confusion and loss of life of former years. But in spite of all that can be done, young Americans will explode some giant crackers and fire some blank cartridges with the consequent accidents and resulting tetanus.

The physicians should be alert to treat such wounds in the proper manner. The prophylactic dose of tetanus antitoxin should never be forgotten and it should be given in time, as soon after the infection of the wound as possible.

Two prominent workers in the field of medical research have died during the past month. Howard Taylor Ricketts, a martyr to the disease whose cause he was investigating and Eugene Hodenpyl, cut off in the midst of studies on cancer, which promised to revolutionize the treatment of that scourge. Both were comparatively young men, but were already distinguished for their original work. Dr. Ricketts has been engaged in medical research since attaining his medical degree in 1897, his work including studies on blastomycosis, Rocky Mountain spotted fever and finally typhus fever in Mexico. He was the author of a book on "Infection, Immunity and Serum Therapy." Dr. Hodenpyl was pathologist of Roosevelt Hospital and having an opportunity to study the serum treatment of cancer, developed a theory which though he leaves it unfinished, will furnish a foundation for further study. Both men came to their death through overwork in the cause they served and both will go down in medical history as examples of persistent and untiring searchers after knowledge for the benefit of humanity.

We wish to herewith extend the hand of welcome with every wish for success to the latest recruit to the lines of medical journalism, the *American Journal of Physiologic Therapeutics* (72 East Madison Street, Chicago) a publication whose purpose in the words of its editor is "to cover thoroughly the ever-broadening field of physiologic therapeutics and to bring

together in as brief and assimilable form as possible the essentials of the progress made in these particular lines."

NEWS ITEMS.

New Hospital Building for Post-Graduate Medical School.—Work has been commenced on the new building for the New York Post-Graduate Medical School, which is to cost \$6,000,000, making the Institution's capacity about 400 beds. It is to be twelve stories in height, will have several novel features. The building will include a tower, with rooms for fifty private patients, and on the roof of the tower will be a pavilion for open-air treatment. There is also to be a loggia, open to the street front and to the rear, on three floors, where beds can be kept permanently with exposure to the air. In addition, there will be three long balconies to the eastward, and the entire top of the main building, seven stories high, with the exception of the space taken up by the tower, will be occupied by a roof garden, so that it can be seen that unusual provision will be made for giving the patients abundance of fresh air. There are to be eight operating rooms, 18 x 20 feet in size, but no large amphitheater for operations, as it is believed that the best results can be obtained by having small numbers of students in proximity to the operating table. There will, naturally, be well-equipped laboratories for research work, and special attention will be paid to the investigation and teaching of tropical diseases. After the new building is completed the present quarters of the Post-Graduate, adjoining, will be rearranged, and the nurses' home in connection with the institution is to be rebuilt at a cost of \$100,000.

BACTERIOLOGIST AND PATHOLOGIST.

Assistant Professor of Bacteriology and Pathology, Philippine Service, June 8, 1910.

The United States Civil Service Commission announces an examination on June 8, 1910, to secure eligibles from which to make certification to fill a vacancy in the position of bacteriologist and pathologist in the Bureau of Science, Manila, P. I., at a salary of \$2,250 per annum, and a vacancy in the position of assistant pro-

fessor of bacteriology and pathology in the Philippine Medical School at a salary of \$2,000 per annum, and vacancies requiring similar qualifications as they may occur in the Philippine service.

It will not be necessary for applicants to appear at any place for examination. Their eligibility will be determined upon the evidence furnished in connection with application and examination Form 375 concerning their education, training, and experience.

Qualifications.—The qualifications desired of applicants for these positions are as follows:

(a) They must be graduates in medicine. It is preferred that they shall have received a doctor of philosophy degree (or have had an equivalent training) from a first-class institution.

(b) They must be trained in bacteriological laboratory work and must have good technique.

(c) They must have a good thorough fundamental knowledge of pathological anatomy.

(d) They must have a knowledge and training in immunity and serum therapy.

(e) They must be young, healthy, and energetic, and capable of doing research work; in fact, they should have all the qualifications needed by a first-class laboratory research worker.

In regard to the position of assistant professor, it is desired that the applicant shall specifically set forth, separately, all the training he has had in (a) pathology and (b) bacteriology.

It is believed that these positions will be attractive to persons who are competent for the work. It has been stated by the Bureau of Science that the position of bacteriologist and pathologist offers opportunities for promotion, the salaries in the pathological laboratories ranging as high as \$5,000 (U. S. currency) per annum. The salaries of professorships in the Philippine Medical School range as high as \$3,000. The laboratories are fully equipped with laboratory materials and apparatus for doing all classes of modern bacteriological and pathological work.

The medical certificate in application Form 2 must be written by some medical officer in the service of the United States. Special arrangements have been made with pension examining boards throughout the country to give such examination for a fee of \$2, to be paid by the applicant. If such boards can not be conveniently visited, applicants should appear before medical

officers of the Army, Navy, or Public Health and Marine-Hospital Service. The examining physician must show his official designation.

Each applicant for these positions will be required to submit with his application a photograph of himself, taken within the past three years, as a means of identification in case he receives appointment. An unmounted photograph is preferred. The name and date of examination, the competitor's name, and the year in which the photograph was taken should be indicated on the photograph.

Age limit, 18 to 40 years on the date of the examination.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application Forms 2 and 375. No application will be accepted unless properly executed and filed, in complete form, with the Commission at Washington prior to the hour of closing business on June 8, 1910. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

Issued May 6, 1910.

Dr. Newton S. Bell of Windsor, Conn., died at his home April 11, 1910, aged 70 years. He was a graduate of the University of Vermont in 1864 and for over 20 years was health officer of Windsor. Dr. Bell was a member of the Hartford County Medical Society, the Connecticut State Medical Society and the American Medical Association.

Dr. Michael H. Lynch of Salem, Ind., died at his home April 18. He was a graduate of the University of Vermont in 1882. He was at one time well known as an athlete, having held a championship as a runner. Dr. Lynch was in his fifty-second year.

Dr. Sadie A. Mulvanity of Tufts Medical College has opened an office in Manchester, N. H.

Dr. James E. Hartshorn, of St. Johnsbury, some weeks ago injured his ankle in a slight accident. He has been obliged to seek surgical aid and is with Dr. Gildthwait in Boston.

The last public meeting of the Spring Tuberculosis Campaign was held at Middlebury. The exhibit has been shown in 21 places. In each place two lectures were given so that they numbered 42 in all. It is estimated that between 18,000 and 20,000 attended. This is done on an appropriation of \$2,000 made by the State. The campaign was also responsible for the recent observance of Tuberculosis Sunday which was general throughout the State. In the smaller towns union services were held, which were addressed by a physician or some other man well qualified to speak upon the subject.

The result of the work is undeniably shown by statistics, which go to show that in the early 80's the deaths by the disease numbered about 900 annually and that now they have been reduced to 425, notwithstanding the increase in population.

Scarlet fever is at present epidemic in Boston and in several neighboring towns. During the week ending April 30th, 449 cases were reported in the city of Boston, 84 in Somerville, Mass., 82 in Cambridge, 70 in Malden, 30 in Everett and 15 in Winchester. More than the usual number of cases have also occurred in Winthrop and Chelsea. No deaths from the disease as yet have been reported in Boston. A majority of the patients are adults but in Somerville and Woburn, the public schools have been closed.

In Boston, a considerable proportion of the cases have been traced by the Board of Health to a definitely infected milk supply and a number of cases in Somerville have been traced to the same source. Further distribution of milk from this source has been forbidden until after sterilization of the bottles, utensils and so forth in a manner satisfactory to the board.

Franklin Clement Robinson, a leading chemist and health authority, died of Bright's disease at the Maine General Hospital, Portland, Me., May 25th. Professor Robinson was professor of chemistry at Bowdoin and State assayer. He was formerly president of the American Public

Health Association and was an author of several standard text books.

Dr. H. H. Swift of Pittsford was seriously injured last week by a gas explosion. He was searching for a leak in a stereopticon lantern gas jet with a lighted match when the tank exploded, inflicting severe cuts about his head.

Dr. H. H. Hopkins of Jericho Center was the victim of a serious automobile accident, May 29th. While returning from a night call his car skidded and went over a ten foot embankment. The car was badly demolished but its occupant fortunately escaped with a few superficial scratches.

The 25th annual meeting of the White River Medical Association and the 15th annual ladies' night and banquet was held May 17th, afternoon and evening at the White River Tavern in Hartford village. The membership of this association is about 50 and includes physicians in most of the towns of Windsor and Orange counties in Vermont and from Lebanon, Canaan, Enfield and a few other places in Grafton county, New Hampshire.

The annual session of the Franklin County Medical Society was held at St. Albans, May 26th, with the following program: Forenoon—Reading of Records, Election of Officers, Reports of Committees, Obituary of the late Dr. A. J. Darrah, W. W. Hutchinson, Enosburg Falls, Vt.; Obituary of the late Dr. Fred A. Brennan, W. J. Upton, St. Albans, Vt. Dinner at the American House. Afternoon—Difficult Labor and the Use of Forceps; President's Annual Address, Alan Davidson, M. D., St. Albans, Vt.; Indications and Contra-indications for the Use of Forceps, and Ways by which Their Use may be Avoided, A. F. A. King, M. D., Washington, D. C.; Discussion Opened by John Gibson, M. D., St. Albans, Vt., and E. L. Washburn, M. D., East Berkshire, Vt.; The Technique of Using Forceps, J. Reynolds Patten, M. D., Fairfield, Vt.; Discussion Opened by S. W. Paige, M. D., St. Albans, Vt., and H. H. Johnson, M. D., Franklin, Vt.; Dangers and Accidents Incidental to the Use of Forceps, Harry M. Hallock, M. D., St. Albans, Vt.; Discussion Opened by A. L. Cross,

M. D., Swanton, Vt., and E. R. Lape, M. D., Swanton, Vt. Alan Davidson, M. D., President, St. Albans, Vt.; Edwin A. Hyatt, M. D., Secretary, St. Albans, Vt.

The New Hampshire Medical Society which met at Concord May 12th, 1910, elected the following officers: President, Dr. Alonzo S. Wallace of Nashua; Vice-President, Dr. G. W. McGragor of Littleton; Secretary, Dr. D. E. Sullivan of Concord; Treasurer, Dr. D. M. Currier of Newport; Councilors, Dr. P. T. Haskell of Concord, Dr. E. Bralock Atherton of Nashua; Trustees, Dr. J. M. Gile of Hanover, Dr. J. W. Parsons of Portsmouth; Delegate to the American Medical Association, Dr. F. A. Stillings of Concord; Alternate, Dr. John C. Shedd of North Conway.

The Belknap County (N. H.) Medical Society held its annual meeting at Laconia, April 11, 1910. The officers chosen for the ensuing year were as follows: President, Dr. Frank A. Easton; Vice-President, Dr. W. H. True; Secretary and Treasurer, Dr. A. H. Harriman; Censors, Dr. G. H. Saltmarsh, Dr. J. G. Quimby and Dr. J. C. Huckins.

A course in sanitary engineering, public water supplies, sanitation of buildings, inspection of foods and kindred subjects covering a year's study to be established, open to the graduates of the medical department of the University of Pennsylvania. Courses in tropical medicine, protozoology and entomology and clinical work in tropical diseases are also in contemplation. Dr. Paul A. Lewis has been elected assistant professor of pathology.

BOOK REVIEWS.

A TREATISE ON FRACTURES AND DISLOCATIONS.—By Lewis A. Stimson, B. A., M. D., Professor of Surgery in Cornell University Medical College, New York. New (6th) edition, thoroughly revised. Octavo, 876 pages, with 361 engravings and 65 plates. Cloth \$5.00, net. Lea and Febiger, Publishers, Philadelphia and New York, 1910.

This book is too well and favorably known to the medical profession to need any comment upon its worth. The sixth edition, just out, has been thoroughly revised and includes all the

advances which have been made in this subject, both as the result of the author's experience and the experience of other specialists on this subject.

We cannot recommend this book too highly to anyone wishing a work on fractures and dislocations.

A HANDBOOK OF OBSTETRICS.—By R. Cadwallader, A. M., M. D., Assistant in Obstetrics, University of California, Medical Department, San Francisco, Calif. With 104 illustrations in the text. F. A. Davis Company, Publishers, Philadelphia, 1908.

This is a manual of obstetrics prepared from the various text-books of obstetrics, together with the author's experience and observations. It discusses in a concise but lucid way the entire subject and is, therefore, especially adapted for quick reference by the physician or for the students of medicine. Unlike most books of this scope it is well illustrated which increases its attractiveness as well as its usefulness. The author has succeeded in producing a manual without sacrificing facts or clearness of description.

THE CONQUEST OF DISEASE THROUGH ANIMAL EXPERIMENTATION.—By James Peter Warbasse, M. D., Surgeon to the German Hospital, Brooklyn, N. Y.; Member of the American Medical Association, American Association for the Advancement of Science, etc.; Author of "Medical Sociology." D. Appleton and Company, New York and London, 1910.

Nothing could be more opportune than the publication of this little book, coming as it does when there is so much discussion against animal experimentation.

This book is a clear and unimpassioned discussion of what experimentation upon animals is, what has been accomplished by it, and why it would be a calamity to the people at large if it were to be abolished. It should be read by everyone, layman as well as physician.

THE DISEASES OF THE SKIN.—A Manual for Students and Practitioners. By Alfred Schalek, M. D., Professor of Dermatology, University of Nebraska; formerly Assistant Professor of Dermatology, Rush Medical College, Chicago. New (2d) edition, thoroughly revised. 12 mo., 255 pages, with 47 engravings. Cloth \$1.00, net. The Medical Epitome

Series. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

The Second Edition of this manual of Diseases of the Skin has incorporated the advances that have been made in this subject during the past few years, especially in pathology and treatment.

This book has been thoroughly revised, new illustrations added, and brought up-to-date. It is an attractive manual and deserves the confidence it has received.

ESSENTIALS OF HISTOLOGY.—Fourth Revised Edition. Essentials of Histology, with questions following each chapter. By Louis Leroy, M. D., Professor of Theory and Practice of Medicine, College of Physicians and Surgeons, Memphis, Tenn. Fourth Revised Edition. 12 mo. of 284 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth \$1.00, net.

The fourth edition of this volume of the Saunders' Question Compendis is sufficient evidence of the way in which this book has been received. It is a compilation of the essentials of Histology, with questions covering the subject of the text at the end of the each chapter. It is especially useful to students of medicine in reviewing the work in this subject.

CURRENT MEDICAL LITERATURE.

SOME PROBLEMS IN THE NON-INSTITUTIONAL TREATMENT OF PULMONARY TUBERCULOSIS.

TASKER HOWARD, M. D., of Brooklyn, in the *New York Medical Journal*, May 14, 1910, discusses the home treatment of tuberculosis. He believes that every consumptive should if possible enter a sanitarium, even if the stay must be short, as there he will get valuable and practical knowledge of the details of treatment, and also the methods of safeguarding others against infection. Hopeless cases are best cared for in a tuberculosis hospital.

For those patients who come under private treatment the first requisite is to make them understand exactly what is required of them, and the directions given should not be in general or vague terms, but should be exact and detailed. That such directions may be given properly will mean that the physician must be familiar with his patient, his surroundings and his circumstances. In some cases the patient may advantageously be required to keep a notebook, recording meals, medicines, exercise, etc., with the temperature taken at several times during the day. Such a notebook may serve to point the results of indiscretions.

The question of occupation is an important one, as many patients are obliged to work, and proper work

is often difficult to find. Light, out of door work is best, but work in a proper room may be preferable to any available outside labor. Fever, or other symptoms if marked, call for absolute rest.

In the matter of sleeping arrangements the physician needs to get a first hand knowledge of the patient's home and circumstances, and to advise accordingly. Porches, roofs, tents and window tents are all useful under certain conditions, and it is the doctor's duty to decide what is indicated, and then to persuade the patient to use it. During the day there should be close oversight of the patient, and exercise must be carefully graduated according to his condition. The diet should be regulated in detail, and a careful record kept of the nourishment taken. The use of medicines is not discussed except that tuberculin is mentioned as of possible value when properly used.

In brief, the home treatment of consumption depends upon close supervision of details by the doctor, and the intelligent co-operation of the patient, who should be made to understand that the way to health is difficult and that there is no short cut to the goal.

EARLY DIAGNOSIS OF SYPHILIS.

BAYLY (*Practitioner*, Feb., 1910) writing on early diagnosis of syphilis says: all the staining methods for demonstrating the presence of the treponema pallidum have gradually been given up by practitioners as a means of early diagnosis, since the results obtained hardly compensate for the time and trouble expended. The serum diagnosis introduced by Wassermann has been shown to be a test of extreme value, but unfortunately the complement-fixing antibody does not become developed till the primary sore has been present for over a month. The author obtained negative results during the first month in 50 per cent. of cases which later proved to be syphilitic. In cases where it is desired to determine whether a sore which has just appeared is syphilitic or not, therefore, this reaction is not of much assistance. The paraboloidal immersion condenser and the reflecting immersion condenser, popularly called the "ultra microscope," gives us a simple, rapid and certain method for demonstrating the living treponema in scrapings from a suspected sore or papule. On the under surface of the condenser is painted a disc of black enamel by which all rays of light from the microscope mirror are cut off except those at the periphery of the condenser. By suitably cut lenses the latter are deflected so as to converge obliquely on the object examined, which appears as a bright refractive body on a dark background. In this way transparent objects invisible by direct illumination are easily seen and studied. The ordinary 1/12 oil immersion objective admits too much light and a special mount for the lenses containing a stop is required, which can be purchased at a trifling cost. For more than a year this valuable aid to diagnosis has been employed in Paris, and few Parisian experts would now give an opinion on a doubtful primary or secondary lesion without previously examining a scraping with the help of the ultra microscope. Out of a very large number of recent untreated chancres only two failed to show the treponema pallidum when thus examined. The technique is as follows: The chancre, papule or mucous plaque is dried and rubbed with some sterile gauze to remove any superficial discharge. The margin is then gently scraped till

blood just begins to exude, the surface again dried, and a little blood or serum expressed. A small drop of this is removed with a platinum needle and mixed with a drop of sterile water on a thin glass slide. A large cover glass is now pressed down firmly so that only a thin layer of fluid remains between it and the slide, a drop of immersion oil placed both below the slide and on the cover glass, and the slide placed in position on the microscope stage with its under surface in contact with the ultra microscope. The latter is racked up or down till bright illumination on a dark background is obtained. Distilled water is the best medium in which to examine the treponema, as by osmosis the organism becomes swollen and more easily seen. The treponema is recognized by its size (5-25 μ), shape (helical), and movements (1. Bending. 2. Snake-like undulations. 3. Rotation round its long axis. 4. Concertina-like movements. 5. Local waves of contraction). After about half an hour the organism becomes more rigid and the movements sluggish; in two or three hours' time all movement usually ceases. The treponema pallidum is found below the surface and should be sought at the margin of the lesion. It cannot be detected in the center of an ulcerated or necrosed area, where the saprophytic spirochæta may be seen in large numbers. It is found in mucous plaques, untreated chancres, usually in the papular syphilitic, occasionally in scrapings from syphilitic lymphatic glands, seldom in the macular or roseolar rash. It has not been found in the blood by this method, except in some cases of congenital syphilis, nor in tertiary lesions. General or local treatment markedly influences the number of treponemata found, and the organisms tend to disappear after a few weeks from the site of the primary inoculation even without treatment. In the absence of treatment, a sore of doubtful nature can be demonstrated to be syphilitic, and so much valuable time may be saved and the annoyance of secondary manifestations prevented.

G. H. SHERMAN, Detroit (*N. Y. Medical Journal*, May 21) discusses the results of three years' experience in general practice with bacterial vaccines. He takes the ground that determination of the opsonic index is not necessary in the great majority of cases and also that stock vaccines will usually be found fully as effective as autogenous vaccines, besides saving much valuable time for the patient. He speaks from an experience of over 3,000 doses. His most extensive experience has been with streptococcus vaccine, with which he has treated puerperal infection, amygdalitis, appendicitis, acute, sub-acute and chronic rheumatism and simple vertigo. Vaccines of staphylococcus albus saureus have been used with success in the various infections frankly due to these bacteria and also in arthritis deformans and acute and subacute eczema. Where a mixed infection has been suspected, he has given mixed vaccines, combining colon bacilli, micrococcus catarrhalis and bacillus pyocyaneus with streptococcus and staphylococcus vaccines as seemed called for, maintaining that even should the dose not be needed, no harm is done the patient, while giving him the benefit of the doubt.

DIET IN TYPHOID FEVER.

EDWARD C. REGISTER, M. D., Professor of Practice of Medicine in the North Carolina Medical College, discusses this subject in the *Charlotte Medical Journal*, March, 1910. He assumes that a healthy young adult, at rest, requires for fair nutrition about five pounds of milk or its equivalent per day. In a typhoid patient several factors must be considered, such as the stage of the disease, the fever curve, age, habits, and weight of patient, condition of stomach and bowels, and also his personal inclinations. Contrary to some recent views the author believes that as a rule the patient can take only about two-fifths of the nourishment needed for a person in health. The amount of food for different ages may be governed by practically the same principles that are applied in the administration of medicines. Weight and age should be given consideration. More nourishment can be taken when fever is low than when it is high and more during the first stage than the second, as there is progressive weakening of digestion and diminished salivary secretion as the fever rises. In prolonged cases this secretion may be entirely absent, and much damage may result from a too liberal diet. The writer believes that often the diarrhea, tympanites, dry coated tongue, and even the high temperature are due to overfeeding or to improper feeding, rather than to the pathological lesions in the bowels, and that these lesions alone will seldom cause a temperature of over 102 degrees. Free purgation is urged at the beginning of the attack.

As to the food milk is usually the best since it more nearly approaches the ideal diet than any other single article, is of known composition, and is easily obtained and administered. Objection has been made to milk on the ground that it constipates, but the writer believes this to be an advantage, and constipation a favorable symptom. Nor does fresh whole milk contain too much fat. To avoid curds the milk should be taken in small amounts, never over a half glass at a time, sipped from a teaspoon. For an adult of 150 pounds, a half glass every three hours while awake is sufficient nourishment. Lemonade and other acid drinks should be forbidden while the patient is taking the milk, but lithia water may well be combined with the milk, when large curds are less likely to form. Rarely patients are found who cannot take the milk to advantage, and other diet should be sought. The author has frequently used sour milk or buttermilk, and has often found them very satisfactory, even when the sweet milk was not.

SPASTIC PARALYSIS.

S. KUH, Chicago (*Journal A. M. A.*, April 30), describes the symptoms and conditions of spastic paralysis, which may be merely a symptom of function neurosis or the result of an organic lesion. If the latter, it indicates an involvement of the pyramidal tract somewhere between the cortex of the brain and the anterior horns of the spinal cord. Spasticity and the associated exaggeration of the deep reflexes are both results of increased muscular tonus, the latter in turn being caused by the cutting off of the influences of regulation centers. These are not exactly located, though there is no doubt that one, and pos-

sibly the most important one, is in the cortex of the brain. Others are supposed to exist in the pons, the red nucleus, the spinal cord, the semicircular canals and the cerebellum. It may appear only on voluntary movement, as a slight stiffness, or it may cause intense contractures abolishing movement. Everything between these two is usually called spastic paresis or paralysis. We find that more or less weakness of muscles almost invariably accompanies their rigidity. If the lesion causing the palsy destroys the myelin sheath of the nerve but leaves at least some of the fibrillæ intact, what we call "intention tremor" is supposed to result. The syndrome from destruction of the pyramidal tract alone is seen in its purest form in three morbid conditions; in the later stages of cerebral hemiplegia, in the primary lateral sclerosis of Erb and Charcot and in Little's disease. Senile spastic paralysis, resembling the Erb Charcot malady in some cases, is due to arteriosclerotic changes within the cord. In some rare instances of hereditary or family spastic paralysis we have similar symptoms, and here too the microscope shows degenerative changes in the upper motor neuron. We find spastic paralysis in most cases of disseminated sclerosis, in various forms of myelitis and in compression of the cord. It may also occur in general paresis. We have mixed forms in which it occurs as in the combined system disease and the characteristics of these conditions are described. In cerebral hemiplegia the paralysis is spastic. In ordinary apoplexy, however, there is usually a few days, rarely a week or more, when the paralyzed muscles are flaccid and then their tonus returns. This is especially the case with hemorrhage, embolism or thrombosis. In tumor or abscess, encephalitis, etc., the spasticity is more apt to appear from the onset, especially if they involve an irritative lesion in the cortex. Functional and organic spastic paralysis may exist in the same case and the diagnosis be embarrassing. The patient's age, the condition of his cardiovascular system, of his kidneys, his heredity, the existence or absence of previous hysterical symptoms or stigmata are often of diagnostic value. Monoplegias of hysterical origin usually follow injury to the member, which could hardly occur with organic disease. The deep reflexes are almost invariably increased in organic disease and facial paralysis is very common. True clonus does not occur in hysteria. Sensory disturbances are usually more profound in functional disease, and the abdominal reflexes are not abolished or lost in the latter. The deep tendon reflexes are not so significant as they may be affected in function as well as in organic cases, and the dragging of the leg in hysteria is very different from the semicircular swinging movement of the hemiplegic. Kuh does not attach the significance to the Babinski reflex that is often given it, as he is certain he has found it typical in several cases of hysterical paralysis. The influence of suggestion on the existing disability often clears the situation, but we must not forget that even organic paralysis is more or less influenced by excitement or mental depression. The electric reaction of degeneration, at least in the early stages, is of course conclusive evidence of organic disease.

PLEURAL EFFUSIONS.

A. J. COLTON, Buffalo (*Journal A. M. A.*, April 30), says that in cases of empyema in which the patient is desperately ill and septic it has seemed to him an

heroic and shocking method to have an inch of rib dissected. Various forms of drainage have been used to avoid the necessity of resection but all that he knows of have been failures. Rubber tubing is too flexible and soft when used alone, and soft tubes, besides failing to drain, frequently work loose and are lost in the pleural cavity, rendering necessary a still more serious operation. He has devised a tube, which he illustrates, which he thinks meets the needs. He has used it in a great many cases with perfect drainage and recovery of the patient. The method of its use is described. It is introduced into the seventh or eighth intercostal space in the midaxillary line where the ribs are usually widest apart and the chest wall is thinnest. A linear incision is made one or two inches long, care being taken to avoid the intercostal artery by hugging the knife close to the superior surface of the rib. The opening in the pleural cavity is made simply large enough to admit the tube. If the tube is too long and injury feared to the opposite pleura, gauze can be wound around it as a guard to prevent its going in too far. After thorough pus evacuation, a loose dressing of gauze and a thick layer of absorbent cotton is laid over the tube to absorb the discharge and is held in place by adhesive strips and a bandage. The dressing should be changed daily for a few days. The tubes should be made of silver in nests of three sizes, the diameter of tube as well as the length being varied to suit different cases. He summarizes his paper as follows: Effusions in the pleural cavity are not to be diagnosed solely by flatness on percussion; neither is the respiratory murmur always absent on auscultation, as is popularly believed. The most reliable means of diagnosing fluid and its character is by the aid of an aspirating needle, and this is not always to be relied on. The point which he wishes to bring out in this paper is the drainage of purulent cases by means of a tube without resection of a rib, whereby the operation is changed from one of a major type to a simple minor one, reducing very much the time required in doing it, as well as the danger accompanying it, thereby considerably lessening the mortality. In none of his cases did he attempt washing out the pleura, as he believes this is a dangerous procedure which should rarely be used. In all of his cases recovery has been rapid and without relapses.

CANCER.

J. W. VAUGHAN, Detroit (*Journal A. M. A.*, May 7), critically reviews the theories of cancer, the mechanical irritation theory of Virchow, the lack of tissue tension theory of Ribbert, the trophic nerve theory, the parasitic theories and the infection theories generally, and suggests a theory of his own. This appears to be that there is stored in each cell a reproductive zymogen which is called into action when more cells are required to be made; and that this call might depend on chemical or mechanical irritation from outside. In the case of cancer, clinical observation has shown the probability of mechanical irritation being the *a priori* factor in stimulating this activity—especially a low grade of irritation, insufficient to cause cellular death, but enough to keep the specific reproductive ferment in an abnormal activity. It has been demonstrated by modern research that chemical ratios are different in cancer individuals. Crile and others have shown that the blood of cancer patients is capable of causing hemolysis of

normal blood corpuscles. The recent works of V. C. Vaughan concerning the chemistry of the bacterial cells tend to prove that in bacterial infections, especially of the lytic type, a ferment is formed which is capable of destroying the bacterial cell through the injection of a specific residue of that bacterial cell within the human body. With this in mind, the author has attempted to induce the formation of a ferment in the human body capable of destroying the cancer cell through injections of its non-toxic residue into the body from which the cancer was obtained. The formation of such a substance in the host might serve to explain the few cases of apparent self cure of cancer which have been observed. Belief in this theory and of the efficacy of the method based on it does not do away with the need of a radical operation. His attempts have been to establish the ferment which destroys the cancer cell in cases already beyond surgical relief. In such it can do no harm and no other method is available. The preparation of the residue, as described by V. C. Vaughan, is given essentially as follows: "The cancer material is dissected as freely as possible from all surrounding tissues, after which it is ground in a meat grinder. The material is next washed with water, dilute salt solution, alcohol, and lastly ether. This process removes salts, fats, wax, several proteid bodies, and traces of carbohydrates. The remaining substance is then heated in a flask with a reflux condenser with from 15 to 20 times its weight of a 2 per cent. solution of sodium hydroxid in absolute alcohol, and by this means it is split into a toxic and a non-toxic group. The toxic portion is soluble in the alcohol, the non-toxic is insoluble, and it is with this portion we have to deal."

His practical work in this line has all been done since September, 1907, and the time is too short to report results, therefore only a few cases of recurrent cancer treated on this principle are reported. The results so far have been encouraging. Immediately after the first injection of cancer residue the pain ceases and, while the growth of new tissue in all cases treated has not been entirely stopped, Vaughan thinks it safe to say its rapidity has been lessened. The cases were all of superficial forms of cancer in which recurrence occurred, and were chosen so that results could be quickly and accurately estimated. Every tumor should be examined microscopically and the patient treated preferably with a residue from his own tumor cells. The treatment by this method should follow radical surgical removal as soon as possible. If the majority of surgeons who have a large amount of material of this kind would utilize this method Vaughan says some definite conclusions as to its value could soon be obtained.

PELLAGRA.

The sudden appearance of pellagra as a public health problem in this country is one of the interesting points in medical history, according to A. J. DELCOURT, Houma, La. (*Journal A. M. A.*, April 2), but he thinks that, through sensational disclosures in the lay press, its importance has been somewhat exaggerated. Under the circumstances of the incidence of the disease in this country, its novelty, and the fact that most of the observations have been made in hospitals and asylums, where patients have drifted in the last stages of the disease and with various complications, its seriousness is liable to be

overestimated. Hence the pessimism so largely prevailing in regard to it. However much wanting the evidence may be as to its etiology he thinks it cannot be denied that damaged corn is a cause of the disorder. It is an endemic trophic disease of toxic origin with special vernal manifestations and characterized by gastrointestinal, cerebrospinal, and cutaneous symptoms. In its attenuated or light form, pellagra may be ushered in by languid, tired feelings, more seldom by nausea and vomiting. There may be heaviness about the head or vertigo and general apathy. Most often, however, it is first shown by its skin manifestations which are a sort of solar erythema due not to heat but to the actinic rays. These may recur every spring, leaving, between times, a glossy erythematous condition. In the severe forms, the gastrointestinal symptoms are more marked and the nervous system is affected, depression and melancholia being extreme, and convulsions and epileptiform attacks may occur. There is extreme weakness especially of the back and lower limbs. The nervous symptoms may be associated or not with delirium, acute or chronic, under various forms. The chronic delirium is almost always incurable and has been mistaken in asylums for all sorts of defective conditions. With the attention of the medical profession engaged on the problem, he thinks that a clearer understanding of the disorder will be attained soon.

TRANSFUSION IN PELLAGRA.

After discussing the various facts and theories as to the nature of pellagra, H. P. COLE and G. J. WINTHROP, Mobile, Ala. (*Journal A. M. A.*, April 23), reach the following conclusions: 1. Pellagra is an intoxication. 2. The toxin principles of pellagra exist in the blood of pellagrins and will produce pellagrous symptoms when transferred to other animals. 3. Pellagrous serum exhibits definite precipitative, hemolytic, and antitoxic properties. 4. An artificial immunity can be produced in animals and exists in cured pellagrins. Being interested in the subject of transfusion, they were led to try it in pellagra, not having at the time any knowledge of similar work by others. The results in their first case, published in the *Journal A. M. A.*, Feb. 20, 1909, were suggestive and led to further experimentation on altogether nine cases, which are briefly reported in this paper. The difficulty of securing cured patients as donors forced them to employ normal, healthy individuals in a number of their transfusions. These, however, were chosen from among persons living under the same conditions as to infection, as the patients, and who may possibly have acquired a certain amount of immunity. They also refer to two cases reported to them by other physicians as well as to the Italian work in this line. In all cases there was benefit from transfusion, and except in three fatal cases which were sufficiently accounted for by the advanced stage of the disease or the already hapless condition, all the other patients, two months after transfusion, are either apparently cured or markedly improved. The authors suggest the following conclusions: 1. Transfusion offers a means of combating the anemia, stimulating the recuperative functions and perhaps of furnishing antitoxic substances to pellagrins. 2. The lessened mortality and marked improvement in transfused pellagrins leads us to anticipate the establishment of a serum therapy in the disease.

3. Transfusion may be offered as a surgical therapeutic procedure in pellagrous cases pending the perfection of successful serum therapy.

UNCINARIASIS.

B. K. ASHFORD and P. G. IGARAVIDEZ, San Juan, Porto Rico (*Journal A. M. A.*, May 28), report the results of treatment of the hookworm disease in Porto Rico during the last 10 years. The number of deaths during the last 5 years of Spanish rule in the island were at the rate of 25.9 per thousand of population; 3,062 of these deaths were due to smallpox and yellow fever. There was an enormous increase of mortality during the first 5 years of American occupation though smallpox and yellow fever were quickly stamped out; the death ran up to 33.48 per thousand. This was due to a number of causes. The hurricanes, the economic changes following the war, the great increase of hookworm disease which had been increasing right along for years before, all aggravated the mortality. In the last 2 years of this 5-year period, however, it fell to its Spanish normal minus the smallpox and yellow fever deaths. When the discovery of the cause of the local anemia was announced it was naturally disbelieved. The miserable physical condition of the people was considered sufficient cause and not one of the nearly 12,000 deaths occurring in the last year of the period from tropical anemia was attributed to the hookworm. In 1904, the Porto Rican Anemia Commission began its labors and the striking results in the reduction of mortality can be rightly attributed to its work which, at first was discredited by the press and people. The poorer natives, however, were so miserable that they snatched at any relief and therefore afforded abundant material, though the work was unpopular amongst the better classes. The first report gave the result of what had been done with the small appropriation made, together with a full account of the disease and particulars as to series of special cases treated. The manner in which the Porto Rican people received the report does them credit and from that time on, the work has been loyally supported by larger and larger appropriations each year. The second report gave the result of treatment of 18,865 cases and demonstrated: 1. That the keynote of the campaign for an effective reduction of the disease and its mortality must depend on the treatment of all persons infected and a direct education of the public and reformation of the public health service. 2. Ground-itch is the first sign of infestation and to avoid it shoes should be worn and earth pollution stopped. 3. The coffee districts of Porto Rico are the most infected of all regions of the island. 4. Five doses of thymol given a week apart are practically sufficient to cure nearly every case and reduce the power of infectivity of the patient to the soil about 19/20. The legislature of 1906 passed a law organizing for the first time a permanent commission for the extermination of uncinariasis and the work of this commission is described. In these last five years the death rate has fallen to 23.33 per thousand annually though hookworm disease is still the reigning disease of Porto Rico. The sum total of patients treated up to February 10 by the Commission has been 272,256 persons. The total number who have been treated apart from government work cannot be less than 30,000 and the total number of deaths of those treated by government has during the five years been only

426. The statement of the work is given in tabulated form, the cases classified according to age and clinical type, whether light, medium, severe or very severe, the latter two classes amounting to nearly 29 per cent. of the whole. The scientific results also have not been unimportant. Besides the discovery of the American type of uncinaria the European form has also been discovered coexisting with the new world species on the island and other valuable results have been obtained. The amounts spent for the work during the past 5 years by legislative appropriation in supporting the dispensaries, distributing literature, etc., has been \$154,191.40, a cost of less than 63 cents per patient.

ANIMAL EXPERIMENTATION AND OUR KNOWLEDGE OF THE CIRCULATION.

In a lengthy article in three parts in the *Journal A. M. A.*, May 21, 28 and June 4, J. ERLANGER, Wis., points out how our knowledge of the circulation from the earliest times has been advanced by the use of experiments on the lower animals. When checked by critical clinical observations and painless experiments on man the results of animal experimentation have given us the greater and more valuable part of our practical medical knowledge. The periods of most rapid medical knowledge, from the Hippocratic through the Alexandrian and Galenic down to the modern period, have always been those of greatest activity in this particular direction. In the first part of his paper Erlanger reviews the older contributions to our knowledge of the circulation, showing from the writings of authors of ancient and middle-age periods down to Harvey's time, what the varying views and the gradual approach to a correct knowledge. Even Harvey's demonstration of the circulation of the blood was incomplete, as he had to assume the existence of "porosities of the flesh" in order to account for the passage of the blood from the arteries to the veins. It was 4 years after Harvey's death (1661) that Malpighi supplied the missing link by following, in the lung of the living frog, the course of the blood from the arteries through the capillaries to the veins. This discovery of the mechanism of the circulation ends the first phase of the physiology of the blood vascular system and begins the second, which has to do with the elaboration of the details of the circulation.

In the commencement of the second part of his memoir, Erlanger begins with extracts from authors giving the views that were standard before the Renaissance, *i. e.*, before the importance of animal experimentation was realized, and compares them with works that are standard today on the same subject. He selects as the work from which to quote the views that were held before the revival of learning, that of Paulus Egineta, which embodied the work of the last vivisectionist before that time—Galen—who was considered by some the first organizer of systematic research in this line. He shows how pre-Harvian treatises differ from modern works in the lack of a clear conception of the function of the parts concerned and the recognition that disease is due to disturbed function. The most important of early works on diseases of the heart is that of Senac (1749). The most striking feature of this work is its modern-ness, considering the time it appeared. To Senac must be attributed the recognition of the venous pulse as a diagnostic sign. About the same time Morgagni called particular attention to the mechanism

of the circulatory disturbances caused by valvular lesions and explained the symptom of cyanosis as a congestion of blood. The clinical methods and their development are next taken up and Erlanger shows that while in a vague way they were employed or hinted at by the ancients, our present use of them is based on the modern conceptions derived from animal experiments. Erlanger goes with detail into our advances in the study of the significance of the methods of inspection, palpation, percussion, and auscultation, showing how they depend for their value on the results of experimental physiology. While the ancients were attracted to certain symptoms, with their lack of knowledge of the structure and functions of the heart and blood vessels obtained by experiment, they could not associate them with specific diseases.

It is only with the light of anatomy obtained by postmortem observations and, after Harvey's demonstration of the circulation of the blood that clinical concepts, as we now know them, began to appear. These are taken up in the third part of his paper which is a review of all that has been gained by the application of the facts made known by vivisection. This has thrown all the light, or at least the greater part of it, on the mechanism, normal and morbid, of the circulation of the blood. To animal experimentation must also be attributed some of the most valuable suggestions in the treatment of cardiovascular disease, such as our more enlightened conception of the use of venesection which has been in the past one of the least understood, though most used, of methods. Today it is indicated in but a single condition, acute cardiac insufficiency occurring in valvular disease or in hypertrophy and dilatation of the heart, to relieve the weakened heart of the strain under which it is working. More is heard today of the reverse of venesection transfusion, which, however, is used only as a last resort and is usually substituted for by the use of salt solution infusion into the vessels. The use of massage for resuscitating the heart was also discovered by Schiff in experiments on dogs. The drug treatment of diseases of the circulation has been incalculably advanced by experiment, and many of our most useful drugs have been thus discovered. In the choice of a heart remedy the physician is largely guided by the results of animal experimentation. The treatment of surgical diseases of the heart has been practically opened by experimental methods. Finally we are reminded that the discoveries made in experiments made on the circulatory system, have also had their application in every branch of physiology and medicine. In conclusion Erlanger mentions the lymphatic system, our knowledge of which is altogether due to experiments on animals.

GAS BACILLUS INFECTION.

J. B. BLAKE and F. H. LAHEY, Boston (*Journal A. M. A.*, May 21), describe the symptoms and treatment of infection by the *Bacillus aërogenes capsulatus* of Welch, which they consider to be not infrequent, either alone or as a complication of other infections. It has received various names, such as gaseous phlegmon, traumatic gangrene, etc., but they think *B. A. C.* infection is the best term to apply to the disease. After describing the organism they state that it makes its presence known by a definite picture, the

intensity of which is influenced by the severity of the infection. The temperature is elevated as the disease advances and is followed by a pulse elevation in proportion without other special characteristics. The first appearance is the watery blood-tinged discharge or large or small blebs, the fluid contents of which have the characteristic foul sweetish odor. Pain is usually absent and delirium a late symptom, nausea, vomiting, etc., are usually absent until the disease has gone beyond control. This is explained by the fact that the disease spreads locally and not through the lymphatics. The muscle seems to be the most favorable site in which to flourish; fascia, tendons, and ligament are resistant. These are the symptoms of an unmixed infection from this organism, but it may occur as a complication, sometimes an overshadowing one, of staphylococcus or of streptococcus infections. When the bacillus is confined to the wound in a mixed infection it seems to be more amenable to treatment. The treatment is always operative. It may consist simply in opening up the wound or it may require multiple incisions, or amputation. As secondary measures, frequent irrigation, spraying with hydrogen peroxid, and the delivery of oxygen constantly into the wound are suggested. There should be no doubt or hesitancy about opening up the wound. Amputation is the most certain, but it often presents the disturbing thought that possibly the limb might have been saved by multiple incision. On the trunk, of course, multiple incisions are the only recourse. In the 10 cases here reported there were 4 amputations, 2 of the patients dying; 2 recovered under treatment with hydrogen peroxid, 1 recovered with oxygen delivered into the wound, 1 of 2 patients treated by multiple incisions recovered and 1 died, and 1 patient died under treatment by local non-oxydizing agents. In most cases it is safe to say that multiple incision should be used only in the early cases with amputation in reserve. In the acute rapidly extending cases amputation is practically the rule and must be done before the third day of the disease usually to save the patient. In the majority of cases operative interference is necessary before the third day. In their series they found a lack of response to the infection in temperature is suggestive of fatal result. While the bacillus is a soil inhabiting one and is relatively common, it is true that only a small percentage of soil-infected wounds develop gas bacilli. It is probable, the authors think, that normal human tissue is to a certain extent resistant to their action and it is reasonable to suppose that the blood is somewhat destructive to the organism. The authors caution against the use of impervious coverings; the dressing should afford easy inspection of the wounds. The possibility of its occurrence in lacerated soil-infected wounds is such that we should be always on our guard against it, and the best results are to be expected from prophylaxis, early diagnosis and prompt interference. By prophylaxis they mean thorough cleaning of all lacerated or crushed wounds and leaving them open to the air as far as possible, thus securing aerobic conditions which are unfavorable to the organisms. By early diagnosis is meant careful watch for the signs described, frequent cultures from the wound when in doubt and reopening of the wound when there is any suspicion of gas bacillus infection. By prompt interference they mean amputation in the fulminating type with the stump left widely open and multiple incisions in the milder type with careful and fre-

quent inspections, always being prepared for further operation if needed. No definite statement is made regarding hydrogen peroxid or oxygen treatment. The use of the former is advised on the stump after operation and in the wound after flaps have been opened.

PANCREATITIS.

A. J. OCHSNER, Chicago (*Journal A. M. A.*, May 28), insists on the importance of this condition. The infection undoubtedly passes into the gall-bladder, also through the common duct and then there is a chance for it to be diverted into the pancreatic duct, especially if there is obstruction from gall-stones or edema below the point at which the duct of Wirsung enters the common duct. In his cases, the irritation of the common duct has been due quite as often to the passage of infected sandy bile as to the presence of gall-stones. The difference in the statistics as to the frequency of pancreatitis accompanying gall-stones is probably due, he thinks, to the observers basing the diagnosis on their judgment of the enlargement of the gland. What might seem pathologic to one, might seem normal to another. All surgeons with large experience in this line seem to agree that pancreatitis patients almost always suffer from gall-stone disease, especially if the gall-stones lodge in the common duct. The colon bacillus is the most common cause of the infection, though frequently associated with the streptococcus and staphylococcus according to Egdahl and others. The pancreas once infected, a vicious circle is developed by the swollen organ obstructing the common duct passing through it, thus favoring the development of micro-organisms above this point and also backing them up into the pancreas. This is the cause of the benefit derived from free drainage by cholecystotomy. All these facts seem to show that the accepted theory that, barring the rare occurrence of metastatic infection, pancreatitis is due to infection from the alimentary tract through the biliary passages or, according to Maugaret, through the lymphatics of these passages. In violent acute cases destroying the gland parenchyma, the cause is the retrograde injection of virulently infected bile and pancreatic juice. In the chronic forms, on the other hand, the secreting cells of the acini are more readily destroyed than the islands of Langerhans. The diagnosis has until recently been made only incidentally during operation but latterly more attention has been given to this point and the diagnosis is made before and confirmed by the operation. The Cammidge reaction seems to Ochsner, from his own researches, to require too much of the observer to be useful except in expert hands, but he believes it to be of value. If we add to the symptoms of cholecystitis an area of tenderness, from 5 to 10 cm. long, to the right of the umbilicus over the middle of the right rectus abdominus muscle and can exclude duodenal ulcer we have the typical symptoms on which to base the diagnosis. There are cases, of course, in which both these conditions are present but in these it is possible to determine the necessity of an exploratory incision and, if the indications for this are not clear, then it is usually safe to keep the patient under dietetic treatment for further studies. In advanced cases there is usually marked emaciation and anemia, frequently with peculiar roll like areas of fat on the front and sides of the chest and abdomen. In chronic pancreatitis the treatment consists

primarily in establishing free drainage and removing concretions, keeping the bowels and stomach normal by proper diet and hygiene. Early operation greatly improves the prognosis though in mild cases of acute pancreatitis surgical treatment is not indicated. If the local irritation is removed by gastric lavage and exclusive rectal alimentation the obstruction to drainage through the common duct will generally soon subside, and the conditions will be favorable for recovery. Simple drainage of the gall-bladder has in his experience always relieved the condition during the attack except in cases in which a severe cholangitis coexisted, in which case there has been a mortality of about 20 per cent. The operation should be as simple as possible and without rough or unnecessary handling of the tissues. Even in violent acute cases a proportion of patients will recover if the abdomen is quickly opened and simple drainage introduced. Patients in whom the extravasation of pancreatic juice has caused fat necrosis are least likely to recover. Jaundice lacking, it is best to limit the operation to localized areas of infection or necrosis, controlling hemorrhage by fine catgut sutures and having free drainage of the entire area. With jaundice, simple drainage of gall-bladder, removing loose gall-stones is indicated. Stones impacted in the duct are best left alone.

THE INVESTIGATIONS THAT ARE BEING CARRIED ON by a congressional committee on cold storage have disclosed the well known fact that articles of food that are kept in cold storage will invariably come out fit for food, if they are put in fresh. Eggs that have started to decay before taken the cold storage will not improve. This is a truism. Cold storage tends to equalize prices, rather than to enhance them. It places in the market eggs, for example, during the season when hens are not disposed to lay, at a lower price than would be possible without cold storage. During the hen's busy season the cold storage system tends to advance the price from being ruinously low. All that the investigation has found out has been in the line of truisms. Certainly nothing has developed to indicate that cold storage properly managed, is detrimental to the health of the community.—*Medical Sentinel*.

ACETIC ACID TEST FOR ALBUMEN IN URINE.—Those who continue to use Heller's test with nitric acid will be surprised to know that statistics of over a thousand counter tests show an error of nearly 34 per cent. in results so obtained. In other words, 85 per cent. showed albumen present with the boiling and nitric acid, while of these only 51 per cent. gave positive albumen when the test was made with the addition of saturated solution of chloride of sodium, boiling

and acetic acid 50 per cent. added. Now it is wrong to assume that all error was on the safe side. For the saturated saline solution is needed to insure proper precipitation of danger indicating albumen.

DIABETES FOLLOWING PSYCHIC SHOCK.—The influence of trauma in cases of diabetes has been placed at from one to nine per cent. In the majority of instances, the injury is to the head. Roepke, of Melsungen, gives a case due, he believes, entirely to the psychic shock which occurred to a motorman who was on the point of running into three children. Not only did a fatal and rapid diabetes run its course, but a pulmonary lesion of tuberculosis developed. Neither morbid process had existed at the time of the accident. It is shown by Roepke (*Revisita de Sanidad Civil*, August 20, 1909) that the patient had been decidedly stout before, weighing around 125 kg. Intense headaches came on soon after the shock, and disturbances of sensation in the lower extremities.

APPENDICITIS, stated A. B. Johnson in the recent annual meeting of the Medical Society of the State of New York, is simulated by a very large number of conditions, many of which, when carefully studied, especially with regard to the past history and present symptomatology, would make a differential diagnosis possible. In acute cases, with an imperfect history and an inability to observe the patients during the earlier hours of the disease, an accurate diagnosis might be impossible, especially: where there are perforating lesions of the alimentary tract other than appendicitis, affections of the tube and ovary on the right side, cases of well developed purulent peritonitis, and in the erythema group (Henoch's purpura, with abdominal symptoms, might so exactly simulate acute appendicitis that no diagnosis were possible during the early hours of the disease).

FIBROMATA OF THE UTERUS.—The menopause does not, declares E. McDonald, bring a cure to fibroids; on the contrary, increasing age increases the danger from these growths. There is little danger of malignancy in fibroids before the fortieth year; but after this time the danger increases with each year. In view of the sarcomatous changes, carcinomatous associations and other degenerations of uterine fibromyomas,

early removal is indicated when they are of sufficient size to produce symptoms and to cause the patients to seek advice. Small uncomplicated fibroids in young women do not require early treatment. Thorough pathological examinations should be made of all fibroids for evidence of malignancy. The tumor should be opened at the time of operation and examined for adenocarcinoma or carcinoma. Particular study should be devoted to those tumors which are necrotic or cystic or both, as among these are found the largest proportion of malignant changes. In view of the large percentage of inflammatory changes in the Fallopian tubes and appendix, these should be examined at operation, and removed if diseased.

SUPERHEATED AIR IN GANGRENE.—M. Dieulafoy (*Presse Med.*, Feb. 16, 1910) reports a case of diabetes in a man of 64, with a gangrene of the leg due to obliterating arteritis; the patient was so weak that amputation could not be done. His strength, however, was kept up by predigested foods, etc.; and in the meantime a jet of superheated air, generated by the "aerothermo-generator," was played on the gangrenous limb. This apparatus is attached to the electric light wire; air heated up to 700 degrees C. can thus be forced out in a strong jet. After a week's application of these hot air douches (the air being at 300 degrees C. on the gangrenous area and from 80 to 100 degrees C. on the sound parts), each daily sitting lasting from 30 to 45 minutes, the patient began to improve; by the end of the third month the general condition warranted operation. The hot air kept the gangrene dry and the tissues mummified. The applications were not very painful and were well endured.

SOCIAL UNREST AND PERSONAL PHAGOCYTISM.—Settlement workers and philanthropists often may be classified as human phagocytes. Absolute unselfishness is impossible. But when personal comfort depends upon helping others, it may amount to a state of moral phagocytism.

PHYSICIANS' MALADIES.—A French exchange declares that among physicians 44 per cent. die of heart disease, 20 per cent. from nervous affections, 20 per cent. from the morphia habit, and 7 per cent. from tuberculosis.

Know to a Certainty!

You cannot determine the therapeutic value of a remedial agent by the sense of taste or sight or smell. One specimen of a given product may differ widely in medicinal worth from another specimen identical with it in physical appearance and bearing the self-same name upon its label. And this variation may be due not alone to differences in the process of manufacture, but also to the fact that the active constituents of crude drugs vary from season to season and are modified by habitat, by climatic influence, by methods of collecting, curing, handling, storage.

There is a way to produce therapeutic agents of definite medicinal strength. **STANDARDIZE THEM!** That way is our way. **We standardize our entire output of pharmaceutical and biological products**, chemically or physiologically, to the utmost degree possible in the present development of chemical and pharmacological knowledge. **WE WERE PIONEERS IN STANDARDIZATION**, putting forth the first assayed preparation ("*Liquor Ergotae Purificatus*") more than thirty years ago. We championed standardization when it was ridiculed by routine and "conservative" manufacturers throughout the length and breadth of the country. We held then, as we hold to-day, that "**the value of a drug or drug preparation lies in its content of active principle.**"

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THERAPEUTIC NOTES.

ANTIMENINGITIS SERUM.—After five years of exhaustive experimental work and extensive clinical trial, the Rockefeller Institute has perfected a serum for the treatment of epidemic cerebrospinal meningitis.

Antimeningitis Serum is now placed on the market by the H. K. Mulford Company who, with their characteristic progressiveness, announce that they are prepared to supply it from their various branch houses as well as from Philadelphia.

In the pandemic of 1904-8 the serum was supplied by the Rockefeller Institute to clinicians all over the world. The mortality of cases in which it was used was less than 25 per cent., that of cases in which it was not used about 75 per cent., the percentage being practically the same everywhere. Now that the serum can be obtained more promptly it will be possible to administer it earlier in the disease, and it is safe to predict that this will result in a still further reduction of the mortality. More than one thousand cases have been treated by this serum and no bad effects have been reported, the beneficial effect of each injection being dwelt on by all who have used the method.

The serum is supplied in packages the entire contents of which have been sterilized. Each package contains two syringes of 15 c. c. each, being the dose usually administered to young children, while for adults, or malignant cases, 30 c. c. (2 syringefuls) are to be injected at one dose. With each package is a special needle for puncturing the spinal canal. The needle is made of soft-tempered metal which will not break, and is given sufficient stiffness by a special stylet. This stylet fits into the needle and is of exactly the same length. The end is beveled so that when it is fitted into place the bevel corresponds to that of the needle point, making one smooth surface. When the stylet is rotated its point clears the lumen of any accidental obstruction. This needle serves both for drawing the spinal fluid and for the injection of the Antimeningitis Serum, being left in position during the entire operation.

When as much fluid as possible has been drawn off, the syringe is attached to the needle by means of a combined rubber and metal coupling previously sterilized. The metal tip is connected with the syringe by means of a small piece of rubber tubing, in order to avoid all danger of breaking the syringe point or injuring the cord by bending the syringe or by sudden movement of the patient.

Every physician will welcome the news that they are now able to secure Antimeningitis Serum, because it is the only remedy known to be of service in the treatment of cerebrospinal meningitis.

The H. K. Mulford Company, recognizing their responsibility to the medical profession and wishing to co-operate with the members thereof by furnishing therapeutic agents for the treatment of poor patients, will, on receipt of certified order from the physician stating that he receives no fee for his services and that the patient is indigent, furnish the Antimeningitis Serum, without charge, except in communities where the local Board of Health supply curative sera for indigent patients.

AN IMPORTANT UTERO-OVARIAN SEDATIVE, ANODYNE, AND TONIC.—While it is unquestionably true that many cases of pelvic diseases in women are

amenable only to surgical treatment, it is quite evident that there are not a few in which, for some reason or other, operative measures are out of the question. Among these may be included the many cases of dysmenorrhea and ovarian hyperesthesia, for the relief of which recourse is too frequently had by the patients to alcohol, the narcotics, or some of the much-vaunted nostrums on the market.

It has been shown to be a mistake to suppose that substantial and lasting benefit cannot be obtained in these ailments by the internal administration of therapeutic agents, a number of which have been thoroughly tried, with results often satisfactory, sometimes brilliant. An agent of undoubted value in such cases is *Liquor Sedans*, a preparation introduced to the medical profession many years ago by Messrs. Parke, Davis & Co. and esteemed and prescribed by physicians to an extent, it is believed, not equaled by any similar compound.

Liquor Sedans is composed of three of the most important sedatives, anodynes and tonics to the female reproductive tract—namely, black haw, hydrastis and Jamaica dogwood—so combined with aromatics as to constitute a very acceptable preparation, being in this respect unlike some other agents of a similar nature which are ordinarily taken with great reluctance. It is of marked usefulness in the treatment of functional dysmenorrhea, menorrhagia, ovarian irritability, menstrual irregularity, etc. Parke, Davis & Co. also manufacture *Liquor Sedans Rx 2* (without sugar), which is precisely like the older formula but for the omission noted, and which is available for use in cases in which sugar is contraindicated; also *Liquor Sedans with Cascara*, which is of the same composition as *Liquor Sedans* except that each fluid ounce contains 40 minims of the fluid extract of cascara sagrada, giving to the formula an important tonic-laxative value.

PROVEN MERIT VERSUS THEORY.—The things that count—RESULTS—have proven that a cod liver oil product with the grease left out is as active therapeutically, and more so when its palatability is considered, as the greasy, nauseating, unrefined cod liver oil. It is this feature that has won for *Cord. Ext. Ol. Morrhuæ Comp.* (Hagee) the good opinion of a large share of physicians, and it is why they continue to use it day after day. It not only possesses every virtue of the crude oil, but its value has been enhanced by the addition of the hypophosphites of lime and soda.

NUTRITION IN ANAEMIAS.—Defective or unsuitable food supply is one of the most frequent causes of anaemia. It is clearly manifested that not only must we see that there is an adequate and suitable supply of food, but we must look also to its digestion and assimilation in order to obtain the benefit of the iron which it contains. The digestive secretions in these cases are apt to be defective both in quantity and quality.

The gastric mucous membrane is atonic and enfeebled; its functions of digestion and assimilation are at low ebb, sometimes entirely abolished, in other words, anaemia is but part of the condition of which mal-nutrition, mal-assimilation and faulty metabolism are the essential features. It will be seen that it is necessary in any rational treatment of these

cases to awaken the dormant, torpid, nutritive functions, and restore them to physiological activity. The atonic, enfeebled condition of the digestive mucous membrane must be remedied. The abrogated digestive and assimilative functions must be coaxed into a proper performance of their duties by something which has a direct selective influence upon them. Until this is accomplished, ordinary food, the natural restorative as well as the natural source of iron cannot be utilized. With restored activity of the digestive and nutritive functions, the assimilation of iron and food is assured. The stimulant and restorative action upon the digestive organs of supplied blood has already been shown in many cases and it is indicated as the only rational remedy to restore the atonic enfeebled digestive powers, and raise the blood to normal quality. Bovinine, being perfectly preserved arterial bullock's blood, must of necessity contain every element of nutrition in the proper proportion. One strong point in its favor in the treatment of anaemia is that it requires hardly any digestion, but is immediately ready for assimilation, thereby giving the stomach absolute rest.

THE IMPORTANCE OF STANDARDIZATION.—The vegetable drugs used in medicine cannot always be grown under the same conditions. The soil, the season, the gathering time, the temperature—these are variable factors. Consequently, one cannot reasonably expect that the amount of medicinal substance in root, leaf, bark or seed will be constant. Two lots of digitalis leaves may look exactly alike to the experienced botanist, yet in content of active principles they may differ widely. As a matter of course, preparations of drug-plants must be variable in strength if made according to the antiquated methods whose basic idea is that one kilo of crude drug will produce one liter of fluid extract. Suppose that the two lots of digitalis leaves referred to were extracted or percolated by the same operator, in the same manner, and during the same period of time. Would the products be of equal therapeutic activity? Obviously not. In each case the drug would be made to yield one liter of fluid extract, but this very fidelity to pharmacopoeial direction would carry over to the finished product the inequalities present in the crude drug.

The only way to secure uniformity in drug products is to standardize them—in other words, to adjust them to definite strength by systematic assay, chemical or physiological. This principle is now pretty well recognized by our leading pharmaceutical manufacturers. In fact, it is to one of the manufacturers, in all probability, that modern medicine owes much of its scientific character. Reference is here made to Messrs. Parke, Davis & Co., who were the first to enter the fields of both chemical and physiological assay and who have practiced and preached standardization for a third of a century.

It is a healthful sign that the medical practitioner of today is giving serious thought to the subject of quality in medicinal preparations, for it is a logical assumption that the pharmaceutical market contains many therapeutic agents of very doubtful value. The physician has an obligation to himself and to his patient—an obligation which does not cease with the mere writing of a prescription. His further duty



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lies in assuring himself that the best quality of drugs shall be used in the compounding of that prescription. And this duty is performed through specification of the brand—a brand that he knows is reliable.

S. NEWMAYER, M. D., states: Among the varied causes of convulsions none play a more frequent and important part than autointoxications. They are more frequent in children, due generally to a possible overfeeding, improper food or constipation. The intestinal canal contains a variety of toxins derived from the ingesta, bile and putrid material. There is continuous absorption from the intestines, including the taking up of toxins.

In the acute infections, where convulsion is oftentimes a forerunner, autointoxication from the intestinal tract undoubtedly is of no minor importance. Infections are the result of microbes and we know these bacteria produce something injurious to the system—they elaborate poisonous ptomaines or toxic substances. Nature tries to rid the body of this poison through its various channels of elimination, one of which is the intestinal canal.

It is here we can aid Nature with our antiseptics. The value of internal intestinal antiseptics I believe is greatly over-rated. Many of these drugs are soluble and absorbable and those that are not are so often given in such small doses that in the long journey from the mouth through the intestinal tract they have spent most of their value before they have proceeded far.

Not to employ internal antiseptics would be unwise. But I would urge a more liberal use of antiseptic solutions by means of the rectal tube. This enteroclysis has not only its antiseptic value, diminishing the toxicity of the intestinal tract, but oftentimes an antipyretic action. This mode of treatment has not been very popular with the physician because of the unclean work, but I am confident the results well repay one for the labor.

In all cases of convulsions, immaterial of the cause, and in any other condition pointing to autointoxication, I flush the lower bowel with a solution of Glyco-Thymoline, one to two ounces to the quart of water.

Glyco-Thymoline is always kept in my emergency grip.

OBSTETRICAL PRACTICE.—In contrasting modern obstetrical practice with the methods formerly in vogue, one cannot fail to be impressed with the greater care bestowed upon the parturient woman. This is shown by the scrupulous cleanliness and antiseptic precautions recommended in every modern text-book, as well as the earnest efforts made to relieve the pangs of childbirth. The latter point is one of great importance, since it is probable that women of the present generation, owing to various causes and especially to a less robust physique, and a more sensitive nervous system, are less able to endure the pain connected with parturition. It is on this account that the labor pains are in many instances less effective and more intensely felt.

Under these circumstances, Hayden's Viburnum Compound becomes a real blessing to many parturient women. During the first stage it exerts a soothing effect, relieving nervousness and restlessness when given in doses of two teaspoonfuls of Hayden's

Viburnum Compound, one teaspoonful of sugar, and seven teaspoonfuls of boiling hot water, and repeated every half hour.

In the second stage its action is that of a uterine tonic, increasing the efficiency of the pains, and here it may be given in teaspoonful doses whenever required for the purpose.

In the third stage it satisfactorily replaces ergot, being equally efficient and devoid of its unpleasant sequelæ. One of the striking differences in the effects of ergot and Hayden's Viburnum Compound during the period of parturition is that while the former produces continuous contraction of the uterus, with scarcely any intervals between the pains, Hayden's Viburnum Compound simply reinforces the strength of the uterine contractions, without otherwise changing their character. This enables it to be employed when ergot would be dangerous both to the mother and the child.

WARNING.—Hayden's Viburnum Compound is the original product as formulated by William R. Hayden, M. D., and on account of its popularity with the medical profession, due to its therapeutic efficiency, it is most extensively imitated by unscrupulous druggists and manufacturers. Care should be exercised that the original and not a substitute is administered.—*Canadian Journal of Medicine and Surgery*, October, 1909.

LONG CONTINUED INVALIDISM.—Many and diverse are the causes of chronic ill health and many are the problems presented to the physicians by patients of this character. If we exclude from consideration such organic and diathetic conditions as tuberculosis, carcinoma, specific disease, rheumatic and gouty states, etc., it will be found that neurasthenics and dyspeptics make up the large majority of chronic invalids. The chronic dyspeptic is usually a neurotic individual in whom the digestive symptoms predominate, being secondary to and dependent upon general and nervous devitalization. In a large majority of such cases, so-called nerve foods, neuro-tonics, stimulants and "pick-me-ups" are resorted to, but without substantial benefit. The essential indication is nutritive and blood-glandular re-enforcement. A nutritious, readily digestible diet is the first and most important prescription and then a general reconstructive, restorative and reconstituent tonic such as Pepto-Mangan (Gude), should be ordered. This palatable, non-irritant and promptly assimilable blood constructor and hemoglobin creator will almost always assist materially in increasing the general force and vitality of the chronic invalid without disturbing digestion or causing constipation.

THE FOLLOWING IS FROM THE SUPPLEMENT TO THE *British Medical Journal*:

The Charles H. Phillips Chemical Company (14, Henrietta Street, Covent Garden). As in previous years, this firm confined its exhibit to two of its products, the one being a compound syrup of quinine, the other a fluid magnesia. The former is known as the *Syrup of Phospho-Muriate of Quinine Compound*, its strong point being that in its preparation the muriate instead of the sulphate of quinine is used, and phosphates instead of hypophosphites. Hence, the preparation being acid, there is no risk of the contained strychnine being thrown down, as some-

times occurs in the case of hypophosphite syrups. It is a pleasant bitter tonic, not productive of headache, and very stable. The fluid magnesia of the firm is termed *Milk of Magnesia*, this being the registered title of an odorless, white, palatable fluid with the physical appearance of milk. It is a hydrated oxide of magnesia, each fluid ounce representing, we understand, magnesium hydrate 24 grains. Under the microscope it is seen to be homogeneous, a fact which supports the firm's statement that their *Milk of Magnesia* is not, as are many magnesia preparations, merely a triturated magnesia suspended by mucilaginous or glycerine solutions. It attributes its special value as a neutralizer of free acids to the fact that it is entirely free from carbonates, and therefore does not give rise to discomfoting evolutions of carbonic acid gas. It combines readily with tinctures as well as with iodides and other solutions of salts, and is useful as a suspender of fixed and volatile oils. We have had considerable experience of its use in the diarrhoea of children and in gastric irritability, and consider it an excellent form in which to administer magnesia when indicated in such cases. It may be also substituted for lime-water in the modification of cow's milk. Owing to its persistent alkalinity and tastelessness it forms a good mouth-wash for use at bedtime.

Saturday, July 31st, 1909.

TOXEMIC ANEMIA.—It is now generally recognized by both pathologists and clinicians that an auto-toxemia, resulting from the systemic absorption of the products of intestinal putrefaction, will, if sufficiently long continued, induce a general devitalization of the circulating fluid. Such a condition is by no means uncommon, although often unrecognized. Under such circumstances it is, of course, quite idle to attack the anemic blood condition primarily, or until the toxic cause of same has been measurably corrected by proper attention to the gastro-intestinal tract. The causative factor being once removed or materially modified, restorative and hematinic measures are distinctly indicated. It is especially desirable in such cases to avoid the administration of drugs that tend to derange the digestion, and the ordinary, inorganic, metallic salts of iron should not be given, as they frequently prove irritant, astringent, and constipating. Pepto-Mangan (Gude) is the ideal hematinic in any condition in which the integrity of the digestive functions must be conserved and maintained, as the necessary iron and manganese are promptly absorbed without irritating the gastric mucosa or inducing a constipated habit. Because of its distinct palatability children always take it readily.

THE EXTREME SPAN OF HUMAN LIFE.

Somewhere Between 100 and 110 Years According to the Census Bureau.

Washington, D. C., May 19, 1910.—A chapter concerning reported centenarians is contained in the Census Bureau's latest annual mortality statistics report prepared by Chief Statistician

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Dr. Cressy L. Wilbur, of the division of vital statistics.

The report affirms that it is undoubtedly true that the age of 100 years is occasionally attained. It suggests that it is perhaps doubtful whether, as shown by incontrovertible evidence, the age of 110 has ever been reached or exceeded. This would, it is stated, set the possible longevity of man or the extreme span of human life somewhere between 100 and 110 years.

Dr. Wilbur declares that it would be a fact of vast interest to humanity if it were true that a human being could live 150, or 140, or 130 years, or even 120, or 110 years, as established by exact observation. The capability of the bodily mechanism would be tested and it might be inferred that, with better hygiene, superior eugenics, and proper methods of living the extreme limit of life might more frequently be attained, and that after many generations the average age of humanity might perhaps approximate to this limit.

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The report goes on to show that up to very recent times the most incredible reports, the most inaccurate statements, and the most uncritical methods of study, have been believed. Since Thoms' investigations in 1873 great skepticism has arisen in the minds of many in regard to the reputed ages of centenarians and, the report declares, some have even stated that there were no actual cases of centenarians on record in spite of the official returns of population and deaths to that effect.

As an example of the uncertainty attaching to individual statements of extreme longevity, the case of the oldest reported decedent is cited. The death was that of Noah Raby, known as "the oldest man in the country," and it occurred in the year 1904. Reference to the census office transcript, which was returned by the state registrar of New Jersey, shows that the original death certificate related to the death of Noah Raby, stated to have occurred in Middlesex county on March 1, 1904, at the age of 131 years and 11 months. The conjugal condition of the decedent was not stated; the birthplace of the decedent and the birthplace of his mother were given as "U. S.," the birthplace of father was not stated; and the cause of death was given as "senility"—an entirely satisfactory statement in this case.

Dr. Wilbur then observes that in the index catalogue of the library of the Surgeon-General's office, United States Army, second series, Volume IX, under the title of "Longevity," may be found the following reference: "Centenarians and more: (Sophia Gab, aged 129; Noah Raby, 131 years 11 months) Med. Rec.,

N. Y., 1904, lxx, 384." The issue of the New York Medical Record of March 5, 1904, contained the following item:

"Centenarians and more.—Sophia Gab, probably the oldest woman in Chicago, died there last week. She was supposed to be 129 years old. Born a slave, she spent most of her life on a plantation near Richmond, Va. When released from slavery during the civil war she was 87 years old. A still more remarkable story of longevity is contained in the notice of the death of Noah Raby, in New Brunswick, N. J., on March 1. It is asserted, with much circumstantiality, that he was born in Gates county, N. C., on April 1, (significant date) 1772, so that had he lived one month longer he would have been 132 years old. He entered the United States Navy about as soon as the United States had a navy, and after serving for a number of years was honorably discharged in 1809. He never married, but had smoked and chewed tobacco for 122 years and had at one time been a heavy drinker."

Search was made of the records of the Navy Department and a report was made by Surg. F. L. Pleadwell, of the Bureau of Medicine and Surgery, that "a Noah Raby has been found on the rolls of the Constitution in 1839, when that ship was under the command of Captain Bolton, so it is possible that the report of his discharge from the navy as being of the year 1809 is pure legend. There may have been, of course, two Noah Rabys."

The census report then goes on to state that the enumerators' returns of the Twelfth Census (June 1, 1900) show that Mr. Raby was then



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an inmate of the Piscataway township almshouse, and his "age at last birthday" (128 years) and the month and year of birth "April, 1772," as given in these returns correspond with the age subsequently stated upon his certificate of death. His birthplace, as well as that of his father and of his mother, is given as North Carolina; his conjugal condition as single; and under the head of education it is stated that he could read but could not write. At the Eleventh Census (June 1, 1890) Mr. Raby's "age at nearest birthday" was given at 117 years, the other particulars being the same as stated in 1900, except that his mother's birthplace was stated as Pennsylvania. No record was found of Mr. Raby among the inmates of the almshouse at the Tenth Census (1880), but his name

appears among those there enumerated at the Ninth Census (1870). In the returns for this census his "age at last birthday" was stated to

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be 59 years, and not 98 years as it should have been if the subsequent statements as to his age were correct, and his birthplace was given as South Carolina and not North Carolina. Birthplaces of parents were not reported at the Ninth Census. It appears not unlikely that the statement of age made in 1870 was at least approximately correct, so that at the time of his death at an advanced age, March 1, 1904, he was over 90 years old (92 years and 11 months if the statement of age made in 1870 is precise,) and not an actual centenarian at all, much less the "oldest man in the country."

The report later on states that it would be impracticable for the Bureau of the Census to determine the truth in regard to all unusual ages which are received upon the official transcripts of deaths, nor can the state or city officers be expected to investigate all such cases. Indeed the evidence necessary for conclusive proof of extreme longevity in any given case may be extremely difficult to procure, even when the fact exists. This is true for European countries, as shown by Thoms and Young, and is even more true for the United States, for a great part of which, even at the present day, there is no com-

plete registration of births. The statements in regard to the ages of decedents are made by the informants and can not, as a rule, be questioned or rejected by registration officials. Such statement are, undoubtedly in the vast majority of cases, believed to be correct by the persons who reported them, and, when officially registered, become, like the other statements upon the certificates of death, prima facie evidence of the facts. Any statement upon a certificate of death may, however, be refuted by sufficient evidence of its untruthfulness. It is well known that many of the statements of exact age, even in the middle period of life and in youth, are not strictly correct. In old age, with impaired memory, with possible unintentional confusion of what has been heard and what has been actually experienced by the individual in regard to the events of early years, after the death of contemporaries whose testimony might contradict claims to excessive longevity, and with the well known tendency of many aged persons to exaggerate, in the utmost good faith, the number of years that they have lived, it is not at all surprising that many unfounded claims to extreme old age arise. The deaths of centenarians re-



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ported by the census are too few to vitiate seri-
ously the statistics, even if in every case the age
was incorrectly stated, and they are therefore
shown just as they were returned.

In the annual registration reports of Maine
and Massachusetts may be found details in re-
gard to the reported centenarians who died in
those states. Dr. Wilbur states that it is per-
haps desirable that similar details should be
given in all registration reports, or at least that
the statement of ages should enable the number
of decedents aged 100 years and over to be
known. If verified statements of age can be
secured, the evidence of longevity should be
given. Physicians and registration officials
should take pains to ascertain the truth about
such cases, because they are of extreme interest
to the public, and many foolish and sensational
statements pass current. It should be possible,

with the general adoption of modern methods of
obtaining vital statistics, to determine, from the
vast number of deaths registered, the maximum
span of human life.

SUPRARENAL INSUFFICIENCY IN ACUTE IN-
FECTIOUS DISEASES.—Horichau-Beauchant dis-
cusses this syndrome in *Le Progrès médical*,
October 9, 1909. Hutinel had reported a case
of infantile scarlet fever during the progress
of which the Addisonian bronzing appeared.
(*Bulletin médical*, March 17, 1909). Roux and
Yersin, Charrin and Langlois, Roger, Loeper
and Oppenheim, all report instances of supra-
renal insufficiency complicating infectious dis-
ease. The treatment, according to d'Arsonval,
is by injections of the glycerol of the viscus.
The fresh tissue is often more convenient.—*N.*
Y. Medical Times.

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¶ Its production satisfied the demand of the profession for an elegant pharmaceutical laxative of agreeable quality and high standard, and it is, therefore, a scientific accomplishment of value, as our method ensures that perfect purity and uniformity of product required by the careful physician. It is a laxative which physicians may sanction for family use because its constituents are known to the profession and the remedy itself proven to be prompt and reliable in its action, acceptable to the taste and never followed by the slightest debilitation.

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Dietetic and Hygienic Gazette.

STRYCHNINE IN TRIFACIAL NEURALGIA.

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THYMUS GLAND TREATMENT OF CERTAIN DISEASES.—Dr. Frederick Gwyer (*N. Y. Med. Jour.*, February 19, 1910) gives a report of some experimental work in goiter, arteriosclerosis, rheumatoid, arthritis, cystic tumor of the breast, pulmonary tuberculosis and cancer. He did not know of any previous use of the thymus gland in the treatment of any disease except gout, goiter, and metabolic osteoarthritis. He selected the thymus gland as theoretically possessing possibilities in the treatment of cancer, and his work during the past three or four years has been confined to the use of this gland. With but one or two exceptions, no case of cancer has been treated that could even be benefited by other means. The histories of a number of patients were given as illustrative of the action of thymus, these patients received thymus and no other medication, and in most of them the improvement was so prompt and continuous that there could be no question but that it was due to thymus. Either the dried, powdered thymus was used in doses varying from 129 grains, three or four times a day, to one of the special preparations. The improvement in three cases of pulmonary tuberculosis was significant and he believed that a further trial of thymus in tuberculosis was not only justifiable, but was demanded. Most of his cancer cases are remaining stationary or showing improvement and taking cancer for test cases, he was encouraged to believe that he was approaching that primary substance which would enable him to decide definitely the value of thymus treatment of disease. In conclusion, he said that at the end of three years' work, he was more than ever fixed in his belief that in thymus will eventually be found a valuable treatment for cancer for that class of diseases due to improper metabolism, and possibly for tuberculosis.—*Medical Times.*

WOMAN'S QUEER MIND.

Mr. Hubb. I see by the paper that a case of bubonic plague has arrived in San Francisco.

Mrs. Hubb. Mercy, Peter! They are surely not importing it in cases.—*Boston Transcript.*

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A physician found one of his patients sitting in the bath and swallowing a dose of medicine. "What are you doing there, instead of being in bed?" inquired the astonished practitioner; and the patient quickly responded: "Well, you told me to take the medicine in water, and that's what I'm doing."

A TESTIMONIAL.

Dear Sirs, With heartfelt thanks to you
My bosom thrills;
By these few lines I hope to show
The debt of gratitude I owe
Your splendid pills.

My uncle caught a cold, he was
A millionaire,
Your pills he'd noticed advertised,
And so he took some as advised;

* * * * *

I am his heir!

ORIGINAL ARTICLES.

CANCER OF THE UTERUS.*

BY

H. C. TINKHAM, M. D.,

Burlington, Vt.

The uterus is the seat of malignant disease more frequently than any other organ of the body with possibly the exception of the stomach, but unfortunately a diagnosis of malignant disease of the uterus is not usually made until the disease has advanced so far as to preclude the possibility of a cure—one-third of all cases. One woman in eleven dies of cancer.

The failure of an early diagnosis cannot, however, be laid to the physician entirely for the disease develops so insidiously and causes so little inconvenience to patients in its early course that a large percentage of cases do not consult a physician until the disease is well advanced and the time is passed when a cure was possible.

The cause of malignant disease is not known. The theory of Cohnheim that tumors and cancers arose from unutilized fragments of tissue in the development of the body due to some embryonic irregularities, has not been found correct although much investigation has been directed along this line of speculation.

The embryonic theory of the origin of cancer is discarded altogether. A great deal of investigation has been done on the theory that cancer was caused by a special germ, but nothing has been discovered to bear out this theory and many exponents of this idea have abandoned it. It is equally true that investigators who believe that cancer is due to some altered condition of the cells, independent of a special germ, are unable to substantiate this theory. We do know, however, that at first carcinoma is purely a local process originating in the epithelial cells and that the general or systemic conditions develop as the local cancer progresses, and consequently that it is possible to remove it entirely if operation is done sufficiently early.

In the more common form of malignant disease of the uterus (carcinoma or true cancer) the

involvement of adjacent structures is less rapid than it is in other parts of the body and there is, therefore, a long time when the cancer is purely local and can be removed with the probability of a cure. But in spite of this forbearance on the part of nature the large majority of cases of cancer of the uterus do not come to the attention of the surgeon until the disease has involved other organs or tissues and consequently cannot be entirely removed.

An early diagnosis, then, is imperative if the case is to be cured, and the responsibility of an early diagnosis must rest very largely with the general practitioner, who should take the initiative in calling the attention of women to the danger of uterine cancer and the importance of an early diagnosis.

The routine examination of women between the ages of forty and fifty every six months would save hundred of lives which are now destroyed by this terrible disease.

Carcinoma, or cancer of the uterus, begins in the mucous membrane, extending as the disease progresses into other tissues of the organ and finally to adjacent organs. It may begin in the mucous membrane of any part of the uterus—the lower end of the cervix, the cervical canal or the mucosa lining the body of the uterus. The mucous membrane covering the lower end of the cervix is of the pavement or squamous celled variety and when it is the seat of malignant disease is called the squamous celled carcinoma. The mucous membrane lining the body of the uterus is of the columnar or cylindrical celled variety, and malignant disease of this part of the mucous membrane is termed cylindrical celled carcinoma, it is also called adeno-carcinoma. This histological distinction of cancer of the uterus is not at all necessary in order to make an early diagnosis. It is important, however, to have in mind, that malignant disease may begin in any part of the uterine canal or on the end of the cervix.

The lower end of the cervix is by far the most common location of cancer of the uterus, being in about the proportion of sixteen to one. This is fortunate, for diagnosis of cancer of the cervix is much easier than diagnosis of cancer of the body of the uterus.

*Read before the Washington and Rutland County Medical Societies.

As I have said, the causes of cancer are unknown. However, there are some conditions which are rather constant and which give decided help in arriving at a diagnosis, as, age, injury, cleanliness and heredity.

Cancer of the uterus is very much more common between the ages of forty and fifty, although it is occasionally seen earlier, cases have been reported where it occurred in children. It also occurs later in life and cases have been reported in patients seventy years of age.

Cancer of the uterus is confined almost entirely to women who have borne children or who have had mechanical dilatation of the cervix. This suggests the possibility that trauma may be an important factor in causing cancer of the uterus.

It occurs more frequently among the poor and ignorant and it is not impossible that lack of cleanliness of the vagina and disregard for general hygienic conditions may predispose to this disease.

The fact that it is not uncommon to have several cases of cancer among relatives has suggested the possibility of some hereditary influence, although this idea is not generally accepted.

Carcinoma of the cervix may be divided into three stages for convenience of discussion:

First—Hardness and induration of the cervix but without any loss of tissue.

Second—More or less increase of tissue with beginning ulceration.

Third—Extensive involvement of the cervix with great loss of tissue.

The general symptoms of cancer of the cervix are hemorrhage, uterine discharges, pain, disorders due to the involvement of other viscera and cachexia.

It is very readily seen that the symptoms would depend very largely upon the progress of the disease. During the early stages there are no symptoms. Hemorrhage would not be present until ulceration had begun to destroy tissue, and cachexia does not appear until after general systemic involvement.

The earlier symptoms of carcinoma of the cervix are so inconspicuous that they are not noticed by the patient and may be easily overlooked by the physician, consequently the life of the patient may be jeopardized by the disease progressing unrecognized.

The first symptom is hardness and induration.

There is no pain or discharge due to the disease at this stage, of course there might be a leukorrhoea due to other conditions. This induration may be only a small amount of thickening of the cervix on one side. It may appear insignificant but if the surface of this indurated area is broken easily by examination and bleeds freely from the abrasions it is suggestive of malignancy and a microscopical examination of the tissue should be made. A good sized wedge shaped piece should be taken for examination, including both indurated and normal tissue. Curettings or small pieces are unsatisfactory. A microscopical examination of tissue should be made in all suspicious cases for this is the only way of making a positive diagnosis early in the disease. As an induration of the cervix does not produce any symptoms it is evident that if carcinoma of the uterus is to be recognized at this early stage it must be because the physician takes the initiative and advises routine examinations.

Carcinoma is very easily recognized during the second stage—more or less increase of tissue with beginning ulceration. Hemorrhage is the most important symptom. Early in the second stage, while there is little ulceration there would be an inconspicuous bleeding, simply an occasional blood stained discharge, or a little bloody discharge after coitus. Any bloody discharge other than the menstrual flow is suspicious and it should be the duty of physicians to make this clear to their patients. There is very marked increase of tissue as the disease progresses, which is very friable, breaking down easily and bleeding freely when touched, this is sometimes spoken of as cauliflower cancer. At this stage there is usually a watery discharge, in most cases without odor. At times it is tinged with blood. As the disease advances the discharge becomes bloody and has a very offensive odor. There is usually very little, if any, pain so long as the disease is confined to the cervix—which is contrary to the popular idea.

The third stage—extensive involvement of the cervix with great loss of tissue—is marked by extensive sloughing, purulent discharge, hemorrhage, cachexia, etc. At this stage, carcinoma of the cervix not only involves the tissues of the cervix but also involves the tissues of adjacent organs, and the vagina, bladder, ureters, rectum and the broad ligaments may be invaded by the

malignant disease and symptoms referable to these organs would thus exist.

When the ureters are involved it causes a damming back of the urine and structural disease of the kidneys results.

The only treatment for cancer of the cervix is the removal of the diseased tissue. This must be done before the tissues adjacent to the cervix are involved if a cure is expected, which necessitates an operation before extensive ulceration has begun in the cervix. After ulceration has progressed very far there is the probability that the disease has been carried by the lymphatics to the broad ligaments, and beyond the possibility of complete removal.

The earlier a diagnosis is made, and the earlier an operation is done, the better the chances are for a cure, and there is very little probability of a cure after ulceration is well advanced.

The only operation that promises satisfactory results is a complete hysterectomy. Amputation of the cervix has been done for this condition, but, as it is impossible to tell how far the cancerous process has invaded the cervix, the only safe thing to do is a radical operation and remove the entire organ.

The question of subjecting a patient to so serious an operation as hysterectomy when there is apparently so little the matter as during the early existence of malignant disease of the cervix has probably deterred many physicians from urging operation at this time, but when it is considered that the only hope of curing the patient is during this early stage of the disease and that the disease will destroy the patient's life in a short time if allowed to become well established, this argument should not have weight. The improved technique of hysterectomy has reduced the mortality to 10% at the very highest, and in favorable cases the mortality is less than one-half that. It would not exceed 2% in selected cases, so that a hysterectomy done under favorable circumstances, that is before there is extensive involvement of tissue, is not so serious an operation judging by its mortality, as has been supposed. An important question is, can anything be done to diminish the liability of developing cancer of the cervix. This question is most important, but as yet is unanswered. I am inclined to believe, however, in view of the fact that injury to the cervix and uncleanly habits are

so intimately associated with so large a percentage of cases that prompt repair of all lacerations of the cervix which would relieve irritating vaginal discharge to some extent, together with vaginal asepsis would have some influence in reducing the number of cases of cancer of the cervix.

Another important question is, what shall be done with the inoperable cases of carcinoma of the cervix, that is those cases in which there is no hope of a permanent cure? In many of these cases life can be prolonged and certainly can be made more tolerable by some operative interference. If the case has not progressed so far as to preclude the possibility of a hysterectomy I am inclined to believe it is worth while even though the diseased tissue cannot all be removed. It gives the patient renewed hope and does away with the danger of hemorrhage and in many cases relieves the patient of the loathsome condition caused by the horrible offensive discharge. These improved conditions of the patient I believe warrant the risk of the operation.

In cases where the disease has involved the surrounding parts to such an extent as to preclude the possibility of doing a hysterectomy the patient can be saved much discomfort, and in some cases life may be prolonged, by curetting away the growth and cauterizing the diseased area thoroughly with the thermo-cautery. The results obtained by the use of the cautery in destroying malignant growths are sometimes very marked. A case illustrating this came under my care in the Mary Fletcher Hospital some years ago. Mrs. X, aged about 43 years, came for operation for cancer of the cervix. Upon examination it was found that at least one-half of the cervix had been destroyed by ulceration and that the disease extended well up into the body of the uterus, the vault of the vagina was involved, and there were masses of cancerous tissue in the lower part of the broad ligaments the size of a hen's egg, this tissue held the uterus immovably in the pelvis. The bladder and rectum did not seem to be involved. At first I refused to do anything believing the case had progressed too far to warrant interference, but finally I yielded to the importunity of the family and consented to try to do something simply that the patient might be saved for a time the mental depression which might be expected from knowing that

her case was hopeless. Under ether I curetted away all the cervix and a considerable part of the body of the uterus leaving a thin shell of cervix in front and behind. I also carefully curetted away a large part of the masses in the broad ligaments, then, with the thermo-cautery at dull red heat I thoroughly burned the inside of the cervix and body of the uterus and the cavities made in the masses in the broad ligaments. I did not believe then that the operation would lengthen the life of the patient or make her more comfortable physically, but two years later I heard from the patient in the Massachusetts General Hospital. She had been comparatively well during those two years and had had neither hemorrhage nor vaginal discharge, the vault of the vagina had healed completely as it does after hysterectomy. She had probably sought relief from symptoms caused by extension of the disease to the other pelvic viscera, but I did not know of her condition after this or how long she lived, but to have relieved her of the horrors of an existence with a cancer of the uterus under the ordinary conditions for two years was certainly worth while.

Carcinoma of the body of the uterus is very difficult to diagnosticate early, and many times it is impossible. Any return of bloody discharge after the menopause is significant. A watery discharge, especially if it is tinged with blood and has a bad odor, is very suspicious of cancer of the uterus. These symptoms in a woman between the ages of forty and fifty years, together with some enlargement of the uterus, even though slight, are very suggestive of cancer of the body of the uterus. Carcinoma of the body of the uterus may exist for some time and involve nearly the entire thickness of the uterine wall without producing symptoms that will cause the patient to seek relief. A case of this kind came under my care a short time ago. In suspicious cases it is safer to operate and remove the body of the uterus than to wait, for carcinoma of the uterus involves the broad ligaments much earlier than carcinoma of the cervix and consequently an early operation is more important.

There has been a tremendous amount of investigation of cancer, not only to determine the cause of cancer but also to produce some serum that will cure it, but regardless of what may be said of the possibility of treating cancer of other

parts of the body successfully with serum or electricity, I am safe in saying that as yet there is nothing in the way of medical treatment that is worthy of the least confidence in treating cancer of the uterus.

It is very probable that not only will the cause of cancer be discovered but with this knowledge will come the way in which it may be prevented or cured, but at present we have to look to surgery entirely for the relief of this disease.

Any induration of the cervix should be regarded with suspicion, any watery discharge from the vagina in a woman between the ages of forty and fifty, whether or not it is bloody or has a disagreeable odor, is a suspicious symptom.

Hemorrhage is an important symptom but does not occur until ulceration has taken place and then may be taken for menstruation. Any hemorrhage occurring after the menopause is very significant. The absence of pain does not in the least indicate the absence of malignant disease of the uterus. There should be a microscopical examination of tissue in every case of induration of the cervix in patients of middle life. If the result should be negative the patient should not be dismissed but kept under observation and treatment so long as any induration exists.

In conclusion, I wish to emphasize the importance of the family physician taking the initiative in the examination of women who have borne children and are between the ages of forty and fifty years. The necessity of this should be made clear to them. It is just as important that the physician point out the dangers that come to women from neglect of the proper care of the pelvic viscera as it is to make clear the dangers of tuberculosis, diphtheria, or any other disease or condition. All women between the ages of forty and fifty years who have borne children, whether they have a vaginal discharge or not, should be examined occasionally to determine the condition of the uterus just the same as an occasional examination of the urine is made to determine the condition of the kidneys. All lacerations of the cervix should be promptly repaired and patients should be taught the value of vaginal asepsis.

And finally, there has nothing been found in the way of medical treatment that offers the promise of cure for cancer of the uterus.

THE PHYSICIAN AND QUARANTINE.*

BY

DR. J. W. JACKSON,

Barre, Vt.

In the discussion of this subject, I wish it considered in a broad-minded way and if I drift into the character of a health officer or seem to look at it from that official's standpoint I trust I will be forgiven.

It is certainly a subject that has already exceeded the narrow limits of local bounds since it is national and fast becoming international in its scope. All the world has become one neighborhood so far as distances are concerned and in no manner has this been shown more strikingly than in the warfare against contagious disease.

An epidemic of yellow fever in Cuba or the Philippines is immediately wired to the United States and foreign countries. A case of bubonic plague in the Orient is reported and published throughout our country and its possessions, and a case of cholera is at once telegraphed to all the principal cities of the world.

International congresses, conferences and conventions are bringing the nations together as one family in the struggle against these foes of mankind.

So closely related are we in health matters to our neighbors of Mexico, Central and South America that periodical international sanitary conventions have been agreed upon by the several republics and a permanent international Sanitary Bureau of American Republics has been established and is maintained.

These congresses of medicine, hygiene, tuberculosis, leprosy and other allied subjects show how closely the nations are getting together in the effort to prevent and suppress disease.

As one writer has said:—"Nations are beginning to develop a conscience and a sense of justice for the rights of other nations." So along with this there should be developed an international sentiment regarding sanitation and suppression of disease.

The health of this nation depends:

First—Upon the **EXCLUSION OF DISEASE**, such as those steps taken in the quarantining of seaports against plague, cholera and yellow fever, and which have instigated many

conventions and agreements with foreign countries, of which I may mention The International Sanitary Convention of American Republics, and

Second—Upon the **EXTINCTION OF DISEASE** which will be due chiefly to good laws and effective administration. Good laws mean good organization and the first one I wish to bring to your consideration is The United States Public Health and Marine Hospital Service. This has under various Acts of Congress, certain maritime quarantine regulations and interstate quarantine functions. It has also a hygiene laboratory for the investigation of contagious diseases and matters pertaining to public health, but is limited to cholera, yellow fever, smallpox, typhus fever and bubonic plague.

It is also brought into relation with the army and navy through its Advisory Board, with the Bureau of Animal Industry of the Agricultural Department and with the laboratories of leading institutions of learning, and thereby in contact with the profession.

In the practical work of a sanitary character, the service is brought into relation with State Boards of Health and quarantine officers, through annual conferences required by law and occasional conferences called either by the Surgeon-General or by the State health authorities.

Every state and territory has a health department consisting either of a health commissioner or a state board of health, which has about the same relation to county and municipal boards of health as the national service has to the state organizations.

This chain of organization which has been of a gradual growth, would seem to be a good one and it would appear to be the part of wisdom to strengthen every link in this chain, since it is based upon the statutes of the states and the nation and not upon spasmodic enthusiasm.

We must also note the usefulness of auxiliary organizations, such as the American Medical Association, the American Public Health Association, State, County and City Medical Societies, which help to develop the public sentiment into statutory laws. But there is need of a still wider diffusion of sanitary principles, especially among intelligent adults and among the men who govern our cities and our states and among our legislators. And one method of spreading a knowledge of sanitation and hygiene would be making it an issue in local politics.

*Read before the Washington County Medical Society.

Only a few years ago at a convention of the American Federation of Labor, 300 delegates were present, representing 100 national and international labor unions, with a membership of 2,000,000. They passed the following resolution, which showed the attitude of these unions toward the sanitary movement.

"Whereas, In the proper embellishment of our towns and cities by parks, monuments, ornamental buildings, boulevards and driveways, there is too frequently an utter neglect in the removal of insanitary and unhealthful conditions in the favored localities, and

"Whereas, In our opinion one of the first duties of town and city governments is to make wholesome, by good drainage, paving, water supply and correct tenement house construction, those portions of cities and towns that are now neglected in these respects, thus imperilling the health and happiness of the working people, therefore be it

"Resolved, In the interest of the poor and the well-to-do also, towns and municipal councils should give greater legislative attention with adequate opportunities to the removal of these evil conditions in the less favored localities, and be it further

"Resolved, That the labor unions by supporting candidates pledged in advance to the support of necessary and wise ordinances according with the foregoing principles, will advance the health conditions and national prosperity of the country and the American Federation of Labor in this convention assembled, recommends these principles to its affiliated national, state, district and local unions."

This would be called injecting sanitation as a live issue in municipal politics and would result in a wider diffusion of sanitary knowledge among the working people.

I think I have given you a general idea of the importance of the subject of quarantine. Now we will see what our state expects of the physician.

The State Board of Health of the State of Vermont under authority given in Section 7, Act No. 76, Laws of 1902, which have not been materially changed, promulgates the following rules and regulations relating to the management of contagious diseases.

Rule 1. Each health officer upon receiving notice of any case of smallpox, varioloid, yellow

fever, typhus fever, diphtheria, membranous croup, scarlet fever, measles, whooping cough, mumps, chicken pox, typhoid fever or German measles shall immediately post a plain and distinct notice, giving the name of the disease, upon the house, tenement or premises where such disease is reported to exist. He shall also serve a quarantine notice upon the head of the family in which the disease is reported to be, except in case of typhoid fever, according to the forms herein-after presented. Such notice shall be "full quarantine" in case of smallpox, varioloid, cholera, yellow fever, diphtheria, membranous croup, scarlet fever and typhus fever, and for "modified quarantine" in cases of measles, whooping cough, mumps, chicken pox and German measles.

What is quarantine? The segregation or separation of possibly infected persons until after the period has elapsed at which they would, if infected, develop characteristic signs of the disease and communicate it to others.

Here is some law on the subject. Sec. 17. The head of a family in whose home there occurs a case of infectious or contagious disease dangerous to the public health shall immediately give notice thereof to the local health officer of the town in which he lives. A physician who knows or suspects that a person whom he has been called to attend is sick or has died of a communicable disease dangerous to the public health shall immediately quarantine and report to the health officer the place where such case exists and the name, degree of virulence and cause or source of the disease, and such other facts relating thereto as may be necessary for the health officer to make examination and act in the premises, provided that if the attending physician at the time of his first visit is unable to make a specific diagnosis, he may quarantine the premises temporarily and until a specific diagnosis is made and post thereon a card upon which the word "quarantine" shall be plainly written or printed. Such quarantine shall continue in force until the health officer examines and quarantines as is provided in this act.

A head of a family or physician who fails to give reasonable notice to the health officer of the existence of such disease, shall be fined not more than fifty dollars nor less than ten dollars, with costs of prosecution.

This very clearly gives us an idea as to what the relation of the physician is to quarantine

Many times the practitioner neglects for a time to give notification and in this interval many persons are exposed to the disease. And in such cases is it surprising that the health officer appears upon the scene? He has his instructions as to his duties, and it would be a good thing if more physicians heard health matters discussed every year at least. If the attending physician has failed in his duty, why should he not be subjected to the penalty of the law? It is the public not the individual who is to be considered, the citizen must conform to what is for the greatest good of the greatest number. And a quarantine, properly instituted and rigidly enforced, will result in the protection which the public have a right to demand. That you may know what a full quarantine is, I will read the notice supposed to be served on the head of a family by the health officer:

To Smith Jones,

20 Main St.

Diphtheria being reported to me, as being in your family, you will see that all persons and things now on the premises or in the house occupied by you are at once isolated from all other persons and things. You will allow no communication between any person now on the premises or in the house occupied by you and any other person whatever. Articles of food and drink and such fuel and clothing as are necessary for the comfort and health of those persons under quarantine, excepted. Papers and letters may be received and such pails, cans, bottles or boxes of metal as are necessary for the conveyance of the above may be given out, all in the manner and under the condition prescribed by the health officer.

And further exception is hereby made, so that all drugs, food and other articles necessary to the proper treatment of the sick may be received by you, and the attending physicians may enter and leave your premises at pleasure, provided such measures are used as to prevent carrying the infection outside. No other person whatever shall enter or leave your premises during the existence of this quarantine, except as permitted, in writing, by the health officer.

You will carefully observe the above quarantine under penalty of the law until such time

as the quarantine shall be terminated by a written notice signed by the health officer.

Signed.

Dated.

The "modified quarantine" notice for measles, whooping cough, mumps, chicken-pox and German measles, is simpler.

To Smith Jones:

Measles having been reported as being in your family, you will see that no person now in your family, who has not had this disease, is allowed to leave the house or premises occupied by you, and that no person, who has not had this disease is allowed to enter your house or premises until further notice, under penalty of the law.

Signed.

Dated.

Rule 2nd of the State Board of Health. Each health officer when notified of the presence of either of the above diseases, excepting mumps and typhoid fever, shall notify as soon as practicable and in writing, the teacher, superintendent or head of any public, parochial or private school or college, where any member of the family attends as pupil or teacher. Such teacher or other person shall forbid further attendance at school of any member of such family, as pupil or teacher, until notified by the health officer in writing that such teacher or pupil can safely return.

Rule 5. No house or premises shall be released from quarantine until all persons and things liable to infection shall have been disinfected and fumigated and a written notice to that effect shall have been issued to the head of the family by the health officer.

Rule 6. All physicians and nurses attending cases of smallpox, varioloid, diphtheria, membranous croup or scarlet fever shall carefully and thoroughly cleanse and disinfect themselves and their clothing before leaving the house or premises.

Rule 7 refers mostly to the health officer investigating the origin of these diseases.

Other rules there are for the government of the health officer in the fulfillment of his duties, but I think those I have given you are explicit enough to show how the physician should be taught to regard quarantine.

It is true that a large number of people profess to believe that every person should have measles,

and the sooner the child has the disease the better. Many physicians endorse this view, erroneous as it certainly is, for though the disease may be mild and seldom fatal, the complications and sequelae are serious, and often cause permanent injury to the eyes, lungs and other organs which last through life.

Shall we then, working as sanitarians, to prevent as far as possible disease from attacking the human family, be careless or negligent in this respect, in the case of a disease that we know is frequently followed by such a train of murderous complications and sequelae? There can be but one answer. We must prevent its spread by every means at our command.

Do I hear some say that they are not sure of the diagnosis? It is not necessary, the law says any physician who *suspects* a case of infectious or contagious disease shall report, etc. Suspicion must be confirmed or removed, if possible, and the health officer must be ready with every available means of diagnosis.

No clinician can assert without the examination of a culture that a mild case of tonsilitis may not have the specific germ of diphtheria, nor can he have sufficient experience with smallpox to be able to diagnose every case at sight. Fortunately now, diagnosis of many diseases is helped by means of special laboratory investigations; of diphtheria by the examination of the culture made from the swab passed over the suspected throat; of tuberculosis by the microscopical examination of the sputum; of typhoid fever by the Widal reaction and by the search for the microorganism in the blood, urine and feces; of malaria by the examination of the blood for the plasmodium; of rabies by the injection of suspected material into guinea pigs, and finally of smallpox by use of the monkey test.

In this connection you are all aware that Art. No. 90 of Acts of 1900 established such a laboratory for investigation, for the use of the people of this State, free.

In closing this paper I wish to call your attention to one other act which I fear we are neglecting or at least are careless about, No. 117 of the Acts of 1902, an act requiring physicians to notify the State Board of Health of the existence of all cases of human tuberculosis.

"Section 1. Every physician engaged in the practice of medicine in the State of Vermont shall immediately upon the passage of this act,

submit to the secretary of the State Board of Health the names and addresses of all persons under his treatment for tuberculosis and thereafter each case within one week of the applying for treatment.

Section 2. The secretary of the State Board of Health shall keep a careful and accurate record of all reported cases of tuberculosis, not for publication, but for such purposes as are necessary for the State Board of Health in the discharge of their duties and immediately after being notified of each case shall send to the address given a printed circular containing proper information in regard to the disposal of sputum and such other facts, hygienic or otherwise, as are necessary for the welfare of the person afflicted and the protection of the community in which he lives.

Section 3. Failure on the part of a physician to conform to this act will constitute a misdemeanor punishable by a fine of not less than five nor more than fifty dollars or ten days' imprisonment or both."

APPENDICITIS—WHEN TO OPERATE.*

BY

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In an academic discussion of the subject "When to operate for Appendicitis" our arguments must for a large part be based upon the pathological conditions present, and not only must we consider the local pathological changes but also those general expressions which the human organism makes to rid itself, or render inert, the noxious irritant. And in giving an intelligent opinion as to whether a given case is operative one must consider not only the local conditions of injury, but also the constitutional effects which the inflammation produces. He should bear in mind that nature always makes a more or less determined effort to repair. Surgery could accomplish very little were it not for the reparative processes with which we by nature are endowed. All our surgical endeavors should be instituted at a time in the course of the disease when nature demands assistance and

*Read before the Washington County Medical Society.

not at a time when she is overwhelmed with shock of acute disease and unable to bring to our rescue her reparative forces. When the system is suffering from shock, be it that of acute bacterial infection or external injury, surgery can do nothing but increase that depression, and so much lessen the chances of rallying her reconstructive forces and establishing regeneration and repair. On the other hand, nature should not be allowed to go unassisted until she is overwhelmed by the absorption of septic material. Surgery has little chance when the organism has become so saturated with septic material, that, even though the source of infection is removed, it cannot eliminate the toxins already absorbed.

Considering these facts and as a basis for the discussion of this question it may not be out of place to discuss briefly the pathology of appendicitis. Here I quote: "No one factor alone can be held accountable for the development of the disease. A defective blood supply is one of the most important factors. This may be caused by a periarteritis or an endarteritis in the meso-appendix, or by angulations or torsions of various kinds in the meso-appendix or the appendix itself.

"Fecal concretions are associated with a considerable number of cases of appendicitis. They are found in the appendix more often when it is inflamed than when it is normal, and more commonly in the case of acute ulcerative appendicitis. It is generally conceded that they are formed within the appendix itself. Foreign bodies, such as apple and grape seed, pins, etc., at times may give rise to the lesion. Defective drainage is also an important factor.

"All the above mentioned factors act by lowering the resistance of the tissue in one way or another, and as appendicitis is almost always an infectious process, the bacteria present are thus enabled to gain a foothold.

"The most important micro-organisms are the colon bacillus, staphylococcus aureus and albus, streptococcus pyogenes, and bacillus pyocyaneus. Mixed infections are frequent."

This author classifies appendicitis pathologically into four forms:

1. Acute catarrhal.
2. Acute diffuse.
3. Acute necrotic or gangrenous.

4. Chronic appendicitis.

"In the acute catarrhal form the appendix is swollen and may be kinked or twisted. Microscopically, the mucosa is swollen, hyperemic and in a state of acute catarrh. The lymphoid follicles are swollen and the submucosa seems edematous. The lumen contains mucus, or there may be concretions.

"The acute diffuse form is more severe. All the coats are swollen and there may be flakes of fibrinous lymph externally. All the characters of the first form may be present, but the essential point is a diffuse leucocytic infiltration invading all the coats which are markedly edematous and thickened as a consequence. There may be slight necrosis of the mucosa, and the cavity may contain muco-pus. The meso-appendix is often inflamed.

"In the acute necrotic variety, at some point or other there is a local area of necrosis which varies in depth and at times may perforate. In the gangrenous form the appendix is converted into a blackish sloughing mass.

"Chronic appendicitis may follow repeated acute attacks or may be chronic or at least sub-acute from the first. A proliferation of the connective tissue takes place, the mucosa and lumen may be obliterated, all the coats may be involved and the appendix converted into a fibrous cord."

The above is a pathologist's classification, or stated briefly this is what seems to me occurs. In most cases the lesion begins in the mucus membrane as a bacterial infection, which may proceed to ulceration, abscess, perforation or gangrene. What nature tries to do locally is to secure rest to the part as indicated by intestinal inactivity and presents all the cardinal phenomena of inflammation in general, viz.: redness from congestion of vessels, swelling from exudation of fluid and corpuscles from the congested vessels; heat from the increased amount of blood in the region; pain from the irritation of the termination of nerves in the region, and disturbance of function.

Nature's fight against this inflammation is both local and general. Local, by this mass of inflammatory exudate which plays an important part in diluting the irritant and by the development of fibrin in it tends to circumscribe the inflamed area and prevent the passage of morbid material

outward. It also aids in forming organized adhesions made up of adjacent peritoneal surfaces, coils of small intestine, cecum and omentum. The exudate may possess digestive functions or it may contain substances generated by the cells, capable of hindering bacterial growth and of destroying pathogenic microbes. General, by the process of phagocytosis. Bacterial products, bacterio-proteins and many of the early products of tissue disintegration exert an attraction upon the mobile tissue cells. Through nature's mechanism the leucocytes of the blood are increased. This so-called inflammatory leucocytosis seems to depend upon the severity of the infection and the resisting power of the individual. These factors interact in various ways:

Infection mild, resistance good, small leucocytosis. Infection less mild, resistance less good, moderate leucocytosis. Infection severe, resistance good, very marked leucocytosis. Infection severe, resistance poor, no leucocytosis.

"Acute rapidly spreading inflammations seem to produce a greater leucocytosis (other things being equal) than those in which the processes are relatively chronic and stationary. For instance an appendicitis, when well walled off and stationary, shows less increase in white cells than while its lesions are progressive. But very acute overwhelming general sepsis whether from appendical origin or otherwise, may have no effect on the leucocytes, the reactive power of the organism being crushed. Most inflammatory leucocytoses are preceded by a temporary diminution in the number of leucocytes. This occurs in animals from shock of any kind and it seems not unlikely that the cause is the same in all cases."

Again, there is going on in the blood serum in the presence of living pathogenic organisms an elaboration of the product known as opsonins. The greater the resistance the greater the opsonic power is developed. This is common to all infections, in fact, there are before the entrance of bacteria into the tissue already present opsonins in the serum. This is as it were nature's stock in trade. But following an infection, nature seems to set to work to develop specific opsonins for the particular infection present.

These above seem to be nature's ways of developing immunity to infection. These are common to all infections, but I mention them in this brief manner in relation to appendicitis because they may later have some bearing on what I have to say in regard to when it is time to operate.

Perhaps it may be of interest to review briefly some of the things we have been taught in regard to appendicitis. One author whom I shall quote freely because he has put in convenient form some of the things I would make mention of, has divided the cases of appendicitis into three clinical forms:

1st—Simple catarrhal appendicitis, acute or chronic.

2nd—That form associated with circumscribed abscess.

3rd—That form which is characterized by acute gangrene of the organ without the formation of limiting peritoneal adhesions and therefore associated with more or less peritoneal infection.

In the first group, according to this author, we are dealing with a catarrhal affection, either acute or chronic, and it is characterized by the absence of perforation, gangrene or abscess formation. The two conditions are classed together as the acute catarrhal condition is, in many instances, simply an exacerbation of a chronic appendicitis and often accompanies an attack of gastro-intestinal disturbance following the ingestion of some unusual form of food that has disagreed with the patient. We have the history of gastric disturbance and pain in the abdomen which gradually becomes localized in the region of the appendix. With the settling of pain in the appendix the bowels become constipated, which is a marked contrast from the ordinary attack of acute indigestion. There is a moderate elevation of temperature, 100 to 101 degrees and a moderate acceleration of pulse rate, 90 to 100. The patient does not look especially sick and lies upon the back with the right thigh and knee flexed. Upon examination and pressure at McBurney's point tenderness is elicited. As a rule this tenderness is distinctly localized. The right rectus muscle is found rigid and resists the effort to palpate the right iliac fossa. There is no tumor to be felt. If these acute catarrhal cases are seen early and placed upon proper treatment, the symptoms often subside in a few days and the attack stops short of suppuration. Still upon the other hand, in spite of prompt and proper treatment some of them go on to suppuration and abscess formation and perforation and sudden gangrene; hence the necessity, in the absence of operation of carefully watching for sign of danger.

In the second group we have the abscess cases. Here we find the inflamed appendix enclosed in an abscess cavity containing a varying quantity of pus. The wall of the abscess cavity is formed by the adjacent peritoneal surfaces, coils of small intestine, cecum and omentum, held together by an inflammatory adhesion. After the adhesions have been broken up and the abscess opened, the appendix, intensely congested and swollen and may be and may not be perforated or presenting areas of gangrene, is found adherent to the wall of the cecum, or else it may reach down into the pelvis, where it is adherent to the side of the bladder or involved in an inflammatory mass made up of right ovary and tube. The meso-appendix and adjacent omentum are found intensely congested, red, thickened, stiff and brawny. According to this writer, the limiting adhesions may break down and as a result we get leakage of pus, with general or progressive peritonitis. He states that in this kind of a case, there should be no question as to the proper method of treatment. Operation should be undertaken as soon as the abscess is diagnosed; abscess means adhesion and adhesion means good prognosis.

Coming to the last group. This group is characterized by the necrotic character of the lesion and the absence of peritoneal adhesion. The appendix is found congested, swollen, thickened, red, with gangrenous areas, or the entire appendix may have become gangrenous and presents a greenish, black appearance. The process seems to be a combination of inflammation and destruction, with the destructive element often predominating, due probably to the blocking of the blood vessels of the appendix with septic thrombi. This is the real deadly form of appendicitis and deadly because of the suddenness of the onset, the few symptoms, the destructive character and virulence of the infection. It is of the greatest importance to recognize these cases early and operate without delay. Early operation will save a considerable number of these patients who would otherwise be certainly lost. There are no limiting adhesions and delay is dangerous. The deadly results are due to failure to recognize these cases, to distinguish them from the ordinary less dangerous varieties. They should be operated upon before the system is overwhelmed by the absorption of septic material. If seen late after the patient has become thoroughly septic, the system thoroughly saturated with the

poison, and the heart has begun to fail, operation will be of no avail. It is almost without hope to operate when the heart action indicates that the patient is overwhelmingly poisoned, because even after the surgeon has eliminated the source of infection, the system, kidneys and emunctories are unable to throw off the poison which has already been absorbed and the heart rapidly succumbs to the effect of the deadly toxin. However even in these desperate cases, operation should be resorted to as the only measure offering hope.

Having briefly classified cases of appendicitis somewhat pathologically, somewhat clinically, we are in better position, perhaps, to discuss the portion of this paper which our secretary wished to have given especial attention, viz.: When to operate?

Granting that we have made a positive diagnosis of appendicitis, we are at once confronted with the question: What are we going to do about it? There is, I think, a general consensus of opinion among surgeons and even among medical men, that almost every case should be operated upon. But, a serious question arises: When? Have we any sign or any symptom or any group of signs and symptoms by which we can judge in every case, when to operate? Unfortunately we have not. He would be a skilful diagnostician who could every time say: here we have simple catarrhal appendicitis; here a diffuse appendicitis; here is a threatened perforation; here a gangrenous condition; here a foreign body in the appendix. In deciding this question, on which in so many cases the life of the patient depends it would seem best that everything be taken into consideration. The age of the patient, the previous history, the history of the attack, the symptoms and the results of physical and blood examination. All play an important part in aiding to arrive at the correct conclusion. Some surgeons have tried to bind themselves to some hard and fast rule as to when they will advise operation. I might go somewhat into detail in regard to the relative importance of the various symptoms such as pain, temperature, pulse, vomiting, muscular rigidity, but these have been much written about and much discussed as to their comparative values. Some surgeons advise taking the whole symptom complex into consideration and if in a given case, the symptoms are severe enough to warrant operation, operation should be done. Here a lot of personal equation comes in because what one man con-

siders severe and surely surgical, the next man carries on with equal assurance that the case is still medical. One surgeon advises operation if pain is severe enough to require an opiate. Another if the local conditions are severe and the constitutional mild. Some wait for a chill to manifest itself. Another watches the pulse and if it gets small, irregular or rapid, operation is imperative. Again if there is persistent vomiting or if the general condition is bad or if in doubt, operate.

Some of us young fellows who have great operative zeal and need the experience and the money say we will operate whenever the patient will consent and some others advise operation as soon as the diagnosis is made, and so it goes, and while many of these arguments are good, they are not always convincing and often lead to error.

Much has been written of late in regard to the significance of blood analysis in appendicitis. A writer in a recent issue of the *N. Y. Medical Journal* states that the solution of the question, When to Operate? lies in the province of the pathologist, viz.: the careful study of the blood. He bases his argument on 50 cases and states that in every case he has found a typical blood picture. He says why the blood is such a good criterion is because that while the infection may be thoroughly walled off from the peritoneum, it is not so thoroughly walled off from the circulation. He goes on to state that it is not in the well developed cases of appendicitis, after perforation or abscess formation, when the physical signs of the patient make the picture clear to the physician, that blood examination will be of most service. It is at the beginning of a case, or in those cases where the symptoms are masked, that blood analysis will positively indicate or counter indicate operation. It is in this class or state of appendicitis that often a marked absence of alarming symptoms will give the physician a sense of security, will induce him to believe that a mild enteritis or catarrhal condition of the appendix is present. He states that there is no greater chance of error, often fatal error, in the whole gamut of ills to which the human body is heir.

"How many cases are seen daily, when there is general abdominal pain, of greater or less severity, with tenderness in the right iliac fossa, with little or no other symptoms? And let me state here, there are many of these cases with

very little or no rigidity or tympanites, temperature no higher than 100 with leucocytosis of over 15000 and distinctive polynuclear count above 84 per cent. It seems that there should be more pronounced temperature with fairly high blood counts, but nevertheless, there often is not.

"How many of these cases have we seen that in 24 hours result in abscess, perforation, peritonitis and often death? These are the cases in which the blood findings will indicate immediate operation. These are the cases in which we need not wait to see whether there is on second examination an increased leucocyte count or polynuclear percentage. With the first leucocytosis and increase in distinctive polynuclear percentage, operate.

"I realize that in placing this absolute diagnostic value to the blood picture in cases of appendicitis, I shall meet no little opposition. However, in all my cases, the blood findings have been diagnostic, and this valuable aid to diagnosis has been a source of great satisfaction to me."

I have had no experience with blood examination in my own personal cases. I did, however, have the good fortune to be associated with Dr. Murray, Asst. Pathologist of Long Island College Hospital for a period of 6 months, winter of 1907 and 1908, and by his kindness I was allowed to keep tabs on his blood counts and see the appendix as it came into the laboratory after operation. He has had opportunity to study many cases in this way, and I have taken the liberty of writing him, asking what his conclusions are. His reply I quote in full:

"From what I have read and my own experience I have sized the affair up as follows: less and less attention is being paid to actual number of leucocytes. More attention is being paid to the polymorphonuclear percentage. If the polymorph percentage is 82 or over I have always found pus. When the percentage is below 82 there may be pus but the chances are it is walled off to some extent. The other day I found four counts on a case on four successive days. 80 per cent., 79 per cent., 76 per cent., 73 per cent.—then he sort of went to pieces, they operated and found a walled off abscess and gangrenous appendix.

Negative counts are useless, 75 per cent. to 80 per cent. polymorphs. I have seen a gangrenous appendix with 76 per cent. polymorphs. If the symptoms warrant operation and the blood count

is negative, I would trust the symptoms and not the count. When you consider what we are up against in these counts it is a wonder they come out as well as they do. I mean walled off pus, poor resistance, mild and severe infections, etc."

My own feeling after watching cases for several months at Long Island College Hospital, is that many times we get valuable information from the differential counts. One case in particular, patient the wife of a physician's brother. It was the first day of her illness. She had no dangerous symptoms, some pain and vomiting, temperature below 100 and pulse between 80 and 90. Did not look sick. Dr. Murray was called out in the night to make a blood count. He was somewhat surprised from the mild symptoms to find a polynuclear percentage of 88. Being dissatisfied and thinking perhaps he had made an error he got up early in the morning for a second count. This time the percentage was 89. He advised operation. Appendix removed which showed a leucocytic infiltration of all the coats, covered externally with greenish fibrinous flakes and evidently beginning gangrenous condition. In this case it was surely valuable information as otherwise the surgeon would very likely delayed the operation until severer symptoms became evident.

A few words in regard to abscess cases which have been previously mentioned. Although there would seem to be little question in regard to the proper treatment of abscess cases, yet I think abscess cases are worthy of some discussion. It is a sort of a surgical dictum, that, wherever there is pus it should be liberated. I agree with this but I question the advisability of always liberating immediately as soon as diagnosed. For instance, in infections in the neck where an abscess is forming, I think it a very wise procedure to wait until nature has surrounded the abscess with a wall of leucocytic infiltration and exudate, after which a very short incision promptly effects a cure. Whereas, immediate operation would mean longer incision, drainage, irrigation and very likely infection in the recently incised tissue. I think perhaps, in appendicitis with abscess, it is many times well to wait or delay operation until the infection has lost some of its virulence and the patient has developed some immunity. My only operative death from appendicitis, in fact the only fatality I have had from this disease, occurred in a case where abscess had just formed, and adhesions with the inflammatory

exudate were very slight and the infection was of a virulent nature. It was the fourth day of the disease. The physician in attendance had advised operation on the first day of the disease but council was held which advised against operation. Accordingly operation was deferred until the fourth day when assent to operation was given. I have felt that if this case had been operated when first advised he would have gotten well. I have also felt that if, after failing to operate early, this patient had been kept along for a few days, until the infection had lost some of its virulence, until the patient had rallied somewhat from the shock of acute disease and had developed some immunity to infection his chances would have been better. He apparently died of sepsis much of which was, I doubt not, due to fresh infection in the abdominal wound.

I have heard of a case of abscess where the abscess could well be made out pointing into the rectum. The surgeon, of world wide repute preferred to allow it to break of itself into the gut and argued that the patient would recover more quickly than from operative means. We physicians have been afraid, and we have been taught, that there is great danger that the abscess would burst into the peritoneal cavity. As to this Ochner says, "the last cause for diffused peritonitis results from the bursting of a circumscribed abscess. I believe this is practically always avoidable by limiting the motion of the small intestine."

I would not like to state that there is too much operating for appendicitis for I hardly think it is true among the honest class of surgeons. I do not believe in removing a normal appendix even if the abdomen is open for some other operation. Physiologists have yet to decide whether the appendix has some use in the animal economy. It is by no means certain that the appendix is a developmental vestige of no use whatever. Berry has advanced good reasons for considering it rather the opposite, a high grade of lymphoid tissue development and accumulation of these elements. The colon is the seat of lymphoid tissue. In the lower animals it is scattered over the gut. In the higher it becomes collected and in man mainly concentrated in the appendix.

McEwan, who studied this organ through a wound in the side, noticed that the secretion of the appendix was alkaline and mixed with the acid chyme of the ileum, neutralized it on its entrance into the colon. He noticed, also, that

the secretion was influenced by the mental state of the patient in a manner comparable to the saliva and concluded that the secretion of the appendix was a valuable aid to the completion of digestion.

The propriety of removing a simple catarrhal appendix has been much discussed. I think the larger part of them that give symptoms should be removed. Appendectomy in these simple catarrhal cases is practically without danger either immediate or remote, and gives the patient the only certain assurance against subsequent attacks which are so apt to occur. Sure enough there may be never another attack, but the reverse is more likely because after one or more acute attacks, the appendix is left in damaged condition and is more susceptible to renewed attacks. Besides this a damaged or diseased appendix often causes reflex disturbances particularly disturbed digestion, constipation or pylorospasm.

I have said that I hardly thought there was too much operating for appendicitis, but I do think that there are many ill-advised operations as to time of doing them. At any rate, this is true, wherever there is much operating there is a high death rate. It is stated that England and especially Germany are behind the times in operating for appendicitis. Osler shows that the death rate from this disease per million is: in New York 129, in Chicago 140, in England about 45. During ten years in the Boston City Hospital 2.2 per cent. died. In Vienna 3 per cent. In Munich 5 per cent. That is four times as many in New York as in Munich, and seven times as many as in Vienna. The same author says that the mortality has been increasing in England in spite of earlier and better surgery.

It seems from these figures, we must concede, that we are either doing a lot of unnecessary operating or else ill-advised as to the time of doing it. Or perhaps, much of this increased mortality is due to bad medical treatment. Perhaps we have something to learn from the older practitioners. One of these of the old school, so-called, for whose opinion I have high esteem and who has given this subject a good deal of thought, in speaking of cathartic versus opium treatment, says: "We can never say absolutely whether there is early perforation or not. Mischief may be going on in the appendix with no subjective symptoms—the first twinge of pain may not occur until after perforation. In short we do not know what early is in any given case.

If we give cathartics, we increase peristalsis and spread infection. And then how utterly useless it is to give cathartics, when you consider the physical and pathological condition you so often see on the operating table—a fecal plug obstructing the appendix near its proximal end, perhaps an inflammation, ulceration, or threatening perforation beyond. What can a cathartic accomplish? and if perforation has occurred, what then?

Consider the three periods of fashion in treatment: first the cathartic period or previous to about 1840. Practically every case died, so says Alonzo Clark. Then second the opium period, or from about 1840 to 1890 when Lawson Tait again brought cathartics into use. His cases, let us remember were not of appendical origin, they were peritonitis, to be sure, but of pelvic origin mostly. The profession made the mistake of treating appendicitis or peritonitis from appendical disease as Tait was treating peritonitis caused by pelvic disease—a fatal mistake, a distinction with also a difference. During the "opium period," 1840 to 1890, we know the results were better, wonderfully better than under the previous method. Then came cathartics again with the fatal consequences inevitable.

Since about 1890 we may speak of as the "surgical period." Too often it happens that the general practitioner gives cathartics to his patients when he is first called and keeps it up until the surgeon is called in to operate. The doctor has done his best to get the patient into the worst possible condition and if the result is bad the surgeon is blamed when the real mischief was done by calomel and salts. When called to a case of appendicitis I never give cathartics—absolutely never. If for any reason operation is delayed I give opium boldly, arrest peristalsis and thus prevent the spread of infection by favoring the formation of limiting adhesions, walling off infection. I believe patients are killed every day by cathartics, and surgery is often blamed for the sins of salts and calomel."

Inasmuch as this is the opinion of a strictly medical man, I thought it interesting and have given it in full.

As to purgation, most authorities have favored at least one initial purge. Many favor purgation throughout. I do not believe a purge at any stage is advisable. Here, again, I quote: "If the intestinal inflammation is slight the purgative will do little harm, and if little harm results the case

is certainly a mild one, and this suggests a possible use for a purgative, viz., as a means of diagnosis. A case so mild as not to be markedly aggravated by a purgative is so mild that an operation is not called for. Defecation has no more to do with recovery than a thermometer with the weather. I commence the treatment by assuring the patient that I do not care if the bowels do not move for a week. I recall a case that was presented at a hospital for operation in a moribund condition. The attending physician stated that he had used every means to produce an evacuation, even croton oil, but in vain. The patient suffered with complete paralysis of the bowels with extreme distention. Of course he died. I believe purgation has caused more deaths than operations. The advocates of purgation reason that the feces are a mass of virulent germs and should be gotten rid of. In reply to this it may be stated that at operations the cecum is never loaded with feces; it is impossible to sterilize the mucus membrane with a purge, and the bacteria in the lumen are of little importance as compared with those in the wall.

Morphine is objected to because it masks symptoms. But what objections can there be to this? If the pain is severe enough to call for morphine it is time to decide whether to operate or not. Nothing can be gained by a day's delay. Now is the time to decide. Operate at once, or not during the attack."

As to the question as to whether to operate during the attack or wait for the interval, perhaps I may as well read from notes taken at the Mayo clinic. "If a case is received within 36 hours of its inception it is usually operated upon; if received after this time, on the third, fourth or fifth day, it is usually carried through the acute stage to recovery or to the formation of localized abscess.

Perforation usually occurs within 48 hours, and within 6 hours after perforation, if there is still a rise of temperature, immediate operation may be of benefit, but never after that time when the temperature has subsided after rupture. At this time all the damage that can be done has already occurred, and a reparative process is in progress, which is not benefited by operation.

The treatment of these cases is to aid nature in her process of repair; rest in Fowler's position; nothing by the mouth but hot water. In cases of vomiting, stomach lavage with warm saline. Hot saline by rectum, if retained, if not, subcuta-

neously; hot water bags to the extremities and cold pack over the appendix. Within a week by this method, localized abscess has formed, which may be opened and drained and the appendix removed at the time or 5 or 6 weeks after the resulting sinus has healed." Of course this is a very general statement and there are many exceptions to this rule.

Conclusions: (1) There is no specific for this disease, no set of rules can be made, nor is there for typhoid fever, but the art of the physician, when there is no specific, is of inestimable value.

(2) There is a medical treatment for this disease, whether surgical or not, which is rest, no food, no purgatives, but use of morphine, ice bag or hot application and Fowler's position.

(3) There are fulminating cases which admit of no delay. The symptoms are those of acute septic peritonitis.

(4) If in doubt during the first 36 hours after inception, operation is preferred. If in doubt after 36 hours, delay with proper medical treatment is probably safer.

(5) It is not a good principle to add surgical shock to an already overwhelmed and struggling organism.

(6) A large percentage of fatalities are due to ill-timed operations or to bad medical treatment or to a combination of these two factors. The case starts in with mild symptoms, but with perhaps grave lesions. Operation is delayed. The expected happens. The symptoms become on the third or fourth day more alarming. The physician loses his head or his courage, the sick patient accepts the operation proposition, and operation is performed just at the worst possible time. Nature is overwhelmed with the shock of operation added to that of an infectious disease at a time when she might have rallied, brought to the rescue her reparative forces and assisted by judicious medical treatment tided the patient over the crisis, and established such an immunity to infection that a later operation would be comparatively free from danger.

(7) Many of the rules indicating operation, given us in the past are fallacious. Of course the pain gets severe enough to require morphine. Of course the belly gets rigid. Of course the pulse with severe infection becomes small, irregular, and rapid. It is not strange that a chill manifests itself. Severe vomiting is not unlooked for. Naturally, the patient suffering from any of the above symptoms, will readily consent

to operation if so advised as the only recourse for relief. But none of these symptoms, however clearly they may point out the severity of the disease, necessarily indicate that immediate operation should be done. On the contrary, severe symptoms by showing the terrible struggle which our organism is undergoing, often argue the wisdom of delay.

“DON'TS” FOR THE SICK ROOM.

We commend the following to be placed by the doctor in the hands of those members of the family to whom he must entrust the bedside care of his patients:

Don't try to tax your brain by remembering too many things. Write them down so that the doctor can tell at a glance what you would tell him. A history sheet such as the nurses use, can be made out where the patient's temperature, diet, pulse and so forth are all recorded.

Don't forget that a patient on a liquid diet can not wait the full time for his meals, but have something ready every two or three hours that is light and nourishing.

Don't trust to your feeling the skin to decide the presence or absence of a fever. The thermometer often indicates a high fever when the skin is cool to the touch.

Don't trust to remembering the medicine time. Make tally covers for the tumblers. This can be easily done by cutting card-board the size of the glass and marking the dial of the clock on one side. Then pin on two strips for hands, so they can be easily moved around. By this dial you can turn the hands, or strips, to the next time for taking the medicine.

Don't keep your external poisons and your internal remedies near each other. Put the poisonous bottles in a covered box by themselves so that the cover must be lifted before getting at the bottles, and save serious mistakes.—*Exchange*.

HYSTERIA.—In the differential diagnosis, states S. Meyer (*Mediz. Klinik*, Feb. 13, 1910), we cannot exclude all organic affections. We must consider the features which distinguish the hysterical manifestations from those of a like nature of organic origin. In recurring disturbances a strict periodicity strongly suggests hysteria, as

does also a strictly regular rhythm. The influence of emotions upon the symptoms is not a criterion of hysteria, since many organic affections are powerfully modified by emotions. The effect of medication helps differentiation; but more important still is the absence of the ordinary influence of drugs, as when morphine or antipyretics do not affect a pain. We should refrain from physical examinations of patients suspected of hysteria; the hysteric's stigmata are thus frequently suggested. Unnecessary inspection and manipulations should be avoided.—*Medical Times*.

THE FUNCTIONAL ACTIVITIES OF THE KIDNEYS.—S. W. Schapira (*J. A. M. A.*, Jan. 15, 1910) finds that little value can be placed on the presence of casts and albumin alone, as evidence of kidney disease, since one in every fifteen persons walking the streets has albumin and casts in the urine. The most accurate test for permeability of the kidneys is phloridzin in connection with ureter catheterization, although it is sometimes a very tedious process; next comes in importance the indigo carmine, a very quick test; and lastly, methylene blue. The relationship of transient glycosuria to impaired kidney function when found in one kidney deserves investigation. The diagnosis of kidney disease by chemical test is not borne out by the examination with phloridzin, methylene blue and indigo carmine.—*Medical Times*.

BRUDZINSKI'S NECK SIGN IN MENINGITIS.—In making certain researches, Brudzinski has found that passive forward bending of the neck in meningitis causes the lower limbs to become flexed at the knee and hip with a considerable flexion of the thigh on the pelvis, and this is what he terms the neck sign. The sign was tried for in children of different ages, both healthy and with various diseases other than meningitis, and was found to be present only in the latter. It was found in ninety-seven per cent. of cases of meningitis of the different types, while Kernig's sign was found in fifty-seven, and Babinski's sign in fifty. The mechanism of the sign is explained by the muscular hypertonia of the lower limbs and a physiological predominance of the extensor muscles of the neck and back over the flexors of the lower limbs.—*Medical Times*.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D., }
 B. H. STONE, M. D., }*Editors.*

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EDITORIAL.

The publication of the Report on Medical Education in the United States by Abraham Flexner of the Carnegie foundation has naturally created quite a ripple of excitement among those especially interested in the subject.

The report is the outcome of a long series of personal observations by the author during which he visited every medical college in the United States. It is written in a vigorous style with an occasional attempt toward the humorous. While in general the facts presented are undeniable, we cannot but feel that Mr. Flexner has been unjust in many instances. The whole trend of his work seems to be an attempt to forcibly crush out the small colleges and build up the great institutions. In fact he does not hesitate to mention specifically the institutions which he says must go. In the general disposal of medical colleges, he only leaves two in New England. The first impression which the report makes is that Mr. Flexner has based his results largely upon the

financial resources of the institutions. This in a way may not be so far wrong as it appears, as every one must admit that it costs money to teach medicine as it should be taught, yet it is obviously wrong to ignore the fact that the medical profession as it exists throughout the country today is largely the product of these small and privately owned schools and we are far from admitting that the morale, personnel and average professional attainments of our medical men is one whit lower than in Europe. Many of our most illustrious doctors of today are products of just the conditions which Mr. Flexner so vigorously condemns. The proof of the pudding is the eating and so long as the small schools are able to turn out men who meet with full credit to themselves at the State Board Examinations, and in actual life practice, the graduation of the more richly endowed schools, just so long will it be impossible to argue the small school into oblivion by the results of any such pedagogic investigation as this. There is a personal association between teacher and pupil in the small school which is a great inspiration to the latter and which Mr. Flexner ignores entirely. He argues that schools which teach the full four years of medicine must be situated in large centers and yet extols to place of greater honor one school situated in a town of less than 15,000 inhabitants. We believe that the medical profession while they will readily admit the advisability of continually raising standards will for a long time yet resist any attempt to regulate medical education by Standard Oil methods.

Probably most of the members of the American Medical Association have received during the past few years ample supply of literature defaming the officers of the association, particularly the secretary, and probably most of these members were proportionately surprised to learn that

Secretary Simmons and his associates were unanimously reelected without a word of dissent at the recent St. Louis convention. The whole series of incidents goes to show the folly of bluster and bully in an attempt to correct real or imaginary evils. Here was a man, maligned before the medical profession of the whole country, all his past and present discrepancies shown up in bold relief. He read his report with the, at least, implied impression that it was to be his last, and suggested that in the face of current criticisms he be dropped from the list of officers. Yet in the final chapter, at election time, a burst of enthusiasm carried him past all obstacles and barriers, exonerated and bearing the seal of approval from his professional brethren. It is not for us to comment pro or con, but simply to suggest the lesson that it is the same dignified and consistent conduct which eventually wins out in the majority of cases, while the opposite methods often reach their climax prematurely and collapse when the real struggle occurs.

With the death of Robert Koch which occurred May 27th, the world lost one more of the great scientists who have made the 19th century the most memorable one in the history of medicine. Of all the great names associated with the science of bacteriology, perhaps those of Pasteur, Lester, Ehrlich and Koch, stand pre-eminent. Of these only one (Ehrlich) is now left. Without in any way belittling the work of any other, we can perhaps truly say that Koch's contributions were the most important. In 1876, he discovered anthrax spores, thus demonstrating the cause of splenic fever. In 1882 of tuberculosis, in 1883 he demonstrated the comma bacillus as the carrier of Asiatic cholera, and in 1890 he startled the world by the announcement of a new treatment for tuberculosis, "tuberculin." But not so much to any one of these specific discoveries is

the world indebted to him as for the establishment of principle and technique which immediately made possible all the subsequent discoveries in bacteriology. Koch's work like that of Ehrlich was that of the pure scientific investigator and his results as such, established the foundation upon which all future work in the same line must build. His government early recognized his value and put his work under government control, in some ways to its detriment. It was through this pressure of the control that the rather premature announcement of tuberculin was made and all through his life his energies were somewhat dissipated owing to this meddling control. What he might have accomplished if he had been allowed the funds and liberty to select his own problems and develop them in his own way, can only be imagined.

NEWS ITEMS.

Dr. Carl W. Woods of St. Johnsbury, Vt., has entered practice at Walpole, N. H.

Dr. Wm. M. Robb has returned to Keene, N. H., from Boston, Mass., where he has been located for the past few months.

Dr. C. A. Eastman, formerly of Staten Island, N. Y., has located in Winchester, N. H.

A private hospital has been opened at Keene, N. H. The institution is opened to any physician's patients for operation or for rest, and any regular physician may operate.

Out of a class of forty-one the College of Medicine of the University of Vermont graduated thirty. The following are their names and home addresses:

Andres Bautista	.....Iloilo, P. I.
William Lyman Bullock	.....Burlington, Vt.
Sidney Moore Bunker, A. B.	.....Burlington, Vt.
Luther John Calahan	.....Burlington, Vt.
Dennis James Carroll	.....Granville, N. Y.
Everett Leon Chapman	.....Coos, N. H.
Frederick Durand Davis	.....Westfield, Mass.

Edmund Stowe DouglassRochester, Vt.
 Ambrose Francis Dowd.Boston, Mass.
 Wilmer Clayton DreibelbiesLeighton, Pa.
 Delmer Dennis DurginEnosburg Falls, Vt.
 Grover Cleveland Emery.Limington, Me.
 Edward Vincent Farrell.New Britain, Conn.
 Alan Daniel FinlaysonBellows Falls, Vt.
 William Guy Guthrie, A. B.Marysville, Kans.
 Leroy Austin HaveyBethel, Vt.
 Arthur Bicksford Howard.Littleton, N. H.
 Matthew William Hunter.Essex Junction, Vt.
 William John Kennedy.Gloversville, N. H.
 Arnaud Julian LaPierre.Norwich, Conn.
 Claude Anthony LoftisBelfast, N. Y.
 David James McConnell.Groveton, N. H.
 Sidney Leon Morrison.Colebrook, N. H.
 Marden Henry Platt.Burlington, Vt.
 Francis Edward QuigleyRutland, Vt.
 Edwin Wesley SartwellKeeseville, N. Y.
 Joseph Henry Shuffleton.East Arlington, Vt.
 Ray Brown ThomasBurlington, Vt.
 Ernest Leslie TracyBurlington, Vt.
 Walter Arthur WattsProvidence, R. I.

Dr. Christian A. Herter, Professor of Pharmacology at Columbia University, and a member of the referee board appointed by the Secretary of Agriculture to decide upon various scientific points coming up under the National Pure Food Law, has published and distributed among the physicians, a defense of the Board's position on the benzoate of soda problem. It will be remembered that this decision reversed one previously made on the basis of work performed by Dr. Wiley with his famous poison squad. Dr. Herter states that this defense was refused publication in the *Journal of the American Medical Association* and consequently he is sending it out at his own expense and under his own name.

Dr. P. Challis Bartlett, superintendent of the New Hampshire State Sanatorium at Glencliff in Warren, which was opened last September, has tendered his resignation to the trustees and will go to Rutland, Mass., where he will take charge of the Massachusetts Sanatorium in that town. The trustees have chosen to succeed him, Dr. J. E. Runnells, who for three and one-half years was assistant at the Rutland Sanatorium and for six months assistant superintendent of the Lakeville Sanatorium at Middleboro, Mass. Dr. Runnells will assume the duties of his new position at Glencliff as soon as he can make the

necessary arrangements which will probably be within the next two weeks.

Dr. Samuel J. Allen of White River Junction was arrested June 26th and lodged in jail charged with performing an illegal operation. Dr. Allen drew a weapon on the officer who arrested him but was overpowered before he could use it.

On Saturday evening, June 25th, a dinner was tendered to Dr. A. F. A. King of Washington, D. C., at Dorn's Cafe in Burlington, in honor of his forty years as professor of obstetrics and gynecology. About forty physicians were present.

While Dr. A. A. Beaton of Franklin, N. H., was driving an automobile, a fly flew into his eye and he lost control of the machine, which swerved out of the road and down an embankment twenty feet high, landing right side up, however. In the car with the doctor was his father, his sister and her husband. None of them was hurt, nor was the car injured beyond a few scratches.

Dr. G. W. Roberts has removed from Brattleboro to Chester, Vt.

Dr. Edward S. Cowles, formerly of Boston, Mass., has opened an office in Brattleboro, Vt. Through reciprocity with Virginia, the Vermont Board of Registration granted a certificate for practice. The doctor practices psychotherapy.

The free dental clinic that was established in January on One Hundred and Twenty-first Street to care for the teeth of school children has completed its first four months of work. During this period more than 5,000 school children have been treated. The Department of Health maintains the clinic and children are not treated until a personal visit has been made to the home of the child to see that the parents are unable to pay for the treatment. Dr. S. Josephine Baker, chief of the division of child hygiene, states that out of 323,000 school children examined during the 1908-09 school year, 183,000 had defective teeth.

Fifty of the leading negroes of western Pennsylvania on May 21st, applied for a charter for the Negro Tuberculosis Hospital League, to provide separate tuberculosis sanatoria in the state for the afflicted of their race. The tuberculosis hospitals of the state refuse to admit them, although such hospitals which have state

aid, are willing to and do furnish milk, eggs and other food-stuffs needed by negro consumptives in their homes. It is the intention to raise a fund to get state aid to erect one hospital near Philadelphia and another near Pittsburg.

At the one hundred and eighteenth annual meeting of the Connecticut State Medical Society, held in New Haven, on Wednesday and Thursday, May 25th and 26th, the following officers were elected for the ensuing year: President, Dr. Frank K. Hallock of Cromwell; first vice-president, Dr. Edmund P. Douglass; second vice-president, Dr. Edward T. Bradstreet of Meriden; secretary, Dr. Walter R. Steiner of Hartford; treasurer, Dr. Joseph H. Townsend of New Haven.

Dr. James A. Egan, secretary of the Illinois State Board of Health, working in conjunction with the Federal authorities, has caused the arrest of three men who conducted the "Chicago Medical University" and "Crescent Medical University of Chicago," on the charge of selling diplomas. The diplomas which were issued covered medicine, osteopathy, neuropathy, obstetrics, optics, nursing, pharmacy, embalming, music and painting. The head of the institution was Dr. Alexander Chittick, whose license has been revoked by the Illinois State Board of Health.

Work has been commenced on the new building for the New York Post-graduate Medical School, which is to cost \$6,000,000, making the institution's capacity about four hundred beds. There are to be eight operating rooms, but no large amphitheater. There will be well equipped laboratories for research work, and special attention will be paid to the study of tropical diseases.

The House Fly—The danger from the house fly is again emphasized by the death, during the past week, of a prominent business man of Jersey City, which was caused by blood-poisoning from malignant pustule, the result of infection by a fly of a cat's scratch on the hand. Recently the New York Health Department has passed an ordinance requiring the proper screening of all fruits and vegetables exposed for sale outside of shops and in the streets generally, and Commissioner Lederle has since expressed the opinion that this should be so amended as to include food displayed indoors.

The astounding announcement is made by Columbia University of the establishment of a course in optometry, to begin September 28th, 1910. The new course is made a part of the department of the medical school. The course is to be for two years and graduates will receive certificates from the university's board of extension teaching. The lecturers who are to teach the various phases of optics and optometry have been selected from the members of the faculty in the department of physics with the addition of several special lecturers who are practical optometrists. This news would be funny, were it not so serious. It is bad enough that the State gives these persons the legal right to fit glasses without being able to test the eyes properly and without the necessity of a knowledge of the relation of ocular to general pathology. It is worse to give them the moral support of a quasi degree from a great university.—*Medical Record*, June 11th, 1910.

The Massachusetts Medical Society held its one hundred and twenty-ninth annual meeting in Boston, June 7-8, 1910. The election of officers resulted in the following: President, Dr. G. B. Shattuck, Boston; vice-president, Dr. H. B. Stetson, Greenfield; secretary, Dr. Walter L. Babbage, Boston; treasurer, Dr. Edward M. Buckingham, Boston; librarian, Dr. Edward M. Brigham, Brookline; orator, Dr. Maurice H. Richardson, Boston. The section on tuberculosis elected the following officers for 1910: Chairman, Dr. Arthur L. Cabot, Boston; secretary, Dr. Thos. F. Harrington of Boston; recording secretary, Dr. John Hawes of Boston.

The Rhode Island Medical Society meeting at Providence, R. I., May 31st, 1910, elected the following officers: President, Dr. A. A. Mann; vice-presidents, Dr. F. T. Rogers, Dr. A. B. Briggs; secretary, Dr. S. A. Welch; treasurer, Dr. W. O. Rick. The society voted to purchase a house to be used as a club house and library.

The inspection of summer resorts in Connecticut.—The State Board of Health is at present actively engaged in making inspections of sanitary conditions prevailing at the various summer resorts throughout the state. In most instances, the suggestions for improvement that are made by the board's inspector are warmly welcomed, the proprietors of the hotels gladly doing their best to comply with the requirements of the

board of health. Conditions generally, are good, and where unsanitary conditions are found, it is due usually to ignorance rather than to willful negligence.

Sanitary conditions at summer resorts in New York.—Periodical inspections of the sanitary conditions at the hotels at the various mountain and seaside resorts throughout the state are made by the state department of health and improvements are suggested. Some time ago letters were mailed to a number of proprietors reminding them that the last inspection showed where improvements in sanitary conditions could be made with advantage and pointing out the necessity of making the same before the opening of the season 1910. In most instances the suggestions of the department were welcome and the proprietors gladly did their best to comply with the recommendations. It was generally found that the insanitary conditions present arose out of the ignorance of the proprietor rather than from wilful negligence.

The Connecticut State Medical Society held its 118th annual meeting at New Haven, May 26th, 1910. The following officers were elected: President, Dr. Frank K. Hallock; vice-presidents, Dr. E. P. Douglas and Dr. E. T. Bradstreet; secretary, Dr. W. R. Steiner; treasurer, Dr. J. H. Townsend. Delegate to the American Medical Association, Dr. E. J. Knight.

The Franklin County Medical Society held its annual meeting at St. Albans, May 26th, 1910. The following officers were elected: President, Dr. C. A. Pratt of Enosburg; vice-president, Dr. J. Reynolds Patton of Fairfield; secretary, Dr. E. A. Hyatt of St. Albans, Vt.

The White River Medical Society met at Hartford, Vt., May 17, 1910, and elected the following officers: President, Dr. Geo. W. Weymouth of Lyme, N. H.; vice-president, Dr. J. D. Brewster of Windsor; secretary and treasurer, Dr. G. N. Cobb of White River Junction.

The Vermont Homeopathic Medical Society held its sixtieth annual meeting in Montpelier on May 18th and elected the following officers: President, Dr. Fremont Hamilton of Brattleboro; vice-president, Dr. James Haylett of Moretown; secretary, Dr. George I. Forbes of Burlington; treasurer, Dr. Fred E. Steele of Montpelier.

The following officers were elected by the House of Delegates of the American Medical Association for the ensuing year: President, Dr. John B. Murphey, Chicago; first vice-president, Dr. E. E. Montgomery, Philadelphia; second vice-president, Dr. R. C. Coffey, Portland, Oregon; third vice-president, Dr. W. G. Moore, St. Louis, Mo.; fourth vice-president, Dr. H. L. E. Johnson of Washington, D. C.; secretary, Dr. George H. Simmons, Chicago; treasurer, Dr. Frank Billings, Chicago.

Robert Koch, the well-known German bacteriologist, died in Baden Baden, on May 27th, 1910, of disease of the heart. Born at Clausthal on December 11th, 1843, he studied medicine in Gottingen, where he was graduated in 1866. He then became assistant at the Allgemeine Krankenhaus in Hamburg and later practiced in Langenhagen, near Hanover, and in Rackwitz. From 1872 to 1880 he was county physician at Wollstein. Here, being interested in bacteriological researches he made important observations with the anthrax bacillus and other bacteria. In 1880, he was called to Berlin as a member of the German Imperial Board. In 1882 he reported his discovery of the tubercle bacillus and one year later in 1883, in Calcutta, that of the cholera spirillum, while he was chairman of the German Cholera Commission in Egypt and India, also of the germ of Egyptian trachoma.

The Maine Medical Association met in annual session at Bar Harbor on June 29th and 30th under the presidency of Dr. G. M. Woodstock of Bangor. Dr. W. Bean Moulton is secretary of the association.

The American Association of Medical Examiners closed their annual meeting in St. Louis on June 7th by endorsing the movement for the establishment of a national department of public health and electing the following officers: Dr. Liston H. Montgomery of Chicago, president; Dr. Edward G. Grant of Louisville and Dr. W. T. Sully of Muskogee, Okl., vice-presidents; Dr. A. E. Cox of Helena, Ark., secretary and treasurer.

The Massachusetts Medical Society held its one hundred and twenty-ninth annual meeting in Boston on June 7th, 8th and 9th. The program presented was of unusual interest, the attendance was large, over four hundred members being

present. The meeting was in every way very successful. The following officers were elected for the ensuing year: President, Dr. Geo. B. Shattuck of Boston; vice-president, Dr. Henry G. Stetson of Greenfield; secretary, ———.

One hundred thousand dollars libel suit against the Carnegie Foundation.—The St. Louis College of Physicians and Surgeons has filed suit for \$100,000 against Mr. Abraham Flexner, Dr. Henry S. Pritchett and Dr. George H. Simmons, alleging that the institution was damaged by a report on medical colleges, read before the American Medical Association at the recent meeting held in St. Louis. The three defendants made up the committee which investigated the educational standing of the medical colleges of the United States in behalf of the Carnegie Foundation for the advancement of teaching. The St. Louis College of Physicians and Surgeons was included in the list of those that were not considered efficient.

The annual meeting of the Orleans County Medical Society was held at Barton, Vermont, June 21st, 1910, with the following program:
The Stools of Infancy. J. L. Morse, Boston.
Discussion opened by

F. R. Hastings, J. C. Colby.
Empyema. A. T. Bazin, Montreal, P. Q.
Discussion opened by

P. C. Templeton, B. D. Longe and Willard.
The Doctors' Fees. J. F. Blanchard, Newport.
Discussion opened by

E. M. Nichols, F. Aldrich, C. C. Waller
and J. F. Wright.

A meeting of the Washington County Medical Society was held at the Pavilion Hotel in Montpelier, June 14th, with an attendance of twenty-five members. The program was carried out.

I. Business.

II. "A Discussion of the Diseases of the Upper Abdomen and their Differential Diagnosis." Dr. Rumrill.

Discussion—

Dr. Bidwell, Dr. Leonard, Dr. E. B. Watson.

III. "The Single Rod Axis Traction Forceps."

Dr. Hayes.

Exhibit: General Discussion.

IV. Extra-Uterine Pregnancy, Dr. Lindsay.

Discussion—

Dr. Gifford, Dr. Grimes, Dr. M. L. Chandler.

Mr. Henry Phipps of New York has selected the University of Pennsylvania to carry on the work of the Phipps Institute. Mr. Phipps has already acquired ground in Philadelphia on which will be erected a hospital for this purpose. The extent of the benefaction exceeds \$5,000,000.

The report of the Committee appointed to consider the future policy of the Institute has been approved by Mr. Phipps and the Trustees of the University.

The work will be divided into three general departments, each of which will be presided over by a director. For the Directorship of the Laboratory, Dr. Paul Lewis now of the Rockefeller Institute has been selected. For Directorship of the Sociological Department, Mr. Alexander M. Wilson, of the Boston Association for the Relief and Control of Tuberculosis. Dr. H. R. M. Landis has accepted the appointment as Director of the Clinical Department.

In addition to a board of eight directors who will be directly responsible to the Trustees of the University, an Advisory Council has been created and will meet annually at the Institute. The following have accepted the invitation to serve as members of this body: Dr. Samuel G. Dixon, Harrisburg, Pa.; Dr. S. McC. Lindsay, New York City; Dr. William H. Baldwin, Washington, D. C.; Dr. Hermann M. Biggs, New York City; Dr. William H. Welch, Baltimore, Md.; Dr. Theobald Smith, Boston, Mass.; Dr. Gideon Wells, Chicago, Ill.; Dr. Simon Flexner, New York City; Dr. James A. Miller, New York City; Dr. Lawrence Brown, Saranac, N. Y.; Dr. Henry Baird Favell, Chicago, Ill., and Dr. James Pratt, Boston, Mass.

BOOK REVIEWS.

DISEASES OF THE STOMACH AND INTESTINES—Diseases of the Stomach and Intestines, by Robert Coleman Kemp, M. D., Professor of Gastro-Intestinal Diseases, New York School of Clinical Medicine. Octavo of 766 pages, with 279 illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

The work is a very complete treatise on the subject. It is divided into three parts, the first devoted to anatomy of alimentary canal, the physiology of digestion and suggestions regarding

the examination of the patient. Part II is devoted to the diseases of the stomach and Part III of the intestines. The book is particularly full in its treatment of the diseased conditions giving in detail the author's ideas on the subject. The feature makes it of great value to the practitioner.

PULMONARY TUBERCULOSIS AND ITS COMPLICATIONS—Pulmonary Tuberculosis and Its Complications, by Sherman G. Bonney, M. D., Professor of Medicine, Denver and Gross College of Medicine, Denver. Octavo of 955 pages, with 243 original illustrations, including 31 in colors and 73 x-ray photographs. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$7.00 net; Half Morocco, \$8.50 net.

The rapidity with which the second edition of the book has followed the first is good evidence of its reception by the profession. In our opinion, Bonney has treated the most important of all human affections in a more comprehensive, clear and readable way than has any other author. We welcome the enlarged and thoroughly revised second edition.

A TEXT-BOOK OF PATHOLOGY—Second Edition, Revised. A Text-Book of Pathology, by Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia, Second Edition. Octavo of 856 pages, with 437 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$5.00 net; Half Morocco, \$6.50 net.

The work while it contains nothing new or original presents the well known facts of pathology and bacteriology. As it is intended for a student's book, controversial points are not discussed at length but dismissed with the frank statement that they are not understood. The book contains a great amount of material in a very readable form.

POCKET THERAPEUTICS AND DOSE-BOOK—The New (4th) Edition reset. Pocket Therapeutics and Dose-Book, by Morse Stewart, Jr., B. A., M. D., Fourth Edition, rewritten. Small 32mo of 263 pages. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$1.00 net.

A useful little volume made thoroughly up-to-date. These pocket volumes do much to supplement the practitioner's already over-burdened memory and are at times a veritable God-send.

NEW EDITION JUST ISSUED—G. E. De Schwenitz, Professor of Ophthalmology in the University of Pennsylvania, etc. Price, cloth, \$5.00 net. W. B. Saunders Company, Philadelphia and London.

The sixth edition of the classic brings it thoroughly up-to-date. Much new material has been added including text illustrations and the volume has thereby increased in its usefulness to student and practitioner.

PRESCRIPTION WRITING AND FORMULARY.—Prescription Writing and Formulary, by John M. Swan, M. D., Associate Professor of Clinical Medicine, Medico-Chirurgical College of Philadelphia. 32mo of 185 pages. Philadelphia and London: W. B. Saunders Company, 1910. Flexible leather, \$1.25 net.

This little volume contains chapters on "The Construction of Prescriptions"; "Latin for Prescriptions"; "The United States Pharmacopoea and its Official Preparations, Weights and Measures"; "Doses, Number of Ingredients, Abbreviations and Miscellaneous Considerations"; Incompatibilities and a Formulary arranged alphabetically under the names of the diseases. The growing tendency to prescription writing instead of the use of proprietary preparations makes a formulary increasingly useful. The book is well arranged and contains valuable material.

THE DISEASES OF INFANCY AND CHILDHOOD—Designed for the use of Students and Practitioners of Medicine. By Henry Koplik, M. D., Attending Physician to the Mt. Sinai Hospital, New York; ex-President of the American Pediatric Society. New (3d) edition, enlarged and thoroughly revised. Octavo, 944 pages, with 204 engravings and 39 plates in colors and monochrome. Cloth, \$5.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

This edition has been carefully revised, much that was in the former editions has been left out, and new matter has been added to include the advances in the pathology, diagnosis, and treatment of diseases of children.

This is an admirable book on the subject, well written, fine illustrations and thoroughly modern. It deserves the cordial reception it has received.

MODERN SURGERY—The New (6th) Edition, Greatly Enlarged. Modern Surgery: General and Operative. By J. Chalmers DaCosta, M. D., Professor of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Sixth Edition, Greatly

Enlarged. Octavo of 1502 pages with 966 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$5.50 net; Half Morocco, \$7.00 net.

The sixth edition of this work, coming only three years after the fifth edition, can very reasonably be taken to indicate, first that the book has been received with general favor, and secondly, that it is the purpose of the author to keep the work up-to-date.

This is a very satisfactory one volume surgery. It discusses the general surgical conditions and the surgical treatment or operations which are indicated. It includes all the more recent ideas in regard to surgical diagnosis and treatment and is a thoroughly satisfactory work on surgery.

CURRENT MEDICAL LITERATURE.

GONORRHEA IN CHILDREN.

The statistics of the Vanderbilt Clinic, New York, during the past three years are analyzed by B. W. Hamilton, of New York, who notes a surprising increase in the number of cases of vaginal gonococcus infection revealed by a more careful scrutiny of little children coming to the clinic as out-patients. Their treatment has become a problem of much importance.

He describes the methods of examining the children. In 40 cases in which the upper portion of the vagina was tested, gonococci were found in every one. Of the 344 cases observed, the average age was 5.1 years. Ophthalmia from autoinfection was rare, occurring in only four cases. Arthritis was observed in three, but there were probably more cases that could not be traced. Nocturnal enuresis, not pre-existing, was present in 10 cases. Inguinal adenitis was very rare and observed only twice. There were no cases of cystitis or urethritis observed, nor a single instance of pelvic or general peritonitis, though such cases have been observed by others.

Two methods of treatment were employed—irrigations and vaccines—and methods are described. In the vaccine treatment the opsonic index is not taken, except in a few early cases, as there seems to be little relation between the index and the vaginal discharge. Three separate vaccines were used: one prepared by Dr. R. B. Lamar, of the Rockefeller Institute for Medical Research; another from a stock culture at the Presbyterian Hospital, both of these having a strength of 100,000,000 to one Cc.; and stock vaccines prepared by Parke, Davis & Co., of strengths respectively, of 50,000,000, 100,000,000, and 500,000,000 per Cc. In the majority of cases, regardless of age (except under six months) the treatment was started by an injection of 50,000,000 every fifth day, increasing the dose by 10,000,000 until five injections had been given, when the interval was made 10 days. In most of the acute cases six injections sufficed for a cure. In those of long standing, further injections, bringing the dosage up to 200,000,000, were required. Care was taken to insure the completeness of the cure.

The conclusions are summed up as follows: "Vaccine therapy has a place in the treatment of this in-

fection in little children for the following reasons: 1. The short time required for a cure in over 85 per cent. of cases. 2. The ease of administration of the vaccine; no special apparatus or knowledge of technique being necessary. 3. The vaccine is apparently harmless when used under aseptic precautions. 4. It is not necessary to take the opsonic index, with its complicated technique. 5. It eliminates irrigations, which direct the child's attention to its genitals, at times encouraging precocious masturbation. The frequent douches necessary in the irrigation treatment will with the best care and gentleness, produce some injury when continued over a long period of time."—*Jour. A. M. A.*, April 9, 1910.

THE LIMITATION OF THE CALORIC METHOD OF INFANT FEEDING.

HENRY DWIGHT CHAPIN of New York states that caloric feeding of infants is a failure, on account of the absence of any index of the amounts of protein needed for the infant's growth. If only as much heat-producing material is taken in as there is heat given off, there can be no storage of protein for growth. The amount of food needed for growth cannot be determined by the amount of heat excreted. Foods that are of equal heat-producing value, and equally digestible are not interchangeable for different individuals.—*Medical Record*, May 28, 1910.

A PRACTICAL METHOD OF ANESTHESIA FOR THE REMOVAL OF ENLARGED TONSILS AND ADENOIDS, AND FOR OTHER OPERATIONS ON THE HEAD.

M. ERNEST JUTTE of New York advocates a simple method of continuous anesthesia which does not interfere with the surgeon's work. A wide-mouthed bottle with a double perforated rubber stopper, which holds two tubes, is used. One tube reaches the bottom of the bottle, the other just passing through the stopper. The long tube is connected with a double bulb, the short one with a metal mouthpiece such as is used by dentists. Narcosis is induced by the drop method, until the patient is well under. The metal mouthpiece is hooked around the mouth gag and ether vapor forced into the mouth of the patient by the rubber bulb. Narcosis can be kept up for a long time.—*Medical Record*, May 7, 1910.

SOME NEWER CONCEPTIONS OF MYOCARDIAL DISEASE.

THOMAS E. SATTERTHWAITE of New York classifies myocardial affections into acute parenchymatous, acute diffuse, and chronic myocarditis, fat heart, fatty degeneration, hypertrophies, and atrophies. Parenchymatous changes are the precursors of inflammatory conditions, and may be considered early symptoms of them, the diffuse form following them. Myocardial disease is comparatively frequent; the author's records show that 45 per cent. of deaths from heart disease have been mainly by degenerative changes in the heart. Parenchymatous alternation is the first found. Diphtheria and other toxemias cause many cases of this variety of degeneration. Acute myocarditis is a diffuse inflammation in which all the elements of the heart are inflamed; it may be local-

ized or not and may go on to suppuration. Cardiac hypertrophy may be caused by exercise, arteriosclerosis, congenitally small vessels, scoliosis, Graves' disease, and is seen in the neurotic heart of hysteria. Fat and fatty heart are not synonymous, fatty heart being a true degeneration and fat heart an infiltration of fat between the muscular bundles. Fat heart will not interfere with the functions of the muscle. Fat heart is rare in advanced life, when degeneration is frequent. Fatty degeneration is found in wasting diseases, prolonged fevers, mechanical injuries, after surgical operations in cardiac hypertrophy, endo and pericardial diseases, etc. It is precipitated by over-excitement and exertion, abuse of eating and drinking, etc. The signs of degeneration are not very marked; dilatation is the principal one, and that may be absent. Atrophy of the heart is rare. Hypertrophy shows three stages: irregularity, compensation, and dilatation. It indicates the existence of some serious primary affection. The author goes over the diagnosis of the different forms of myocardial disease and their treatment.—*Medical Record*, May 14, 1910.—*Pediatrics*.

CONGENITAL WORD BLINDNESS.

MCCREADY of Pittsburg, in the *Virginia Med. Semi-Monthly*, Jan., 1910, states that word blindness occurs not at all rarely. The age at which it is first observed being from 6 to 23 years. There is a distinct hereditary influence in all these cases, and usually a neuropathic family history. The author believes that the speech and ocular defects are accidental stigmata of degeneration such as are found in mental defects. The pathology of this condition consists of a disorder of the visual memory produced by lesions affecting a definite area of the cerebral cortex, that is the visual centre. This corresponds to the angular gyrus alone or with the part of the supramarginal lobule. The word blindness occurs as a result of defective development, either intracranial or as a result of injuries during labor. It may also occur after acute diseases. Symptoms: about one-half are also letter blind, while some cannot recognize figures. Some can do arithmetic. There are various gradations in symptomatology.

Diagnosis. Given a child of school age, intelligent, who has difficulty in learning to read, and who mistakes words, who has normal vision—this child is word blind. The author then cites an interesting case, and concludes by stating that with systematic individual training, it is possible to cure this disease.—*Pediatrics*.

PERSISTENT PERIODICAL VOMITING OF INFANTS.

This form of vomiting has been described as attacks of incoercible vomiting lasting from one to several days and recurring periodically, was described in 1882 by Leyden, but was not recognized in France until it had been spoken of by other American authors. It is due to the observations of Comby that this persistent vomiting has been in the great part understood, since this author showed the principal characteristics of the affection, discussed its pathology and brought forward a hundred observations relating to this syndrome.

The age at which these accidents begin is very variable. Under one year it is a rare affection, and a greater frequency belongs to the second period of childhood, (eighteen months to two years). The author brings forward its connection with arthritism and uricacidemia, and especially with migraine. This periodical vomiting is often seen in the same family; brothers and sisters simultaneously or successively being attacked by this phenomena. With regard to the antecedents, it is found that children suffering from periodic vomiting are usually of a nervous type and have digestive trouble. In fifty per cent. of the cases, appendicitis has been recognized as the direct cause. This new etiology should be taken into consideration since it is opposed to the theory of Marfan who considered acetoneuria as being characteristic and the cause of periodic vomiting. Comby, on the contrary, thinks that acetoneuria is of great frequency in the acute stages, but cannot be considered diagnostic or prognostic. Acetoneuria is not a serious trouble and it is observed in many pathological conditions. It cannot, therefore, be the determining cause of periodical vomiting of children.

The attacks of vomiting begin suddenly when the health is otherwise good. In some cases prodromes have been observed such as diminution of the appetite, strong odor, a fetid or stale breath, white tongue and vague pains in the stomach, urticaria, etc. The vomiting appears without any warning, at any hour. The vomit is first made up of alimentary substances, then becomes aqueous, mucous and biliary with a green color, is usually painful and takes place with some effort, when it becomes incoercible, following immediately on any attempt to give nourishment. Water itself is not even tolerated, but is immediately projected. It is, therefore, necessary to abstain from the ingestion of any liquid or solid during the attack although the patient suffers much from thirst. The acetoneuria with the characteristic odor of the breath and the special reaction of the urine is not constant, but is found in about 25% of cases. Duration of the attack of vomiting is very variable and usually lasts two, three or four days. However short the attack may be, it produces considerable emaciation, the facies are drawn, the eyes cave in and have black circles around them, the nose becomes pinched, and in spite of this alarming condition, which suggests a terminal stage, the child soon recovers its health at the end of an attack.

Comby insists on obstinate constipation which usually precedes, accompanies and follows the attack as in appendicitis. It is often noticed the coincidence of a mucous membranous enterocolitis, dilatation of the stomach and adenoids. The absence of fever during the attack is somewhat frequent, the mean temperature does not exceed 38 to 38.5 degrees C. Secondary symptoms are the diminished amount of urine excreted showing deposits rich in uric acid, and there are such nervous symptoms as headache, delirium, agitation, which may become so accentuated in some cases as to suggest meningitis.

The attacks of vomiting have a tendency to return. These are known as vomiting relapses, but there does not seem to be any rule or any definite prevision. Sometimes it is once or twice a month, sometimes every six or eight months.

The tendency to spontaneous cure makes us consider the prognosis favorable in a great number of cases. Nevertheless, some fatalities have been observed and the author has had three infants die during an attack.

In certain cases the periodic vomiting can be referred to a chronic form of appendicitis and the prognosis may be confounded with it. The diagnosis is extremely difficult when the first attack takes place. It is generally thought to be a simple indigestion or an accidental poisoning coincident with migraine. We must more especially recognize the possibility of acute or chronic appendicitis and proceed to a methodical examination of the abdomen more especially at McBurney's point.

The treatment during the attack is complete rest in bed, absolute diet. The infant can be nourished with nutritive enema, or injections of artificial serum; after twenty-four to forty-eight hours of absolute diet, or simple aqueous diet, alimentation can be renewed with bouillon of legumes, decoctions of rice or barley, etc. During the interval of attacks a vegetarian regimen is recommended, preferably dried and green legumes, infants' food, cooked salad, cooked fruit, and water, fresh air, hydrotherapy and cutaneous friction. The author recommends the use of bicarbonate of soda in large doses twenty days of each month, but when the periodical vomiting has any relation to a chronic appendicitis, the only efficacious remedy is the removal of the appendix.

J. Comby, *Archives de Medicine des Enfants*, Octobre, 1909.—*Pediatrics*.

AETIOLOGY OF SCARLET FEVER.

DR. ALFRED HAND, JUN., at meeting of the Philadelphia Pediatric Society gave a brief historical sketch of scarlet fever, quoting a description of the disease from Smetius (1611), who, however, did not name it. Sydenham (1624-1689) being the first to differentiate it from measles and smallpox, and to name it *febr scarlatina*. Charts were exhibited giving some statistics for Philadelphia, one showing that the monthly number of cases bears a close relationship to the school-terms, July, August, and September having about 100 cases each, while from October to June the number ranges from 200 to over 300 a month. Another chart showed that there is a lowering in the incidence of the disease during the last five years as compared with the four years preceding, but that there has been an increase in the mortality from 2.9 per cent. in 1905 to 5.2 per cent. in 1907. A third chart showed the annual fluctuations in the actual number of deaths since 1862; this also illustrating the variations in severity of different epidemics; the highest points were reached in 1870 and 1875 with 956 and 1032 deaths respectively, while 1872 had only 174 deaths in comparison; 1896 had 61 and 1897 had 282 deaths, the lowest number of all being reached in 1905 with 57 deaths.

While some investigators believe that a streptococcus is the exciting cause this belief is not yet generally accepted, and it is of great importance to have this point settled. When the specific cause is discovered beyond doubt it will clear up many strange features of the disease as to its modes of travel and, perhaps, as to the variations in susceptibility to it, and in the mortality in different epidemics; but it will be of the greatest help in diagnosing the mild and atypical cases.

DIFFICULTIES IN THE DIAGNOSIS OF SCARLET FEVER.

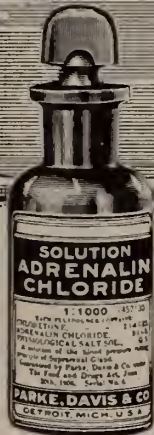
DR. JAY F. SCHAMBERG discussed before the Philadelphia Pediatric Society various difficulties in the diagnosis of scarlet fever. He believed that more errors of diagnosis were made in connection with this disease than with any other acute infection. In formulating the diagnosis undue weight should not be given to any one symptom; all of the associated phenomena should be carefully considered. Dr. Schamberg regarded the coincidence of a distinct angina and a well-pronounced scarlatinoid rash as not only warranting the diagnosis of scarlet fever, but, in view of our duty to the public health interests, this association compels us to regard and treat such cases as scarlet fever. He strongly counselled against the administration, to patients suffering from tonsillitis, of any drugs capable of producing a scarlatinoid erythema. Among these he particularly mentioned quinine, the salicylates, chloral, mercury, belladonna and veronal. Dr. Schamberg stated that in his opinion too much diagnostic importance was attached to desquamation. The orderly progression of the desquamation, its long persistence and certain special characteristics were considered of more weight. Many scarlatinoid erythemas due to drugs and various toxic conditions cause peeling of the skin, some of them even more pronounced than that observed in scarlet fever.

THE TREATMENT OF SCARLET FEVER.

DR. D. J. M. MILLER read a paper on this subject before the Philadelphia Pediatric Society. He urged against over-treatment, saying that often the issue is unfavorably affected by it. He advocated a minimum amount of milk in the diet, because of its high protein content and its tendency to provoke digestive disorders. It should be diluted with and substituted by gruels and cereals, with vegetable soups and fruits. Animal broths he considered as objectionable as meat, but in prolonged cases, with loss of weight and anaemia, he would not hesitate to give meat. The patient should remain in bed five or six weeks, even in the mildest cases. He believed that less nephritis occurred and the patients were more easily managed by this method. Daily sponging was advocated, but inunctions were postponed until desquamation occurred, because they interfered with the excretory action of the skin. He deprecated the use of carboic acid, as poisoning has occurred from its use. Physicians who did not examine the urine daily failed in their duty. The use of drugs was entirely symptomatic; alcohol should be limited to septic cases; weak first heart-sound requires strychnia, camphor, caffeine; digitalis is questionable; anaemia needs iron hypodermatically; excessive temperature and temperature continuously above 103° F. is best controlled by hydrotherapy, bearing in mind the young child's susceptibility to cold. So, too, are restlessness and nervousness, combined with nerve sedatives. The throat should be cleansed daily with antiseptic washes, the nose with cotton swabs; because of danger to the ear, douching and spraying were condemned. The ears should be examined daily; bulging of the tympanic membrane called for immediate incision.

Dr. Miller also went over treatment of the many complications in detail, and concluded with the statement that the serum treatment was still *sub judice*.

Adrenalin in Hay Fever



In the treatment of vasomotor rhinitis—or hay fever, as the disorder is better known—Adrenalin has proved the most satisfactory agent at the command of the practitioner. While not a specific in the strict sense of the word, it controls the symptoms very effectually and secures for the patient a positive degree of comfort.

Solution Adrenalin Chloride and Adrenalin Inhalant

are the preparations most commonly used, being sprayed into the nares and pharynx. The Solution should be diluted with four to five times its volume of physiological salt solution. The Inhalant (preferred by some physicians because of its oily base, which imparts an emollient effect and renders the astringent action more enduring) should be diluted with three to four times its volume of olive oil. Both are effectively administered by means of our Glaseptic Nebulizer.

Supplied in ounce glass-stoppered bottles.

We also supply Adrenalin Ointment, Adrenalin and Chloretone Ointment, Anesthone Cream (collapsible tubes, with elongated nozzles) and Anesthone Tape, all of which are successfully used in the treatment of hay fever.

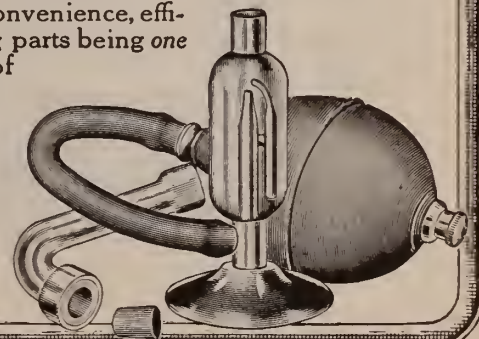
THE GLASEPTIC NEBULIZER.

This is confidently believed to be the most practical atomizer ever offered to the medical profession. It combines asepsis, convenience, efficiency and simplicity. It is readily sterilized, the working parts being *one piece of glass*. It produces a fine spray and is suited to oils of all densities, as well as aqueous, spirituous and ethereal liquids. Price, complete (with throat-piece), \$1.25.

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THERAPEUTIC NOTES.

THE HAY-FEVER PROBLEM.—Again the physician is called upon to grapple with hay-fever, and a veritable army of sneezing, watery-eyed "miserables" come to him for relief. For a long time the idea was prevalent that little or nothing could be done for these people. The patient dreaded the coming of the disease, and the physician dreaded the coming of the patient. The situation was one of ample misgivings and scanty faith. Now it is pretty well recognized that medication, while still empiric to a certain extent, is nevertheless effective. The symptoms can be controlled or greatly minimized, and the patient may have the relief he seeks. And for this much he will be truly thankful, and the physician, in turn, duly thanked.

Adrenalin is perhaps the most effective agent. It antagonizes the symptoms and secures to the patient a marked degree of comfort. It allays the congestion of the mucous membrane, reduces the swelling of the turbinal tissues, controls the nasal discharge, cuts short the violent paroxysms of sneezing and the abundant lachrimation, and prevents depression by stimulating the heart.

The practitioner who desires to employ Adrenalin in the treatment of hay-fever has recourse to the product in a number of forms. Adrenalin Chloride Solution (1:1000) is doubtless the most widely used. It is first diluted with four to five times its volume of physiological salt solution, then sprayed into the nares and pharynx. Adrenalin Inhalant has many adherents. This is an oil solution, and is administered by spray. It may be diluted with olive oil—the inhalant one part, olive oil three to four parts. A third preparation is Adrenalin Ointment (1:1000), which is effective either alone or in supplementing Solution Adrenalin Chloride. Another is Adrenalin and Chloretone Ointment—at once an astringent, antiseptic and mild anesthetic. The latest is Anesthone Cream (Adrenalin Chloride 1:20,000, para-amido-ethyl-benzoate 10%, in a bland oil base), an astringent, anesthetic ointment. The ointments and cream are supplied in collapsible tubes with elongated nozzle, which facilitates their application to the nasal mucosa.

Literature on any or all of the products above mentioned may be had upon application to the manufacturers, Messrs. Parke, Davis & Co., at their general offices in Detroit or any of their numerous branch houses. The company, by the way, issues an attractive brochure on the subject of hay-fever.

A CONSERVATIVE HOUSE.—Some of the members of the medical profession would open their eyes could they look over the files of the Denver Chemical Mfg. Co., manufacturers of Antiphlogistine, and see the many, many requests for window hangers, store advertising, etc., which they are constantly refusing. This company could get an almost unlimited amount of advertising, good advertising too, at no expense, except for the printing of the cards or booklets, if they did not have too great a pride in the honorable position which they occupy as purveyors to the medical profession. Perhaps they feel the ethical requirements of their position more keenly on account of the personnel of the company. Half the members

of the board of directors are physicians who have spent each of them many years in active practice, the president of the company being an ex-president of his State Society, and the head of the advertising department is himself a physician, and was for many years the secretary of his County Society.

With such a personnel, it is not surprising that the advertising is not only strictly ethical, but even ultra-conservative in spirit.

EXTRACTING THE PRINCIPLES OF COD LIVER OIL.—In Hagee's Cordial of the Extract of Cod Liver Oil Compound, the active principles of cod liver oil are extracted from the whole product, thus saving the stomach the task of digesting the oil for the sake of the medicinal properties it contains. When it is remembered that the whole oil will frequently upset a normal stomach, this feature of Hagee's Cordial of the Extract of Cod Liver Oil Compound, at once stamps it as the most reliable and palatable cod liver oil preparation to prescribe.

In extracting the active principles of the oil, no change whatever is made in their therapeutic integrity. Even the complex specific lecithine of cod liver oil is transferred in an unchanged and stable state to the cordial.

THE SECOND SUMMER.—Experience has shown that during the second or "teething summer" weakened stomachs are strengthened, faulty metabolism is corrected, fatigued heart and circulation is supported, and many a tired, wornout nervous system is restored to its proper tone by the systemic and intelligent use of small doses, 20-30 drops, according to age, of Gray's Glycerine Tonic Comp.

WHEN A TONIC IS NEEDED.—When a tonic is needed, there is none that will give more certain or uniform satisfaction than Gray's Glycerine Tonic Comp. For seventeen years it has been serving the profession, and the esteem in which it is held today bears eloquent witness to its unvarying quality and efficiency.

CLINICAL EXPERIENCE IS ALWAYS A DEPENDABLE GUIDE.—Countless physicians the country over have proven to their entire satisfaction that Gray's Glycerine Tonic Comp. fills an indispensable place in the treatment of all diseases in which lessened vitality is a prominent feature. It represents one of the notable advances in modern pharmacy, and many a practitioner has learned to rely upon it as his most valuable aid in increasing functional activity. Gray's Glycerine Tonic Comp. exerts an especially beneficial influence on the gastric and intestinal glands, thus stimulating the appetite, improving digestion and promoting assimilation. In all conditions of mental and physical exhaustion accompanied by malnutrition its effects are speedily manifested by an increase in functional vigor and a general improvement in the health of the whole body. Physicians who are not using Gray's Glycerine Tonic Comp. in their cases of general debility are urged to do so and note what really remarkable results they can obtain.



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PROPHYLAXIS—The very nature of artificial foods and cow's milk predisposes to their rapid decomposition. A few drops of Glyco Thymoline added to each feeding corrects acidity and prevents disorders of stomach and intestines.

TREATMENT—As an adjunct to your treatment of summer complaints, Glyco-Thymoline used internally and by enema corrects hyperacid conditions, stops excessive fermentation and prevents auto-intoxication. It is soothing—alkaline—nontoxic.

SUMMER COMPLAINT

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FRENCH AS SHE IS SPOKE.

The teacher of "conversational French" in a certain Eastern college was a lively mademoiselle "just over."

One bright afternoon she stopped two girls very excitedly. She wanted to buy an "éponge pour le bain," but did not know what to ask for.

"Bath sponge. Tell the salesman you want a big bath sponge to take home with you," said the girls in chorus, and they accompanied her to the village drug store.

A young clerk stepped forward. Mademoiselle advanced bravely.

"Please," she said smilingly, "will you kindly take me home and give me a big sponge bath?"—*Success Magazine*.

THE AFTERMATH OF CHILDBIRTH.—Dr. W. P. Manton (*Boston Med. and Surg. Jour.*, March 3, 1910) groups under the term "aftermath of childbirth" the accidents of parturition and shows that in spite of our improved technique there has been no decrease. He does not advocate the primary suturing of a lacerated perineum, but thinks it better to wait until the parts appear more normal, when, at the same time, proper help can be secured. He feels convinced that the less the practitioner has to do with the upper parturient passages immediately following labor the larger will be the percentage of good recoveries. There should be intervention only when a vessel is severed. Suturing the skin of a lacerated perineum is not sufficient, for the lower vaginal tissues must be included in the repair work. The repair of the ruptured tissues must be undertaken as soon after labor as possible. Mere inspection of the parts following delivery is not sufficient, a careful digital examination should be made with the forefinger in the rectum and the thumb in the vagina so that the thickness of each lateral sulcus and the supraperineal space should be exactly gauged and the amount and kind of mischief accurately determined. In cases of lacerations higher up from overstretching or the stripping of the vaginal mucosa from the subjacent tissue, the repair should be effected at once. The edges of the vaginal wound should be brought together by catgut, while the external skin is closed by silkworm gut, certain sutures of which must be carried far enough upward to include the interlevator tissue.

BRAIN STORM.—Dr. Frank Woodbury (*N. Y. Med. Jour.*, March 12, 1910) says that "brain storm" is a phrase familiarly used to describe brief states of mental emotional perturbation without reference to their cause. It is a popular and not a scientific term. Such attacks may be induced by atmospheric and climatic conditions to an extent not usually known or suspected. The presumed proximate causes in such cases are only incidental. The real causes lie deeper. Emotional and confusional conditions may occur in apparently normal persons, but are met with more frequently in the insane. The so-called brain-storms will be observed most frequently in persons who are neurasthenic and in a depressed vital condition. They are frequently epileptic or epileptiform. They usually indicate a pathological condition of the body or mind. Violent outbursts of rage or emotion have medical importance and when they are of frequent occurrence should be investigated by a physician skilled in mental disorders. The phrase brain-storm in medico-legal cases is popularly understood to imply a temporary loss of will power and a diminished responsibility on the part of the individual, which is the very point at issue when the case is brought before the court.

The use of figurative and unscientific language by medical witnesses is objectionable since it tends to influence the minds of the jury unduly in weighing the culpability of the prisoner under trial. Under penalty of being suspected of willingness to "darken counsel by words without wisdom" alienists and other medical experts should avoid ambiguous and unscientific terms of this character and should discourage, both in publications and discussions, the use of the term "brain-storm."—*Medical Times*.

THE FAMILY DOCTOR.

"Your husband will be all right now," said an English doctor to a woman whose husband was dangerously ill.

"What do you mean?" demanded the wife. "You told me he couldn't live a fortnight."

"Well, I'm going to cure him, after all," said the doctor. "Surely you are glad?"

The woman winked her brows.

"Puts me in a bit of an 'ole," she said. "I've bin and sold all his clothes to pay for his funeral!"—*Telegraph*.

SUBCUTANEOUS TREATMENT OF HERNIA IN CHILDREN.

A. G. FAULDS of Glasgow, in the *Glasgow Medical Journal*, Dec., 1909, advises a simple closing of the inguinal ring by subcutaneous sutures, in such cases of hernia in which a radical operation would not be indicated. He gives three years experience with the simple operation and states that the results are equally as good as with the radical method. The operation is as follows: Anesthetic; child is placed on its back; skin sterilized. The hernia is first reduced; one, sometimes two, stitches are required; a strong curved needle, threaded with silk. The skin on top of the opening of ring, and with forefinger in canal needle is guided until it comes through the pillar of the ring. The ring is then sent over to the opposite pillar and taking a good hold, the needle emerges through the skin. The needle is then through the last exit and is brought through the subcutaneous fat in the long axis of the canal. The pillar of the canal is again pierced, and guided to the opposite pillar, taking a good hold again and brought through this subcutaneous fat and out through the original entrance. Thus there is made a purse string and when this is drawn tightly, the ring is closed, leaving sufficient room for the spermatic cord. By this procedure the skin and fascia below are puckered together and the ligatures are tried on the pillars of the ring. No trace of the operation can be found in a few days.—*Pediatrics*.

THE THERAPY OF WORK.

Man is mentally, morally and physically so attuned that when disordered his perfect restoration demands intelligent readjustment of each element, says R. S. CARROLL in the *Journal A. M. A.*, June 18, 1910. The derangements of the mechanical workings of the body have been subject to increasing surgical skill until we invade every precinct of the body. But this has had its evils, and until recently practically normal organs were sometimes removed and exploratory incisions were made for their "mental effect." The modern physician with his immense therapeutic armamentarium, must still feel the stigma of empiricism as he faces many of the diseases of internal medicine, and one reason is that he has ignored that principle of life connected with, dominating and making the real body, the psyche. The neurologist has been pleading that a certain percentage of invalids are psychically ill. Emotional shock is interpreted through the physical sensations, the individual becomes self-centered, the physician who has a powder for every pain fails to apply his psychology and the patient after passing through the hands of the physician, the oculist, the abdominal surgeon and the osteopath finally finds cure in the negations of Eddyism, and medicine is rightfully discredited. The neuropath may also be of the hereditary type, and then the case is difficult. The acquired form may result from exhaustion, intoxication or have its origin in the owner's brain. Nerve integrity is reduced by profitless introspection, morbid self-consciousness, ultrasensitiveness, self-depreciation, cynicism, pessimism, doubt and, most baneful of all, fear in its many forms. The call is for men practiced in the arts of medicine, and, in addition, who are students of the human mind. The length of the list of false psychotherapeutic cults, but emphasizes the need for true, rational psychotherapy. These cults all assert in a chorus most emphatic that beliefs, though false, may

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VACCINE THERAPY.

The basal principles of vaccine therapy are laid down by J. G. ADAMI, Montreal (*Journal A. M. A.*, June 11), as follows: First, the main basal principle is that bacterial infection is primarily local, and that, even when microbes spread from the primary focus or even when bacteremia is set up, there still persist tissues of election in which alone those bacteria find conditions for active growth. He illustrates this by the course of a malignant streptococcus endocarditis, in which it is clear that the streptococci have been circulating in the blood and there is no question about the bacteremia. Yet how rarely do we find a true abscess in the spleen, and the only conclusion we can reach from this and other cases, is that the spleen destroys the bacteria. What is true of the spleen is true also of some of the most widespread and important tissues of the body. The germs undergo little or no destruction in the blood. The amount of phagocytosis is minimal, nor do the specific cells of the varicous tissues destroy the bacteria to any marked extent, with the exception of the hemolymph system. The fact that bacterial infection is primarily local indicates that there is a natural indifference or non-specific immunity toward most bacteria existing in most of the tissues of the organism. This has its limits, but it is too little thought of, and it is this that renders vaccine therapy possible. The second great underlying principle is, that once bacteria have established themselves in a given tissue and have undergone proliferation, that is a sign that that particular tissue is not immune, and any subsequent check to their growth is not due to any increase of its bactericidal power, but is due to aid contributed by the organism from elsewhere. This is generally accepted. There are certain subsidiary principles, however, of vaccine therapy that must be heeded. First as to dosage. Adami thinks that Wright's demonstration of the possibility of gauging the extent of the reaction following heteroinoculation has been of service, not so much in affording an accurate index, as in showing that the best results are apt to follow doses so small that they need not induce general reaction during the next few hours, obvious to ordinary

clinical observation. It is a general principle that minute rather than massive doses of vaccine are to be employed. As to the qualities of vaccine it would seem that the surer results follow the employment of minute non-lethal doses of the specific bacteria rather than the use of dead cultures, and by the latter rather than by injecting the products of bacterial growth. Since, however, we cannot consider the resistance of the organism as normal, it is, in general, unwise to employ inoculations of the living bacteria. More constant and safer results are to be gained by the use of the dead cultures of the particular strain of pathogenic bacteria causing the infection, obtained from the patient himself rather than from stock laboratory cultures. Considering the cases suitable for vaccine treatment, we must recognize the difference in the virulence of the strains employed and also those in the grade of resistance of the patient. If the bacteria are especially virulent and the patient extremely depressed, we have the most hopeless condition, and in neither case is vaccine therapy applicable. In the intermediate cases, however, those in which the reaction is slight might be at first thought unsuitable, the resistance of the organism having isolated or encapsulated the toxic germs. They are latent, however, and not destroyed, and may yet create mischief and vaccine therapy may excite a stimulation of the tissues to their destruction. When a reaction exists, Adami inclines to think that a fatal outcome in severe infections is due to action of the toxin on medullary nerve centers rather than exhaustion in general, and, to guard against such excessive action on the nerve centers, vaccination should always be subcutaneous and never into the blood stream. A sinking temperature with increasing weakness of pulse and respiration is clear evidence of the overcoming of the reacting powers of the patient and here vaccine therapy is contraindicated. On the other hand if the fever is somewhat high and there are no signs of cardiac weakness, it may be safely undertaken. He does not consider Wright's method, valuable as it has been, as altogether perfect, and would have more hopes of educated clinical experience in this particular work. Vaccine therapy is for trained specialists, not for the general practitioner.



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POLIOMYELITIS.

J. COLLINS, New York (*Journal A. M. A.*, June 11), after noting the epidemics which have been reported of poliomyelitis, says that the most remarkable secular mutation is that it is apparently a new disease, nothing existing in the literature to prove that it existed prior to 1843. The unheralded advent of a disease of which no trace has been met in history, is, however, not a new thing. In this country, poliomyelitis has not prevailed epidemically twice in the same place, and we do not know much about its multiannual fluctuations. It might exist in a large city and remain unknown to any but those who come in direct contact with it. When it is put on the list of reportable diseases we shall understand it better. A fact worthy of attention is, that during the epidemic of 1907 the mortality in other epidemic diseases was less than usual, but this fact has been noticed also with other epidemic disorders. The most remarkable thing in epidemicity is its seasonal occurrence; it occurs as uniformly in the summer months as small-pox does in the winter, and the advent of cold weather seems always to terminate epidemics. This would lead us to infer that cold is inimical to the parasite, provided its parasitic nature is proved. Dry weather seems to have an influence in some epidemics. The next most interesting feature is its communicability. This was abundantly established in the records of epidemics, and particularly so in that reported by Dr. G. P. Shidler at York, Neb., in the *Journal A. M. A.*, Jan. 22, 1910, liv, 277. Some of his cases are referred to by Collins as most illuminating. Direct contact with the sick is not necessary for contagion; in numerous cases it has been traced to indirect contact. The incubation period may be as brief as four days and may last a fortnight. That its contagiousness varies need not be argued; there have been wide differences in this respect between different epidemics. The territorial distribution in some of these is also interesting. The mortality rate also varies very decidedly, from as low as 5 per cent. in some epidemics, to 20 or more in others. The most careful investigations fail to show any influence of unhygienic surroundings, and it has no noteworthy relationship to other infectious diseases. Some writers have traced a connection with digestive disorders, but Collins, in his study of the New York epidemic, found no evidence of this. It is probable that one attack gives immunity for a long time, though a recrudescence has been noticed by Stevens, and Dr. A. A. Eshner believes he has seen a second case in the same individual. From the clinical study of the disease no information has been obtained as to how the virus entered the system, but from experiments on monkeys, Flexner is convinced that the portal is the same as that in epidemic cerebral spinal

meningitis, namely the nasopharynx. The necessity of keeping this mucous membrane healthy and resistant to infection in the community where an epidemic exists is obvious. Boards of health should be urged at once to place poliomyelitis on the list of reportable diseases, and to make provisions for enforcing the strictest quarantine. The mortality may be low in some epidemics, but it is high in others, and our inability to control the disease when it occurs, and the fact that it maims those who survive it, should induce us to do everything in our power to prevent it. For quarantine to be of any real value, we must learn to detect the so-called atypical cases and to diagnose the disease early, which is more difficult than the interpretation of these atypical cases. Flexner has recently suggested that, in view of the frequency of a certain degree of leptomeningitis in perhaps the majority of cases, an examination of the spinal fluid might show an increase of proteids and changes in the lymphocytes that would suggest the disease before it has had time to attack the cord itself. Collins suggests that we may legitimately hope, from our knowledge of the diffusion of formaldehyd in the system, that we may soon be in possession of a substance which will check the disease. In view of what has been said in regard to the incubation period, a quarantine of a fortnight or more would seem proper.

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IODIN AND THE IODIDS.

The pharmacology of iodin and the iodids is taken up in the *Journal A. M. A.*, June 11, by J. H. SALISBURY, Chicago, who first points out the chemical peculiarities of the element, its comparative weakness in the haloid group, its chemical affinities and the ease with which it is freed from its compounds. Another property of physiological importance is its tendency to combine with fats and fatty acids, alkaloids and with proteins. The iodo-organic compounds are comparatively stable and inactive and it is chiefly as the result of oxidation that the iodin becomes liberated. One of the most important organic compounds is the globulin of the thyroid gland which undoubtedly plays a large part in the metabolism. It occurs also in other organs and it is believed that no living cell is absolutely and entirely devoid of its organic iodine compound. With these qualities it is easy to see how active an element it can be in the animal economy. That the system is able to use it in ordinary metabolism is undoubtedly due to the fact that the protein combination of iodine in the thyroid is so slowly decomposed that its destructive action is just enough to secure the physiologic changes needed to secure the removal of waste and control nutrition. When this control is lost we have the symptoms of mild iodine, poisoning and hyperthyroidism. In its chemical nature it can exist only a short time in the animal system in its free state, so that its internal actions are perfectly identical with those of the iodids and should be considered with them. The iodids are mainly soluble, easily dialyzable, easily ionizable salts and these properties are largely responsible for their pharmacologic action. They are easily taken up and disposed of by the organism when not combined with protein, and they enter cells readily from their dialyzable nature. Within the cells they are combined with protein molecules to form colloids which will not dialyze out again in that form. Their ionizable character makes them ready to enter into double decomposition, altering the character of the cell plasmas. Locally, iodine is an irritant, destroying the cell, and its destructive action on the lower forms of life makes it a good disinfectant for wounded surfaces and ulcers. On mucous membranes its action is quite superficial and its destructive action limited. It is a stimulant of healthy tissues to regenerative action. When absorbed in the blood it necessarily enters into combinations to form iodids or combines with protein. The symptoms are irritant throughout. Large doses may produce gastritis and colic; diarrhea and vomiting may occur. The inflammation of the gastrointestinal tract is seldom severe and in spite of the active symptoms produced iodine poisoning is seldom fatal. According to Labbé and others, it has a great affinity for lymphoid tissue. Some organs take up much more than others: the largest quantity is taken up by the thyroid which seems to act as a detoxicating organ to remove irritating poisons from the blood and store them in its tissues. It is only when the iodine is present in such quantity in the blood that the thyroid cannot remove it fast enough, that toxic effects are produced. It is probable that iodine plays an important rôle in the control of nutrition and metabolism by the thyroid gland which may act as a moderator and a stimulant according as it removes iodine or other irritants from the blood or returns them to it when needed. Iodine is eliminated by the various excretories, especially the kidneys,

which may become so irritated as to cause a nephritis. Some of the most characteristic symptoms of elimination are shown in the respiratory tract by coryza, bronchial irritation, etc. Salivation is common and skin eruptions may be produced by its action on the skin. The action of the iodids internally when given in large doses is a repetition of that of free iodine. Their rapid elimination and probable transformation into a colloid form prevent to a large extent the acute manifestations of iodism. They aid in the elimination of metallic poisons, lead, mercury and arsenic, and the explanation of this action is not positively known. A similar action may explain the increase of elimination of toxins under their influence. Their action on the circulation is not entirely clear, but a lowered arterial function is a prominent feature of hyperthyroidism, and it would seem to indicate a similar action on the part of the iodids. The theories of the cause of iodism are noticed and discussed. Erlenmeyer and Stern believe that iodism is a necessary accompaniment of the therapeutic action of the iodids. They regard the action of iodine as essentially that of the iodid ion, and hence think it cannot be exhibited unless the iodid is in the ionic form. It can be obtained only from such preparations of iodine as dissociate in the system, and the most powerful of these are the iodids of the alkali metals. If their views are correct, the administration of iodid should be conducted with the definite aim of developing a mild form of iodism with as small doses as possible. The organic compounds of iodine they think are uncertain substitutes for the iodids. If we can guard the stomach from the injurious action of iodine, it would seem that potassium iodid is still the best salt to bring out the therapeutic activities. The problem, therefore, is to find some way to evoke this action in the system without letting it go too far and to learn its proper treatment when such an event occurs.

SOME IMPORTANT FACTORS IN INFANT FEEDING.

T. S. SOUTHWORTH (*Journal of Obstetrics*, Dec., 1909), deploras the too hasty change from maternal to bottle feeding that is being resorted to at present, and lays down some axioms for breast feeding. The child's weight is an important indication of its progress. Crying is not a valuable indication that the child is not getting enough milk. Green or loose stools are often coincident with regular gain in weight. When the stools are scanty and the weight stationary, supplementary feeding is advisable, until breast milk improves. Sudden weaning is vicious and a good trial should be made before dropping breast feeding. Even with great disturbances a child should not be weaned until all factors have been thoroughly investigated. There is no incompatibility between cow's milk and breast milk, and both may be given at once to the same child. Bottle feeding: Fat percentage is the important factor, and causes most disturbances. Colic is caused by too much fat. Begin with two to one fat. As strength of milk is increased, child should be fed at longer intervals. Regularity in feeding is of great import. Overfeeding is worse than underfeeding. Yellow stools are not always good stools. Malt soup is a good substitute for milk, but is to be utilized only for a short space of time. Sick children should have their food cut down considerably. Sick children should be fed differently than normal children.—*Pediatrics*.

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THE MUNICIPAL CONTROL OF SCARLET FEVER.

DR. MAURICE OSTHEIMER read this paper before the Philadelphia Pediatric Society explaining the regulations of the Philadelphia Board of Health in preventing the spread of scarlet fever. Post-cards are distributed on which the physician is required to report each case as soon as diagnosis is made. On receipt of this card a medical inspector is sent to the home of the patient to place placards on front and back entrances, and to see that the patient be properly isolated. No case of scarlet fever is allowed to remain on the first floor of the ordinary Philadelphia house. If not properly isolated, with trained nurse or other competent woman, who remains in the sick-room with the patient, the premises are placed under police quarantine, an officer being stationed front and back, allowing no one to enter or leave. No empty milk bottles are permitted to leave the house until disinfected. Wage earners are allowed to move to homes in which there are no young children, after taking a carbolic bath and having their clothing disinfected. Children are excluded from school and Sunday school so long as the house remains placarded. The sanitary condition of the premises is inspected, and unvaccinated individuals are urged to submit to vaccination. All inmates of houses in which scarlet fever exists are prohibited from working in any establishment for the manufacture or sale of wearing apparel, upholstery, housefurnishings, bedding, cigars, cigarettes, or food-stuffs. The medical inspector notifies employers of scarlet fever occurring in the families of their employees; he excludes employees from work and permits their return after removal and disinfection. A sterilized gown is left at each house by the Board of Health for the attending physician to wear when visiting his patient.

The medical inspector also sends a post-card to the attending physician on the day he placards the premises, which the attending physician returns to the Board of Health when the case is ready for disinfection. On receipt of this card the medical inspector visits the house, sees the patient, and if satisfied that desquamation is over and that there is no discharge from nose or ears, he orders disinfection with removal of the placards on the next day, provided that at least twenty-one days have elapsed from the onset of the disease. He then sends school children back to school and notifies milkmen that milk bottles have been disinfected.

If isolation should be impossible at home, the patient is removed to the Municipal Hospital for Contagious Diseases. A telephone call will bring the ambulance at once. Disinfection of the premises follows one day after removal of the patient to the hospital, but school children are excluded for a week

at least. The diagnosticians of the Board of Health are always ready to see any doubtful case and to make the diagnosis.

THE TREATMENT OF HEMORRHAGE FROM GASTRIC ULCER.

J. KAUFMANN, M. D., in the *American Journal of Medical Sciences*, June, 1910, considers the treatment of hemorrhage from gastric ulcer, with special reference to the employment of gastric lavage. He states that death but rarely occurs directly from a profuse hemorrhage, so that there is no immediate danger to life, a fact that should be borne in mind. When there is a rapid and profuse loss of blood an anemia is produced that in itself is conservative, causing a vaso-constriction and a decrease of the heart's activity tending to clot formation and a stopping of the bleeding. Therefore it is argued that the attempt to strengthen the heart's action by the use of tonics, infusions of salt solution, etc., is unwise and irrational. Physicians formerly realized this, and would treat severe hemorrhage by venesection, with the patient sitting up, securing a quick flow of blood and producing syncope which aided in the control of the internal bleeding. To most of the medicines used the writer attributes little value, as some tend to produce nausea, while calcium chloride is too slow in action and adrenalin produces a vaso-constriction that is later followed by a dilatation that may cause a renewal of the hemorrhage. The use of serum is considered as giving promise of usefulness. The method of treatment that the author prefers is gastric lavage, which he has often used with good results, several cases being quoted in the course of the article. The common objections to this procedure are that perforation may be caused, or over distention, that the stomach is irritated, that partially formed thrombi may be removed and that the introduction of the tube is difficult. All these are considered and answered. The advantages are that gas, food remains, etc., are removed, fermentation stopped, and the vessels given a chance to contract. After lavage bismuth subnitrate may be given advantageously to cover the ulcerated surface. When the hemorrhage is stopped the patient should be kept at complete rest. No food should be given for some days, and at first even rectal feeding should be avoided, as it may start up peristalsis of the stomach. The starvation and the anemia are generally very well borne. As regards the surgical treatment Dr. Kaufmann believes that chronic ulcers, with repeated hemorrhages, may sometimes require operation, but he holds that any operation for gastric ulcer should be a radical one for the cure of the condition, rather than simply to check a hemorrhage.

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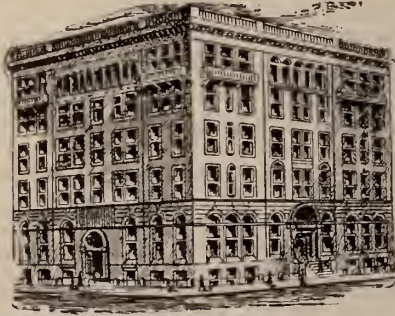
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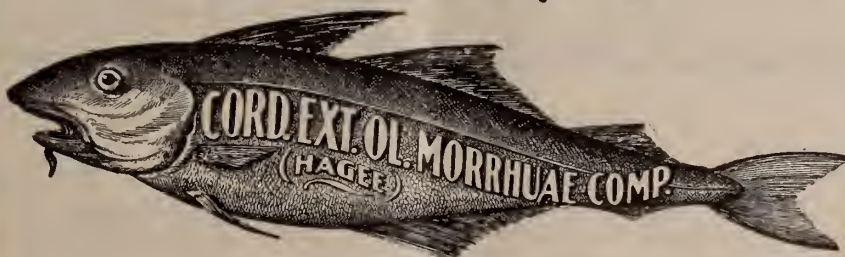
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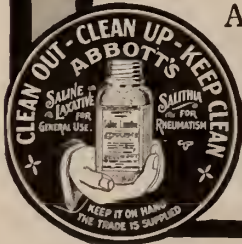
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A patient told us of an infant that died after 19 days' illness, during the last seven of which it was unconscious. The native doctors told the mother that it died because the phlegm ran from its abdomen up into its brain.

Into the dispensary one morning, came a man with a very precious little package. It contained a live frog! For 20 years the bearer had been entertaining an ulcer of the leg. A native doctor had told him to apply to the leg a frog-poultice, to be made by cutting a live frog open and applying it to the sore for fifteen minutes, at the end of that time it would have drawn out a worm. Frogs desire to eat worms, so why not? After using six frogs and extracting six worms the ulcer would begin to heal. I can still see that grown man's look of patient expectancy, as, having sliced his frog in half, he sat there with it applied to the ulcer, waiting for a sight of the worm! It never came! At the end of half an hour he got up and angrily declared that he had been deceived. At the expiration of an hour he had really made up his mind to get up on the dressing table and have his leg treated by foreign methods.

We have many, many patients with eye troubles. The other morning I counted 36 eye cases in a clinic of 114. It is such a joy to give back sight to those who can only see faintly or who can't see at all. How patiently they wait until the eyes are free from inflammation, sometimes months, waiting for the eyes to be ready to operate. How eagerly they look forward to the coming of the light! One such, a dear lovable woman with double cataract, when having the preliminary iridectomy performed said "Wasn't God good to me to send the sunlight brightly just as doctor was cutting my eye?" And she was a woman who came to us with no knowledge of Him!

A burning sensation in the sole is often the chief complaint in some cases of flat foot.—*Med. Review of Reviews.*

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WHY HE KNEW HE WAS ALIVE.

A certain young man's friends thought he was dead, but he was only in a state of coma. When, in ample time, to avoid being buried, he showed signs of life, he was asked how it seemed to be dead.

"Dead?" he exclaimed, "I wasn't dead. I knew all that was going on. And I knew I wasn't dead, too, because my feet were cold and I was hungry."

"But how did that fact make you think you were still alive?" asked one of the curious.

"Well, this way: I knew that if I were in heaven I wouldn't be hungry. And if I was in the other place my feet wouldn't be cold."

Children should not wear spring heel shoes after their sixth year. Let them have heels. Indiscriminate wearing of corset shoes is bad. They restrict motion and interfere with the development of the muscles.—*Med. Review of Reviews.*

Vermont Medical Monthly.

VOL. XVI.

AUGUST 15, 1910.

NUMBER 8.

ORIGINAL ARTICLES.

APHASIA.*

WATSON L. WASSON, M. D.,
Waterbury, Vt.

In taking up the subject of aphasia, I do not propose to go beyond a very elementary exposition of some of its simpler and most obvious manifestations. It is a complex subject when viewed in its entirety, and with all the care and thought that have been expended by very many of the most illustrious scientists along medical lines in an effort to elucidate its problems, there still remains many phases of the subject which are bones of sharp contention.

Aphasia is not a disease; it is a symptom of abnormal conditions which may affect certain regions of the cerebral cortex. To be aphasic means not only that speech is disturbed or lost, but it also includes any disturbance of central character which prevents an externalization of thought by signs of all kinds. Some of the latter are, besides speech, pantomime, writing, grimaces, attitudes, gestures, etc. To use the words of Collins, "aphasia is a term used to indicate any disturbance, or perversion of intellectual expression." The disturbance may affect either the emissive or the receptive components of speech, i. e., the loss may render the individual incapable of understanding new ideas conveyed to him through the usual channels, or he may, on the other hand, be unable to give intelligible expression to his own thoughts. A person is aphasic who loses the power to express thought in speech, although the peripheral speech mechanism is intact. Likewise aphasia exists when there is an inability to express thought by other means than speech, writing, signs, etc. One may have the power to understand all that is said and be unable to read, and, at the same time, have the extra cerebral visual apparatus intact—such a condition is aphasia. In another person the auditory apparatus may be normal, but all sounds have lost their mean-

ing, the very names of such an individual when spoken pass unrecognized—that also is aphasia. Aphasia then is caused by conditions which interfere with the reception of stimuli or impulses that go to make up the ideas used in the construction of internal or external language; or, on the other hand, morbid conditions may prevent the individual from giving expression to an idea contained in consciousness. The receptive or afferent impulses wend their way to certain special areas of the brain, and any disturbance of the impulses which are traveling toward one of these areas, gives rise to symptoms known as sensory aphasia. Any disturbance of the efferent or expressive impulses constitutes motor aphasia, and when both are present we have total or compound aphasia.

Collins defines them as follows:

Sensory Aphasia. Due to lesion of central and peripheral sensory pathways leading to the zone of language.

Motor Aphasia. Due to lesion of the motor pathways, over which motor impulses travel in passing to the peripheral speech musculature.

Compound Aphasia. Any combination of two or more of these.

The cerebrum, as you all know, is divided by the longitudinal fissure into a right and left hemisphere, and each hemisphere is further divided by other fissures into lobes and gyri.

The cerebral topography varies more or less in each individual. However, it may be said that certain main or primary fissures are constantly found which divide the brain into frontal, temporal, parietal, and insular lobes. These fissures are known as the fissures of Sylvius, the central or Rolandic fissure, and the parieto-occipital fissure. The fissure of Sylvius about which is situated the zone of language, arises anteriorly and inferiorly, passes upward and backward and ends in the parietal lobe in about the middle of the exterior of the brain surface. It separates the frontal and parietal from the temporal below, and the convolutions lying in its trough make up the "Island of Reil." Anteriorly it gives rise to a short vertical branch which juts into the 3d or inferior frontal convolution.

*Prepared for and read before the Washington County Medical Society.

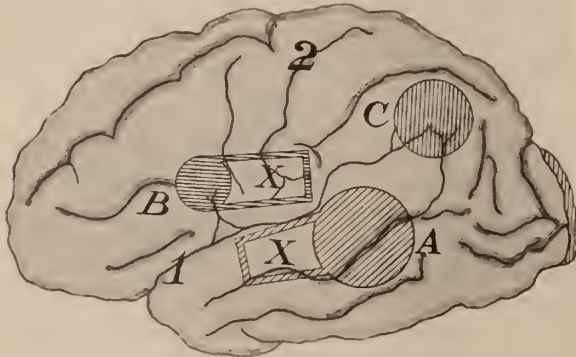
The fissure of Roland starts somewhat anteriorly from the above mentioned fissure and runs in an upward and backward direction, separating the frontal from the parietal lobes. Lying on either side of this fissure are the central convolutions, known as the ascending frontal and the ascending parietal. These convolutions are of importance, as they have to do entirely with the externalization of speech, and not at all with its reception.

The temporal gyri which lie below the fissure of Sylvius are three in number, upper, middle, and lower. The upper and middle gyri are of importance in that they contain the centre of audition.

The occipital lobe lies at the posterior pole of the brain, and subserves the function of vision, as here is located the primary visual area. This area is chiefly situated on the mesial surface about the calcarine fissure, in the lingual and cuneate lobules, and only has a small portion externally, as can be seen by referring to the charts.

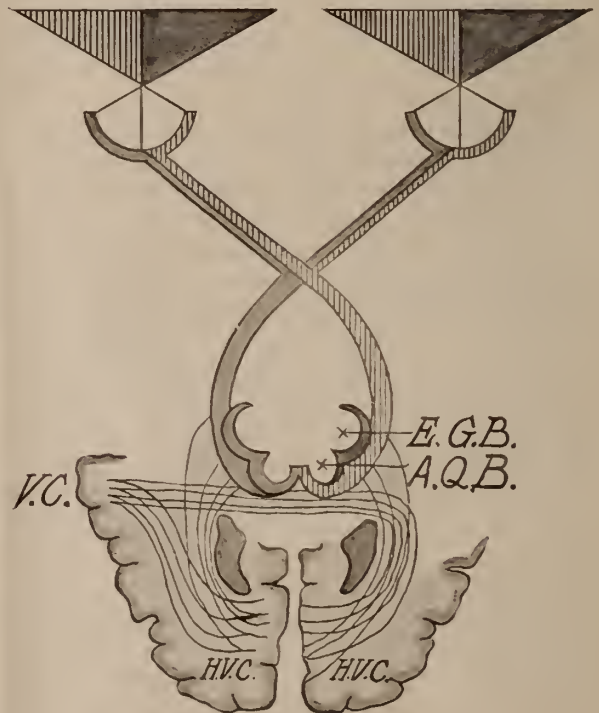
The angular gyrus on the left side in right handed people, which lies posterior to the termination of the Sylvian fissure, contains the cortical visual word centre.

The auditory route, from the ear to the cerebral auditory centres, leads from the specialized cells of Corti in the cochlea to the bulb, from thence to the opposite side by way of the fillet, posterior quadrigeminal body, internal geniculate body, and cerebral radiations to the posterior and middle thirds of the superior and middle temporal convolutions.



- A. Auditory Word Center. X. General Auditory Center.
 B. Articulatory Word Center. X. Motor Word Center.
 C. Visual Word Center.
 1. Fissure of Sylvius.
 2. Fissure of Rolando.

It has been demonstrated beyond cavil by experimental and clinical evidence that these areas in the tempor-sphenoidal lobes subserv the function of hearing. A case recorded by Mills demonstrates atrophy of these lobes on both sides in a man who had been deaf for thirty years. It has also been conclusively demonstrated that there is a cortical auditory centre in both hemispheres, and that the ears are bilaterally represented. This is probably brought about by a semi-decussation of fibers, such as obtains, as will be seen later, with optic fibers. Ferrier says in this connection, "Unilateral extirpation never gives rise to permanent deafness in the one ear; but though I have, on many occasions, after extirpation of the auditory area in one hemisphere, observed loss or impairment of hearing in the ear of the opposite side, I have never been able to detect the slightest impairment of hearing in the ear of the same side." In other words the ears being bilaterally represented there generally follows destruction of one area, an impairment of hearing on the opposite side and not complete deafness in that ear.



Course of the Optic Fibers. EGB, external geniculate body; AQB, anterior quadrigeminal body; VC, visual center; HVC, half-vision center.

Leaving the auditory route we will now consider the visual route, optic chiasma, where the fibers decussate; half of the fibers pass over to the opposite side and half continue on toward the cortex on the same side. So that on each side we have fibers that have decussated and fibers that have not. The bundle of fibers on each side after decussation is called the right and left optic tract, respectively. This tract on each side winds around the cerebral peduncles and sends fibers to the external geniculate body, the anterior quadrigeminal body, and the pulvinar of the optic thalamus. Fibers pass from each of these three grey masses through the posterior part of the internal capsule, external to the posterior horn of the lateral ventricle to the occipital lobe, ending in the cuneate lobule and in the posterior pole of the occipital lobe.

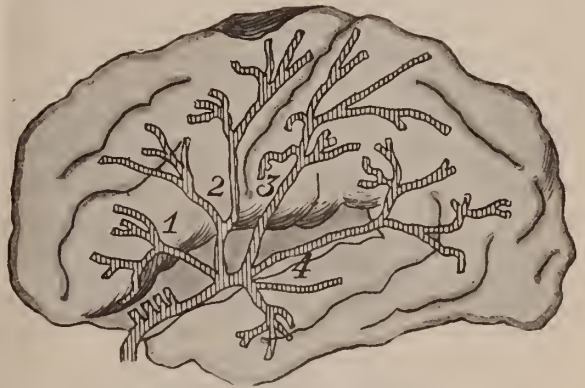
The result of such a decussation of fibers is that the fibers from the temporal half of one retina and from the nasal half of the other retina pass along one tract, and the fibers from the other two halves pass along the other tract. Hence, while division of the optic nerve will produce blindness in the eye of the same side, division of the tract, on the other hand, will produce blindness in one-half of each retina—a condition known as lateral homonymous hemianopia. If the right tract be divided, we get right lateral homonymous hemianopia, there being blindness in the temporal side of the right retina and in the nasal side of the left retina. As the temporal half of the right retina and the nasal half of the left retina receive the rays of light from objects on the left division of the right tract produces a condition known as right lateral hemianopsia. Hemianopsia being the term used to designate blindness in half of the field of vision and hemianopia to designate blindness on half of the retina.

Division of the fibers anywhere between the occipital lobes and the chiasma produces the same symptom, lateral homonymous hemianopsia. Destruction of the tracts on both sides produces total blindness.

The neurons that supply the muscles of the vocal cords, and the muscles of articulation abide in the lower part of the ascending frontal and the ascending parietal convolutions on the left side. Adjacent to the ascending frontal is an area in the posterior part of the third frontal

known as Broca's area, where are registered the sensations of the muscles active in producing speech. This is known as the kinesthetic-articulatory centre, and is a sensory centre pure and simple, as the impressions here received come wholly from the muscles active in producing speech. Later we will see the result of the destruction of this centre.

Before taking up the classification of aphasia and a discussion of its symptomatology, it will be necessary to pause briefly and consider the blood supply of the zone of language. As you will see by referring to the chart there are four vessels which supply nearly all of the external surface of one hemisphere. These cortical



1. Ext. & Inf. Frontal Artery.
2. Ascending Frontal Artery.
3. Ascending Parietal Artery.
4. Parieto-Sphenoidal Artery.

branches are given off from the middle cerebral artery and are the interior external frontal, distributed to the outer part of the orbital convolutions and the adjacent frontal convolution; the ascending frontal, distributed to the convolution of the same name and the base of the middle frontal convolution; the ascending parietal to ascending parietal convolution and to the forepart of the superior parietal lobule; and the parieto-temporal which courses backward in fissure of Sylvius and runs over the angular gyrus and downward over the superior and middle temporal convolutions.

I have mentioned several times the zone of language. I will now try and explain what that means.

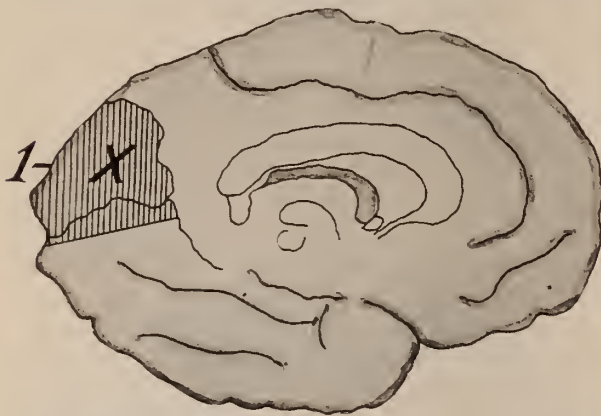
It has been adequately demonstrated that destruction of the area of Broca, or foot of the third frontal, causes inability to articulate words

because here is located the area where are stored the kinesthetic word memories; that destruction of the superior temporal gyrus carries with it inability to understand words; and destruction of the angular gyrus produces inability to understand words seen. "These are the three components which enter into the constitution of speech, and they are the three factors that are absolutely essential to the production of perfect speech." These centres all border on the Sylvian fissure and are supplied by branches from one blood vessel, the Sylvian artery. They are intimately associated by fibres which run from one to the other, chiefly through the insula lying at the base of the Sylvian fissure.

By observing the chart you will see the different centres outlined in different colors. You will also observe that the word centres have a distinct allocation of the cortex set apart for themselves; the auditory word centre being immediately contiguous to the general auditory centre; and the visual word centre in the angular gyrus being more or less closely associated with occipital or primary visual area; also notice that the kinesthetic articulatory centre is distinct from the motor area of speech. Upon the in-

functional, according as there is or is not an organic lesion present. It is not always possible to say which variety exists in a given case as there are certain infections which may induce either form.

Organic Form. It is a natural tendency to think of apoplexy as the chief causative factor in the production of organic aphasia. As a matter of fact aphasia from cerebral hemorrhage is not common, but from embolism and thrombosis it does not infrequently occur. Recalling to mind the distribution of the Sylvian artery, it becomes at once apparent what the effect would be upon the speech areas by a blocking of its channel with an embolus or thrombus. The extent of the speech disturbance would depend largely upon the location of said obstruction; if the branch going to the angular gyrus be occluded visual aphasia develops; if the one supplying the third frontal be blocked then articulatory aphasia follows; likewise if the circulation of the auditory area be shut off auditory aphasia results. While it is a little out of place at this point to discuss prognosis, I will say that it is best to be guarded in expressing an emphatic opinion as to the outcome of any given case early in the disease. Apart from individual variations in the blood supply of the brain, it has always to be kept in mind that a thrombus may extend to further ramification of the artery occluded, or a thrombus may be induced proximally to an embolus. In small children the collateral circulation is much more free so that embolism or thrombosis of a cerebral artery may be wholly unaccompanied by cerebral softening.



1. Cuneate Lobule.
X. General Visual Center.

tegrity of all three of these centres depends undisturbed action of speech in all its departments; a lesion of one area confines its results not alone to that particular centre, but affects adversely the activity of the other centres, as we shall see presently. The school of Charcot is opposed to this view, but clinical and pathological evidence have substantiated it in all particulars.

Etiology. From an etiological standpoint aphasia may be viewed either as organic or

CLASSIFICATION.

Motor Aphasia:

1. Lesion of the kinesthetic articulatory centre, Broca's area, causing articulatory word amnesia.
2. Lesion of motor fibers which convey speech impulses; subcortical motor aphasia.
3. Lesion of any part of the neuro-muscular apparatus subserving articulate expression.

Sensory Aphasia:

(A) *Auditory.*

1. Lesion of the receptive cells of auditory centre, causing word deafness and its entailment.

2. Lesion of the subcortical sensory tract: subcortical auditory aphasia.

(B) *Visual.*

1. Lesion of the receptive cells of the higher visual centre, causing visual word amnesia, graphic and visual word blindness, and its entailment.

2. Lesion of the subcortical tract and the primary visual centre, which entails loss of the recognition of things, words and objects; in loss of their significance; object amnesia or true neural blindness.

Total or Compound Aphasia: Lesion of the entire zone of language, disturbed function of the visual, auditory, kinesthetic-articulatory centres. (Collins).

The initiatory aphasic symptoms are generally more extensive than after the lapse of a few days or weeks. This is due to a partial restitution of function from the cessation of the inhibitory effects of the area involved upon the contiguous areas; or to the removal of pressure following the absorption of effused blood elements; or from a restoration of the vascular supply.

Among other organic changes which may cause aphasia are tumor, traumatism, abscess, gumma, meningitis and non-purulent encephalitis.

The functional forms are characterized by variability in manifestations, by tendency to recurrence, by short course and by favorable outcome.

A great number of conditions may result in temporary aphasic symptoms unaccompanied by organic brain lesions. Among such may be mentioned, migraine and epilepsy; hysteria, neurasthenia; various drugs; toxins of uraemia, gout, diabetes; infections, as grippe, typhoid; and even mental exhaustion. Preoccupation has been guilty of so engrossing the attention as to produce conditions akin to aphasia. Collins recites the instance of Emerson, who used regularly to take his umbrella with him on his walks. On one occasion as he started out for his customary turn, being deep in thought, he was observed to search the corners, hat-rack, etc., where the umbrella ordinarily reposed, and not finding it, stopped, tapped his brow and said, "Oh, where—is—where—is—where—is, my, oh, where is that thing that honest people take or borrow and never think it necessary to return?"

When the word umbrella was suggested, he exclaimed, "Yes, my umbrella."

From the foregoing observations on etiology, which the limits of this paper cause to be brief and unsatisfactory, we can arrive at fairly definite ideas of the pathology of aphasia. I would not be understood as saying that the pathology of aphasia is an open book for all to read for it is not. There is yet much to learn relative to this subject as there is in all matters of human endeavor. By leaving out the debated ground this much at least can be safely posited; that aphasia is the result of a lesion which involves some part of the "zone of language" or its outgoing or incoming fibers. Numerous autopsy findings have proven this beyond reasonable doubt. The lesions oftentimes are not confined strictly to the speech areas, but extend to other regions of the brain, giving a complex disease picture of which aphasia is but one of the accompanying symptoms.

Motor Aphasia:

We will consider this under the two heads of pure cortical motor aphasia and as subcortical motor aphasia. The first exists as a result of lesion of Broca's area in which reside the articulatory memories of ideas or words, and which is strictly speaking a sensory area. It is called motor by virtue of the fact that the impulses which govern articulate speech have their origin at this point. You will recall that the motor neurons which send their projection fibers through the internal capsule and pons to the medullary nuclei and thence to the muscles of articulation and phonation have their point of residence in the foot of the ascending parietal and ascending frontal convolutions contiguous to Broca's area.

It is these motor neurons which are governed and coordinated in the action by Broca's area and from these alone come the motor impulses. Broca's area itself has no projection fibers to convey motor impulses to the outside. It is simply a repository for the storing up, so to speak, of memories of past articulations, which articulations are the sound representations of visual or auditory ideas. The articulatory centre is called into action in the case of the orator by impulses which have their primary arousal in the auditory area, this auditory idea travels by

means of association fibers from the auditory area to Broca's area and there stirs up its proper articulatory memory, which in turn darts out impulses to the neurons in the ascending parietal and ascending frontal convolutions from which impulses go to the muscles for the proper expression of this idea and the movements necessary to produce the word follow. A similar process takes place in the case of the writer, but in this case the primary arousal of the word is in the visual area, though some contend that, even here, the auditory area sends out the primary impulses.

The lesion which entails subcortical motor aphasia may exist at any point from the neuron bodies in the ascending parietal and ascending frontal and along the track of their fibers to their termination in the medullary nuclei.

While it is not always best to follow any hard and fast scheme in the examination of cases of aphasia, the following may be of assistance in indicating the nature of the questions necessary.

1. Ascertain if the patient can hear sounds.
2. Can the patient hear words spoken?
3. Can the patient understand words spoken?
4. Can the patient see objects of any kind?
5. Can the patient see words printed or written?
6. Can the patient understand words written or printed?
7. Can the patient speak voluntarily?
8. Can the patient read aloud?
9. Can the patient write voluntarily?
10. Can the patient write to dictation?
11. Can the patient copy?

Suppose there is a lesion involving Broca's area alone; let us see what would result. The patient can hear readily what is said to him, and by responding correctly to simple directions shows that what is said is understood, and that the auditory area is not involved. There is, however, a certain slowness of comprehension of words spoken, because of the fact that in certain individuals the auditory image is followed by its articulatory arousal, and if in them the articulatory area be destroyed there is a certain amount of disturbance of comprehension of spoken words.

The patient has no difficulty in seeing, but does manifest inability to understand written or printed words. This is rather hard to under-

stand until we recall that with most of us while reading there is at the same time a silent internal articulation of the words read. This defect would be more pronounced in a person who lacked education and hence was unaccustomed to reading. With such the articulation of words read is always pronounced. Alexia or inability to read understandingly is as a general rule, more marked during the early stages of the disease and later may be absent or nearly so. The patient is unable to speak voluntarily because the area for the origin of articulatory images has been destroyed, for the same reason can he neither repeat words, nor speak words read.

Curiously enough, such a patient cannot write voluntarily. This is explained as follows: The primary arousal of the written word is in the visual word center, which we know to be located in the angular gyrus. Impulses pass from here through the articulatory centre to the area which governs the members used in writing, such impulses are, of course, interrupted when Broca's area is destroyed and as a result agraphia results. The power to write from dictation is also lost from the same reason and copying is reduced to a tracing of the words, and this imperfectly.

Reverting to our scheme we have

1. Patient can hear words.
2. Patient can understand words spoken.
3. Patient can see words.
4. Patient can understand words written (after a time).
5. Patient cannot speak voluntarily.
6. Patient cannot repeat words.
7. Patient cannot read aloud.
8. Patient cannot write voluntarily.
9. Patient cannot write to dictation.
10. Patient can copy, not perfectly but by tracing.

SUBCORTICAL MOTOR APHASIA—TRUE MOTOR APHASIA.

Assume that there is a lesion somewhere between the cortex and medulla cutting off the motor fibers going to the muscles of articulation and phonation, what results? The only symptoms would be that such a patient could not speak voluntarily, read aloud or repeat words, but would be able to read intelligently, write, and understand what is said.

SENSORY APHASIA.

We have now to do with disturbances of speech resulting from abnormalities in the receptive centres or their immediate incoming fibers. These centres are the visual, located in the angular and contiguous portion of the supra-marginal gyri; and the auditory, located in the upper and middle temporal convolutions.

These two centres are so closely associated anatomically, that lesion of one alone almost never occurs. However, such cases have rarely been reported. What is more common is a complex of symptoms due to morbid conditions in both centres. Assuming, however, that we have destruction of the visual area, we will proceed to point out briefly the results of such destruction.

The predominating feature will be inability to understand the meaning of words seen—a condition known as word blindness. There is no interference with vision as such, but words are seen simply as black marks on a white background; what is lost, is the power to associate such symbols with their proper meaning, this being impossible because the centre in which abides the memory of such associations has been destroyed. The power to understand speech and to talk correctly is well preserved, but ability to write voluntarily or to dictation is absent; because the primary arousal of the form of the written word takes place in the visual centre.

Suppose the lesion leaves the higher visual centre intact, but cuts it off from the primary visual area in the vicinity of the calcarine fissure of the occipital lobe. In this case the only difference from the above is that power to write to dictation and voluntarily is preserved, whereas in cortical visual aphasia is right lateral homonymous hemianopsia.

AUDITORY APHASIA—WORD DEAFNESS.

Lesion to produce this state affects the middle and posterior portions of the upper temporal convolution and posterior portion of the middle temporal, on the left side of the brain. As a matter of fact, there is no disturbance in hearing, for words are heard quite as distinctly as ever, but merely as sounds, sounds which convey no meaning to an individual so afflicted.

Upon examination we find such a person can hear readily, but cannot hear words understandingly, when spoken to they fail absolutely

to catch the meaning from the sound of the words, although there may be some unconscious gesture on the part of the interrogator which acquaints them in a measure with the meaning of the words spoken.

To read with understanding is likewise impossible as auditory images are essential for the performance of this act. There is also present quite a characteristic disturbance, known as paraphasia and paraphagia, and made manifest by wrong use of words. As an example of paraphasia Collins makes mention of a case recorded by Trousseau, in which the patient on greeting a visitor would say, "Pig, brute, stupid fool," which interpreted meant "Madam begs you to be seated." A more pronounced form of this disturbance is called jargonaphasia; here we have the attempts at speech reduced to a hotchpotch of senseless words, syllables and sounds—mere gibberish.

In fact the inability to read is a prominent feature of this symptom-complex and renders it difficult to separate such a case from one in which the visual centre is likewise involved.

From the above enumeration of the different speech disturbances following a lesion of any one centre we have it forced emphatically upon us that such disturbances are not confined to the centre involved, but affect the other speech centres as well. The different centres do not work autonomously as advocated by the school of Charcot, but to again quote Collins, "Internal speech is dependent on a revival of auditory, visual and articulatory memories; and its integrity depends on the united action of these three centres, but that one which is most highly cultivated is revived most vividly." In most of us the auditory memories are the most acutely developed and for that reason a lesion of this centre would be more far reaching in its results than if of one of the other centres. In others the visual memories hold the highest place in the production of language, internal and external. Of this latter type such a development would only be possible in those highly educated in whom the visual centre receives special cultivation. Rarely does the articulatory centre assume the ascendancy in the revival of word memories.

The following case is cited as one of sensory aphasia in which the symptoms are referable both to the auditory and the visual areas, al-

though the extent to which the visual area may be involved has been difficult to determine.

C. R., female, about 80 years old, admitted to hospital July 16, 1907. History: About one and one-half years prior to entering the hospital her friends noticed a mild degree of mental deterioration, made manifest by irritability, suspiciousness and defects of memory, processes which are more or less normal in those of advanced age. In October, 1906, after working rather harder than usual house cleaning, the culminating act of which was the cleaning of two cisterns all by herself, she sustained an apoplectic seizure of slight character, sufficient to confuse her for a short time and to slightly paralyze the right arm and leg. The paralysis was quickly recovered from, but since then she has been unable to read, to write, to speak correctly, or to understand much of what is said to her. She has been examined many times in the hospital, and the more important points of such examinations, as taken from the case records, are as follows:

There appears to be no abnormality of hearing as she hears a watch readily with either ear. She was shown a tablet, a pencil, a watch and told to pick up the watch, she picked up the pencil, and again did so when asked to select the tablet. She was also shown written directions, but was unable to understand them. Her name was then written and she was asked to copy it, she attempted to do so, but only succeeded in making a series of wavy lines; at a subsequent examination she did manage to form several letters of her name from a copy but the intervening letters were made up of wavy lines. Shown the word cat. Spelled it Ya-a-t—"Kitty" "Cat." Shown dog, but could make nothing of it, exclaiming, "Oh, I can't, doctor, I can't." Lays head on table, "Its too wuxan." Shown letters of alphabet, which she immediately attempts to name, but only succeeded in calling two letters, b and o by right name. Was again shown the word cat and spelled it X-e-t. The above examinations show that alexia, or inability to understand written words is pronounced. Was shown a pencil and its name spoken, "Yes, wenchén." A pen was shown and named for her, "Yes, Peters." Shown a key and name spoken, "Oh, yes, wenchén, Oh, I can't." Shakes head. "Oh, I can't, I wish I could, doctor, I wenchén, bunthen, doctor, but

I can't forthin." Can usually understand when asked to put out her tongue, and does so, but fails to comprehend when asked to touch her nose, eyes or ears. When these directions are given her, she will blink, open her mouth, put out her tongue, take out her false teeth in a vain endeavor to do as she is asked.

There is no mind blindness for objects, as she recognizes objects readily and their uses. She was found one day by the nurse watering the plants, and she made known her wish for a handkerchief by going to the box room, where the clothing is kept, and picking one up. She also has ideas of beauty and the appropriateness of things. She showed the doctor a piece of rather gaudy cloth, a sample of a wrapper which was being made for her, and by her manner exhibited her objections to it, at the same time pointed to sample of more sombre hue, saying, "I like that," and pointing to the cloth in her hand said, "No, not for me."

She does not recognize the value of figures, being unable to select the figures expressing her age from a series shown her. She does, however, keep track of the days of the months by means of a calendar hung in her room, but this is probably done by the relative position of the figures, rather than by any real understanding of their value, for when the day of the month is set down for her among others, she is unable to pick it out.

Physically, she appears in good health for one of her age, nutrition is good, she has a good appetite, but sleeps poorly, heart action is strong and regular, no murmurs. Repeated examinations have failed to reveal any hemianopsia, showing that if the visual area is involved, the destruction of tissue is limited to the cortex and does not dip deep enough to involve the optic radiations.

In her case there is not a total destruction of the auditory area, but a partial one, as she is able to understand the meaning of some things said to her. The chief disturbance seems to be an inability to recognize the names of things, a condition known as amnesia verbalis.

Reverting to our scheme again, we find she can hear sounds.

She can see.

She cannot see words as such.

She can recognize objects.

She can speak voluntarily (paraphasia).

She cannot repeat words.

She cannot write either voluntarily, to copy, or to dictation.

The lesion in this case evidently involves the parieto-sphenoidal branch of the Sylvian artery, which supplies the angular gyrus, and the two upper temporal convolutions.

REFLEX STOMACH SYMPTOMS IN SURGICAL DISEASE OF ALIMENTARY CANAL.*

BY

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We often listen to a few symptoms, feel the pulse, look at the tongue, make a diagnosis of gastric catarrh, gastritis, dyspepsia, indigestion, (one term is as good as another, for a diagnosis founded on such evidence,) and send the patient away doomed to a diet list and to pepsin, pancreatin, bismuth, hydrochloric acid, the countless proprietary combinations, and worst of all a continuance of the symptoms.

Under some of the above terms we probably catalog at some time, the largest single group of our cases; and yet in how many of them is the improper activity or inactivity of the stomach the primary source of the trouble?

We must come to realize the fact that the stomach is the great organ of complaint and protest for all the rest of the body. It is like the walking delegate among labor unions, no personal grievance but constantly crying out the woes of its neighbors. This is not inexplicable when we consider the wonderfully delicate and complicated mechanism and chemistry of digestion. Let me quote from a physiologist:

"On entering the stomach the food stuffs of an ordinary meal are met by a secretion of gastric juice caused by the sensations which accompany eating—the so-called psychical secretion. Further secretion takes place as a result of processes going on in the stomach, as follows: some of the foods and the products of the preliminary digestion of others, act as 'secretagogues,' by stimulating in the wall of the pyloric end of the stomach the formation of an

internal secretion or hormone† (gastrin) which is taken up by the blood stream and carried to the cells of the gastric mucous membrane. The 'gastrin' causes the gland to throw out the stored zymogen in solution, but in an inactive form, and the inactive proferments are activated in the gastric cavity by the HCl of the gastric juice. The amount and composition of the gastric juice vary with the quantity and character of the food ingested in a way that suggests that the secretion of pepsin, rennin, and of HCl are separately controlled by processes of the general nature outlined above, the various processes working together in such a way that the adjustment of the secretion to the work it is expected to perform is automatically regulated."

And all this is stimulated and guided by the involuntary or sympathetic nervous system that like the sensitive aerial of a wireless responds to every irritant.

In the purely physiologic condition of pregnancy why does a woman vomit? The stomach is primarily free from any fault, it is merely its complaint on account of a distant but unaccustomed condition, and the very number of the drugs that have been recommended for the relief prove the inefficacy of all. A patient is sickening with smallpox, measles, pneumonia, scarlet fever and one of the earliest symptoms may be vomiting, the trouble is not primarily gastric. A case of chronic nephritis has persistent stomach disturbance but its relief is in diuretics and diaphoretics, rather than in pepsin and hydrochloric acid. A cerebral tumor or meningitis may produce the most violent gastric symptoms but a diagnosis of gastritis would be rather far from the mark. Violent pain as from renal or biliary colic is an almost constant cause of nausea but it is merely the outcry of the stomach against the pain of its fellow organ, the rooster cackling because the hen has laid an egg.

These are illustrations enough to show the frequency with which the stomach acts as an organ of protest in matters with which it is not very intimately concerned.

I wish now to deal with four definitely surgical conditions that are constantly being diagnosed as indigestion because the stomach enters

*Read before the Connecticut River Valley Medical Association at Bellows Falls, Vt., May, 1910.

†Edkins has shown this by injecting decoctions of the pyloric mucous membrane into the circulation.

the first complaint. They are, appendicitis, acute and chronic, cholecystitic with or without gall stones, gastric ulcer, and gastric cancer. These two latter, ulcer and cancer, might be thought of as direct causes of indigestion, but the early process in either case is not sufficient to account directly for the grave failure in the integrity of digestion. The little ulcer, no larger than a bird shot, interferes but little by its mere presence with the total digesting power, and yet the whole gastric economy is upset. The disturbance is reflex just as much as if the pathological point were entirely outside the stomach.

We are sending these cases to the surgeon only when pyloric obstruction has become practically complete, the patient weak, anaemic, emaciated, and the chances of successful operation greatly minimized, and all because we have made a fetish of dyspepsia. If we had no such term, no such diagnosis, no such conception, we would practice more rational medicine. No case of indigestion should be allowed to go month after month on that diagnosis alone without using every scientific test known to determine if there be not a cause back of the indigestion, which is merely the symptom.

Chemical examination of the stomach contents has perhaps not been as helpful as ten years ago we anticipated; but for these two conditions, in conjunction with the physical signs, we may by its aid arrive at a practically certain diagnosis for or against. Delay is dangerous and to call indigestion the whole thing when it is only a symptom is criminal.

In chronic cholecystitis we have one of the commonest causes of gastric disturbance. Gall stones are usually present but in about one case in ten there is simply an infection of the biliary tract without the formation of concretions. There is a sense of unrest and discomfort in the stomach, aggravated on taking food; moderate pain may be present but the classical gall stone colic entirely lacking and jaundice is not at all essential to a positive diagnosis. Such cases go on for years under the name of simple indigestion, enriching the drug manufacturers, getting no relief from the treatment, and with constantly increasing danger of developing cancer from the local irritation. It is safe to say that more cases of indigestion have been cured by draining the gall bladder than by prescribing hydrochloric acid and pepsin.

In the earlier days of our diagnosis of appendicitis it was common to hear a physician say that such and such of his appendix cases started with acute gastritis and from that appendicitis developed. This was a natural view of the condition considering how large a number of acute cases have for their first symptoms epigastric pain and vomiting with little if any fever. The pain may for 24 or even 48 hours be entirely lacking over McBurney's point and the whole attention of both patient and physician is centered on the stomach. Though we may not now consider the appendicitis as the sequel of a gastritis we are still delaying our diagnosis of appendicitis because of the symptomatological gastritis. This may be overcome if we will remember that localizing tenderness precedes localizing pain and that tenderness is the most important single symptom of appendicitis.

In acute appendical disease the reason for stomach symptoms appears rational. The inflammation near the ileo-caecal valve appears to cause a nerve message to be sent to the stomach to the effect that there is a block on the track and that no more freight should be sent down. To obey this order pyloric spasm occurs, resulting in pain and vomiting.

In the chronic and sub-acute forms the same general effect occurs except that the conditions are less violent and more prolonged. The result is the characteristic symptoms of chronic indigestion. Here as with gall stones large numbers of patients are suffering under diagnosis of dyspepsia, the symptom is mistaken for the disease and the treatment directed at the wrong point.

The moral is that every case of indigestion should be suspected of misrepresentation, of being a subterfuge, a decoy, to attract our attention to an unimportant point while the main attack against the system is going on elsewhere. Our only safety is diagnosis by exclusion until every extra-gastric cause is eliminated.

As recommended by Sir William Bennett, no examination of a case of pain in the groin can be effective unless it is made in the erect as well as in the horizontal position of the patient.—*International Journal of Surgery.*

THE TECHNIQUE OF USING FORCEPS.*

BY

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The employment of an obstetrical forceps is a surgical procedure and a doubly grave one at that, since two lives are at stake. Because this is a fact, the preparation for the use of the instrument should be as careful in detail as the preparation for an operation in major surgery. Speaking from the point of view of the country doctor, I know we often are lamentably careless as to this thoroughness in making ready. It may be well to mention a few concrete examples of this neglect. As a lubricant vaseline from the general utility vaseline jar which is customarily used to treat the family's skin affections including mild erysipelas. As a receptacle for instruments, hot water in the guest chamber pitcher. For moisture pads, cloths, as to which the mildest criticism possible is that they are unsterile. Washing the hands without the essential aid of the scrub brush, then dipping them for one or two minutes in an antiseptic solution and pulling on rubber gloves which have spent the same short visit in the same solution. Many other examples more or less frequent and flagrant might be mentioned.

The following technical preparation is summarized from recent editions of the works of Hirst and Davis. Also it is attempted to move it from Philadelphia to the country villages of this county.

Preparation of the instruments and apparatus, the patient and the attendant and his assistants, is considered in order.

Forceps and other instruments often necessary during, or immediately after, forceps delivery are carried in a covered metal box which, upon indication is partly filled with 1% lysol or creolin to cover the contents and boiled, the box cover providing when needed, a sterile tray for the instruments.

Several sheets, towels and properly constructed moisture pads are boiled in a clean wash boiler, soaked in bichlorid solution, dried and wrapped in sterile towels. A nice addition to these is a so-called forceps sheet which is a huge pair of stockings covering the feet, legs

and thighs with a broad upper piece which covers the abdomen. When possible, directions as to these dressings should be part of previous instructions left with the patient.

The patient is prepared by being catheterized and the rectum emptied by enema. The hair is clipped from the external genital organs which are thoroughly scrubbed with soap and water, rinsed and sponged with bichlorid solution. The vagina is then irrigated with 1% lysol. If there is to be an interval before the operation, the vulva is covered by a sterile pad, and the thighs and lower abdomen by a sterile sheet.

As to the preparation of the operator, Hirst quotes German investigators who have proven that there is no means known by which the skin of the human hands can be rendered sterile.

Three methods deserve mention. In each of them one important factor is that the hands and arms and especially the ends of the fingers with the nails cut short, be scrubbed for ten minutes with a handbrush, soap and water, and then rinsed in sterile water. The most common method is soaking the hands in 1 to 1000 bichlorid or 1% lysol and rinsing in sterile water.

Keen advocates taking in the hands a tablespoonful of chlorid of lime and about a cubic inch of sodium carbonate, moistening these substances and rubbing them about the hands and arms for five minutes till they are reduced to a smooth creamy paste, when they are rinsed away in sterile water. The method of Schatz is the one in vogue in most hospitals. The hands and arms are immersed first in a warm, saturated solution of potassium permanganate, then in a warm, saturated solution of oxalic acid and then rinsed in sterilized lime water. The statement quoted by Hirst is a strong argument in favor of rubber gloves. The clothing is covered with a gown which may be properly sterilized at home, rolled snugly in a sterile towel and wrapped in a waxed paper or a rubber bag made for the purpose.

Any assistant who is to handle instruments or dressings, should make a similar preparation. A rubber cushion prepared by immersion in 1 to 1000 bichlorid is to be used under the patient's hips, and between it and the vulva are to be placed as needed, sterile moisture pads. Soiling of the bedding is not necessary or permissible.

There should be at hand stimulant and other drugs and hypodermic needles for their ad-

*Read before the Franklin County Medical Society, May 26, 1910.

ministration, a fountain syringe, antiseptic sponges, iodoform gauze, suture and ligature material, and anaesthetics. Ether by the open method is the anaesthetic of choice.

Since a careful preparation certainly serves the best interest of the patient, it cannot be considered superfluous. Uniform insistence upon it by the profession will tend to create among the laity a point of view from which a higher rate of charges for obstetric practice will not seem unreasonable. At the same time it is well to keep in mind a suggestion made before this society last year by Dr. Evans, that ostentation in midwifery by frightening women was a cause of race suicide.

Before using forceps, the husband or near relative should be told of conditions and consent for the operation obtained.

Other things being equal in a given case the degree of success that attends the use of a forceps is in proportion to the accuracy of what may be termed forceps diagnosis; by this is meant as close a determination as it is possible to obtain of the relative conditions of birth canal and child. Contracted pelves and abnormal presentations and positions, involving a consideration of pelvimetry, although relative to forceps diagnosis, do not come within the province of this paper.

Whenever, as we are about to use forceps, a doubt exists as to what the presentation is, as for instance, face or breech, or as to the position, as for example occiput anterior or posterior, the instrument should be put aside until after a careful examination with the patient anesthetized and enough of the hand introduced to clearly palpate the presenting part, has cleared up the uncertainty.

When forceps is to be applied at or near the pelvic outlet, to a fully rotated occiput, the patient is placed on her back crosswise in bed with her thighs flexed and held in that position by a sheet which is twisted the longest way, passed over the shoulders and its ends tied about the legs near the knees. An anesthetic may not be necessary. The fingers of the right hand are inserted at the left side of the pelvis and kept in contact with the left side of the head until separated therefrom by a blade of the instrument. The operator must know that the anterior portion of the cervix is not

between his fingers and the head, and its presence there unrecognized on account of the position of the os being abnormally posterior. The left blade is grasped lightly in the left hand at that point near the lock where it balances nicely. It is held obliquely, with its handle parallel with Poupart's ligament of the right side. The lower border of its cephalic portion is rested over the right thumb, by which it may be steadied or bridged in much the same way that a certain long slender stick is sometimes held. Its anterior border is made to enter the vulva and advance along the concave palmar surface of the right fingers and by them felt to engage upon the head. The right hand is withdrawn. The left hand grasps the handle from above and simultaneously advances, lowers and carries it to the patient's left, thereby fitting the blade over the head. Substituting right for left applies the upper blade. When inserted equally, if the upper flat surfaces of the two shanks at the lock are parallel, the instrument locks at once upon bringing together the handles. If these surfaces are not parallel, they must be made so by rotating gently upon its long axis in the desired direction, whichever blade offers the less resistance. The introduction and locking takes place between pains, slowly and without force. The hands are removed from the handles of the instrument and upon occurrence of a pain their direction is noted as indicating the line of traction. This does not mean that the traction should be in just the direction of the handles, but that by observing that direction the operator is able to ascertain the true line of traction, which is at a varying degree lower than that of the handles; that is the correct traction arc, so to speak, continues below the one indicated by the handles when left free during pains. A tardy contraction may start at pressure through the abdominal wall upon the uterus. This pressure over the uterus is consistently kept up during tractions by an assistant, thereby lessening the chance of later uterine relaxation and resultant hemorrhage. For traction the handle is grasped next the lock by the right hand from above, and near the end by the left hand from below. In case the handles fail to come together closely, the left hand takes the position named for the right while the latter is advanced along the shank till an extended finger reaches the occiput, and

is kept there to note a not unlikely slipping of the blades upon the head. Traction is made during pains. When no pains occur it is made to simulate the forces of normal labor, say at intervals of five minutes for periods of one minute. Between tractions the handles are released to relieve the head from pressure and to note direction.

Excessive force and excessive haste should alike be scrupulously avoided. When the occiput is well under the pubis and the perineum begins to distend, the operator grasps the handle of the instrument with right hand in such a way that a right angle is formed by his arm and instrument; and traction outward is replaced by extension or raising the handles up over patient's abdomen. By lowering the handles between the pains, keeping it enough apart to loosen the grasp upon the head of the blades, the extremities of the latter are raised away from the chin thereby being readjusted in such a manner as not to impinge upon the perineum upon complete extension of the chin. The left hand held open against the perineum protects it directly by its support and indirectly by forcing the head upward under the pubic arch. By these manipulations, the operator controls in a slight measure the degree, and quite positively the rapidity of perineal distention. Extension of the handle over the abdomen delivers the head.

When the application is to be made in the pelvic cavity, to the head in a normal oblique position with the occiput directed anteriorly the patient is given ether. She is then placed upon a table with her hips well over the extremity, or in a like position in a bed that has been raised eight or ten inches, by blocks placed under its corners. When seated upon a chair at the side of a bed of average height, upon which the woman lies crosswise, the relative position of the operator to the site of operation is too high and axis traction downward and backward is not easy of contrivance or alignment. The right hand is inserted far enough to satisfactorily clear up any doubt as to the presentation and position.

With the occiput obliquely anterior the correct application is to the sides of the head, the blades occupying that oblique diameter of the pelvis opposite the one taken, by the occipito, frontal diameter of the head. To accomplish

this, each blade as it ascends the pelvis is rotated outward on its long axis so that it is brought in apposition with the posterior inclined plane of that side. After the equal insertion of both blades, they lie in a position that makes immediate locking impossible for lines across the upper flat surfaces of the shanks near the lock instead of being parallel are at almost right angles to each other. At this point one blade is correctly applied to the side of the head but the other blade is in contact with the face and consequently must be rotated anteriorly to the acetabulum, thus in left occipito anterior position it is the right hand blade, while in right occipito anterior position it is the left hand blade that requires rotation forward. To rotate either blade the handle is steadied by one hand while the fingers of the other are passed under and outside of the shank and raise it first upward and outward then upward and inward to its correct position opposite the other blade, where the handles can be brought together by lowering them toward the perineum and the instrument locked.

If it is impossible to fit the blades to the sides of the head they must be applied along the lateral walls of the pelvis without regard to the fact that they are misfit to the head where they come in contact with it. Axis traction and loosening the grasp of the instrument at intervals, will cause the head to be adjusted within the blades.

In rotation of the occiput to the sacrum different procedures are advocated by different authorities. When spontaneous rotation to the pubis can no longer be looked for, our guest and Lusk, recommend direct application of the forceps and delivery by extension downward and backward. Davis says that by alternating axis traction by tapes with loosening of the blades, forward rotation is brought about. Hirst advocates rotating the head by turning the forceps. The method first mentioned seems most practical.

If in an emergency the forceps must be applied at or above the pelvic brim, the blades follow the sides of the pelvis, no matter what position the head may occupy. Manual pressure backward above the pubis and downward at the fundus must be maintained in an attempt to promote engagement. The patient should be placed in Walcher's position, that is, the limbs

are extended with the feet on the floor if the patient is in bed, or left hanging, if she is upon a table. In this position the antero-posterior diameter of the pelvis is slightly increased because the weight of the limbs produces extension of the pelvis at the sacro-iliac joints. If moderate traction fails to produce engagement, the forceps can not be used to deliver the child.

In anterior positions of the face the technique is the same as that for the occiput.

When forceps is applied within the pelvis or at its upper margin, axis traction in a direction that is always at a right angle to that plane of the pelvis at which the head is being compressed is mechanically correct. To facilitate such traction, the Tarnier forceps is the best appliance. It is expensive. Reynolds traction rods are a good and inexpensive substitute for it. Or strong tapes may be passed through the fenestrae of the blades and traction made upon them downward over a Sims' speculum held in the vagina.

The method of Pagot is the least complicated since for its employment no mechanical attachments to the forceps are required. This method consists in applying with one hand a force at the end of the forceps' handle that would raise it, and simultaneously entirely checking that movement by a downward and backward pressure with the other hand at the lock.

Frequently it is wise to follow the teaching of Lusk and remove the instrument when the head reaches the perineum.

Excessive force is always an error to be avoided scrupulously, and the instances are rare where the same criticism is not to be applied to haste in extraction.

Internal urethrotomy should not be undertaken in the presence of acute urethral inflammation because of the risk of infection and the probability that the operation will fail to produce permanent results.—*Exchange*.

To stimulate intestinal peristalsis in cases of paresis of the bowel following abdominal operations, the use of eserine salicylate, 1-60 grain or more, is often exceedingly effective, particularly where there is increasing distention and intractable vomiting.—*Exchange*.

HERNIA.

BY

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I ask you to consider with me hernia, a subject as important as it is frequent. It is said that one man in every eight is thus afflicted. It exists alike among all classes of people, the rich and poor, males and females, the aged and the child. It is more common among men than women, a fact that perhaps may be explained by man's more laborious calling.

Hernias are usually classified as congenital and acquired. In order that we may clearly understand what a congenital hernia is let us review a few anatomical points. You remember that the testes descend, or should descend, before birth along the inguinal canal into the scrotum. At an early period of fetal life they are formed in the back of the abdominal cavity behind the peritoneum but covered on their anterior surface and both sides by that membrane. In the process of development, by the third month, instead of growing upward with the body, they are guided downward by embryonic structures until the end of the eighth month, when they have traversed the whole length of the inguinal canal and have reached the bottom of the scrotum. In starting downward, each testicle invaginates the closely adherent peritoneum and pushes a pouch before it, so that as it lies in the scrotum it is covered in front and on all sides except just behind, where the cord enters, with this pouch of peritoneum which communicates above with the abdominal cavity. Just before birth this communication begins to close, first at the internal ring, and the closure proceeds, downward, obliterating the canal, leaving a shut sac all around the testicle, no longer open into the abdominal cavity.

Now if this happened with unvarying constancy we should not have the variety of hernia which is termed congenital. But it is a fact that this canal is often open at birth, it is estimated in two-thirds of all new born infants. In very many of these cases nothing occurs and the canal goes on to complete closure, but in a small per cent we get a hernia, which comes about in this way. When a child is born and it breathes and cries the intra-abdominal pres-

sure is raised and the intestine or omentum is forced down into the canal and finally into the scrotum.

In these cases the child is not born with the hernia, but they are born with the canal in such condition that a hernia may develop, and the hernia lies in contact with the testicle.

Now it sometimes happens that a partial closure of the canal has taken place before birth, but not strong enough to stand repeated increases of intra-abdominal pressure. This partial closure is most apt to be at the internal ring, leaving a tunica vaginalis that has a long process extending up into the canal. Repeated pressure brings about one of two things: either the peritoneum begins to sag close to the point of closure and the gut pushes down behind the cord and testicle with a peritoneal covering, or the pressure separates it and pushes the peritoneum down into the tunica vaginalis, invaginating the sac. The first of these forms is known as infantile hernia, the second as encysted hernia.

To repeat: in congenital hernia the gut descends into the tunica vaginalis and has no peritoneal covering. In infantile hernia the gut is inclosed in a peritoneal investment and lies behind the testicle and both layers of its tunic. In encysted hernia the gut comes down, pushing the occluded point before it, and only one layer of the tunic lies in front of the sac.

Acquired hernias are classified as inguinal, femoral, umbilical and ventral.

INGUINAL HERNIA—The most common form of hernia, the one we will most often meet in all ages, is inguinal hernia. Inguinal hernia is of two kinds, the oblique or indirect, and the direct. Oblique inguinal hernia is of much more frequent occurrence. Here some of the contents of the abdomen, covered by the peritoneum, push their way down the whole length of the inguinal canal, dissecting apart the tissues and following the path of the spermatic cord, become lodged in the scrotum, in front of the testicle and the sac of the tunica vaginalis. It is a popular opinion that rupture, with the consequent protrusion of the abdominal contents, is brought on by some sudden exertion—some great muscular strain—and some such history is occasionally given when a patient seeks advice for a recent hernia. But as a matter of

fact, the process of the descent of an inguinal hernia is a slow and gradual one. The first element is undoubtedly the slight irregularity in the peritoneum left at the internal ring after a slow or delayed closure of the inguinal canal. The point where the testicle came through the abdominal wall is always a weak point in that wall. The peritoneum is closed, but the fibers of the muscles never close, and this indentation in the peritoneum offers an obstruction, at first a very slight one, to the free movements of the abdominal contents against the abdominal walls. Many things contribute to increase this obstruction. Constipation, cough, straining at stools, or micturition, all bear a part, and little by little the indented peritoneum becomes sacculated and a wedge shaped pressure is slowly, and at first only at intervals, exerted in line of the canal. Many years may elapse between the beginning of the descent and the time when, suddenly without warning, the patient discovers a soft tumor protruding from the external ring, or it may be he is terrified by the rapidly distending scrotum. Such a hernia may contain almost anything in the abdominal cavity—small intestine, large intestine, omentum, appendix, duodenum, ovary, according to the degree of enteroptosis existing in an individual case. As a matter of fact, it usually contains such portions of the abdominal viscera as have the greatest capacity of movement—the small intestine, from its free mesentery, most often: the caecum or sigmoid, according to the side involved and owing to the peculiarities of their peritoneal covering. The omentum in fleshy individuals, when loaded with fat, is almost invariably involved.

By way of the spermatic cord is not the only route that may be taken by the protruding sac of an inguinal hernia. There is, indeed, a more direct route which has created the term direct inguinal hernia, distinguishing it from the oblique or indirect that we have just considered.

Even when the inguinal canal has perfectly closed, there is still a chance for hernia to occur, for there are other indentations of peritoneum in the lower abdominal wall, and direct inguinal hernia comes from the pushing outward of the peritoneum from these fossae into the inguinal canal at a point lower down than the internal ring. These fossae are contained

in a triangular space called Haselbach's triangle. This triangle is bounded on the outside by the epigastric artery, Poupart's ligament below, and the external border of the rectus internally. Within this space the abdominal contents are guarded by the transversalis fascia and by the conjoined tendon, of the internal oblique and transversalis muscles which form the posterior wall of the inguinal canal. All direct hernia must break through this triangle and must therefore lie internal to the epigastric artery.

In indirect hernia the inguinal canal may become gradually dilated and shortened so that the protruding sac may be very large, filling and distending the scrotum.

In direct hernia as you can see, there is no possibility of so great an opening. The hernial sac must carry before it the transversalis fascia and the conjoined tendon as well, or else it must separate the fibers of the conjoined tendon and so break through the posterior wall of the canal and emerge at the external ring. Direct hernia is seldom as large as indirect, it very rarely protrudes into the scrotum, and even if it does it does not fill the scrotum as does an indirect hernia.

As to diagnosis. It may not always be possible to say positively whether an inguinal hernia is a direct or an indirect one, but the case ought to be rare in which you fail to distinguish the form, and certainly it ought always to be possible to determine the existence of a hernia. Before entering upon a discussion of the points of difference between a direct and an indirect inguinal hernia, let us look at some of the conditions found in the inguinal canal and scrotum which are not hernias.

Some years ago I remember being called in consultation to a case of strangulated hernia, with a view of giving the patient relief by operation. The patient, a man in the prime of life, showed unmistakable symptoms of intestinal obstruction, and in the groin was a tumor that might have been a hernia. It was a clear picture as far as the symptoms went, but the tumor was not in the canal but external to it, in fact just beneath the skin, freely movable, not tender, in short it was a small lipoma. The intestinal obstruction persisted, the man refused operation and died.

Enlarged glands have often been mistaken for a hernia. So too has a psoas abscess. Investigate the psoas tract per rectum and the spinal column for evidences. Hydrocele is perhaps more often mistaken for hernia than any other thing. An ordinary hydrocele of the tunica vaginalis ought not to give any trouble, but hydrocele of the cord often presents very obscure signs. When you have hydrocele of the tunica alone, fluid in the sac, and shut off from above, you will not make any mistake. But suppose the canal has been partially closed below, and at the internal ring, then there is a chance for the peritoneal covering of the cord to be filled with dropsical fluid, and under such circumstances there is some cause for making a mistake. Pull on the cord and you will see that the little tumors move with it, and have no connection with the abdomen. A hydrocele may exist with partially open canal when there is no hernia. As you lay the patient down the fluid empties itself into the peritoneal cavity. Place him erect and it fills, but slowly and from the bottom, not like a hernia which always comes down from above and hangs in the canal. Then we must remember that a hydrocele is translucent, the light shines through it as it shines through no other tumor, though in long standing cases where there has been inflammation and thickening of the sac, we may have an opaque hydrocele, especially if the sac has been injected.

Suppose you have hydrocele in that congenital condition of open or partly open canal, complicated by a hernia. Here there is difficulty. One will say hydrocele, another hernia. The hernia can be put back if it is a reducible hernia, and the hydrocele, too, disappears with the child on its back, and both appear again when the child is standing, but the hernia comes down from above and hangs in the opening of the ring, while the fluid gravitates to the bottom of the sac, filling the bottom first. You can hold the hernia back with gentle pressure, but the fluid will trickle through and the hydrocele slowly fills again in spite of the pressure on the ring.

Varicocele is another condition which must be kept in mind in examining scrotal swellings. A varicocele has no such impulse on coughing as a hernial tumor always shows. Varicocele

has a characteristic feel like a bunch of earth worms. In the recumbent posture a varicocele slowly disappears, but pressure over the external ring will bring it back, and the harder you press the more quickly it shows again, while the same pressure would prevent the reappearance of a hernia.

Tumors of the testicle and cord must also be differentiated in the diagnoses of hernia but I think they will present no great trouble.

Only last week a five-year-old boy was brought to me with an enlargement in the groin. The father stated that the child had received a blow in that region the day before and had complained of pain and he, seeing the swelling, feared a rupture. It was an undescended testicle.

The swelling of an indirect hernia begins high up opposite the internal ring, while that of a direct hernia does not rise much above the external ring. In cases of long standing indirect inguinal hernia the canal may be greatly distorted and the internal ring dragged down to the level of the external by the weight of the hernia. There is another distinguishing feature between the two forms and that is the relation of the cord to the sac. In indirect hernia the spermatic cord is always behind the hernial sac, while in the direct form the cord is to the outer side of the sac.

FEMORAL HERNIA—In femoral hernia the gut follows down the crural canal with the femoral vessels, behind Poupart's ligament, until the saphenous opening is reached, when it turns forward and comes through, carrying the cribriform fascia in front of it. It then passes upwards. This is a most important point to remember in attempts at reduction. Again, a femoral hernia is surrounded on all sides except the inner by important vessels. Femoral hernia occurs oftenest in females, it does not attain the size of an inguinal hernia, and the same things must be excluded in your differential diagnosis as in the inguinal variety.

UMBILICAL HERNIA—This occurs next in frequency to inguinal and like femoral, is seen oftenest in women, due in large measure to the effects of childbearing. The subject is usually very fat and has a large abdomen. In the umbilical hernias of new born children the gut escapes through the umbilical ring that has not closed, while in adults, after the ring has once

closed it is very strong and any protrusion is to one side, usually just above.

All forms of hernia are usually reducible. It goes back when the patient lies down and so remains until he gets up. Irritation may cause an adhesive inflammation and prevent the reduction, when it becomes irreducible. An irreducible hernia is not incompatible with life and health. Any hernia may become strangulated, and then life is menaced, for you not only have obstruction of the intestine but constriction of the vessels in the hernial protrusion and gangrene will surely follow.

A reducible hernia should always be protected by a truss, and if the patient is in early or middle life a radical cure by operation should be advised. The results of competent operators are very flattering. An irreducible hernia should always have the radical operative treatment. When a hernia becomes strangulated the demands for relief are urgent. Place the patient in the Trendelenberg position and make gentle manipulation. If this fails, give an anesthetic and the rings may relax enough to allow a reduction. Ice over the tumor may assist, or a hypodermic of morphia into the adjacent tissues, but too much time must not be spent in taxis. If the hernia has been out more than a few hours it is dangerous to attempt taxis. You must then operate and at once. Your surroundings may not be ideal, but get them as clean as possible and go ahead, relieve the strangulation and the chances are you will save the patient. Do not attempt to do a radical cure under these circumstances, for the chances are you will get suppuration and that is apt to cause failure. Wait until later and you will have success. If, however, your surroundings are clean and you can get proper help you may make a radical cure after relieving the strangulation.

I have not mentioned the treatment of hernia by the truss although probably ninety percent of the people with hernia wear a truss. There are good trusses on the market and I don't know that it makes any difference what kind is used if it gives satisfaction. A truss should be light, made of material that the bodily perspiration will not affect, and it should make pressure over the internal ring sufficient to keep the hernia back, whatever position the wearer assumes. To measure for a truss have the patient stand and pass the tape around the body horizontally at

a point midway between the crest of the ileum and the trochanter. The number of inches will be the size of the truss required. If the hernia is irreducible never try to apply a truss, for the pressure will cause irritation and do more harm than good.

NOTE—Many of the ideas, and the classification of herniae in the above were taken from the writings of Dr. J. B. McClintock, Topeka, Kan., to whom credit is hereby given.

SCARLET FEVER.

BY

DR. F. C. ANGELL,

Randolph, Vt.

Scarlet fever is one of the group of exanthemas, and although a disease probably of ancient origin, it was not until 1676, when Sydenham definitely separated it from measles, that it was recognized as a distinct and separate disease.

A study of its history reveals some interesting facts. It is probably of European origin, and has never succeeded in gaining a firm foothold in Asia or Africa. Following data as compiled by Hirsch we find that its first appearance in America was in New England in 1735. It spread westward—reached Ohio in 1796—and made its first appearance in California in 1850.

Hirsch says that while the reason that some localities have escaped epidemics is because their inhabitants have never been exposed; yet in others he believes there can be no doubt that certain conditions prevail that prevent its development. Whether this is a climatic condition, or an individual immunity existing among a large part of the population we do not know.

It is an acute contagious disease, and we believe there can be no doubt that the origin is a specific micro-organism, but as yet its birth has not been recorded, nor its minute anatomy definitely described. It is supposed to develop in the blood and to be eliminated by the lungs and by the skin during the process of desquamation.

Scarlet fever is largely a disease of childhood, although no age is exempt. The period of greatest susceptibility appears to be between the third and the sixth year. McCollom's table

of 1,000 cases treated in the Boston City Hospital gives 50% of all cases appearing between two and six years, 78% during the first ten years, and 90% before the twentieth year. The period of greatest severity is during the first three years.

It is not as contagious as measles. Many seem to be immune. Holt states that fully one half of the children exposed do not contract the disease. It occurs in epidemics and in sporadic cases. The source of contagion is often difficult to trace. It may be transmitted, not only from person to person through the atmosphere, but by physicians, nurses, other members of the family, domestic animals, articles of clothing, books, magazines, letters, etc. The danger of such transmission exists, not only during the four to six weeks of the course of the disease; but the virus may remain active for months or years, and then be carried through the mail, or by an express package into some community that has never suffered an epidemic.

The question of the existence of scarlet fever among the lower animals, especially among cows, is a subject concerning which authorities are disagreed.

Outbreaks of epidemics in London and in Glasgow have been traced to the source of milk supply where the herds were affected with a disease that could be inoculated upon other animals and man. This disease simulated scarlet fever, there being a process of desquamation present. Whether this was the origin of the epidemics or whether the milk was the medium that conveyed the germs from some attendant or from some infected house where it had been stored is undetermined.

The germs enter the blood through the lungs or by fluids or solids via stomach.

The period of incubation is short—three to seven days, occasionally developing within twenty-four hours after exposure and rarely after eleven days.

In many epidemics only mild forms of the disease are seen. Every case is dangerous—in itself, or with complications.

In no epidemic however mild can we be certain that the next case we see may not be one of a malignant type.

In the ordinary form of the disease it is ushered in with chilliness, or a rigor and if it be a young child of nervous temperament a con-

vulsion may be its first manifestation. The pulse becomes quickened 120-160—the temperature rises 102°-105°—the face is flushed, the eyes bright and vomiting is frequently present. The eruption appears early on the face and neck, rapidly extending over the body, a fine red rash in appearance, that has been likened to the appearance produced by thickly sprinkling red pepper over the surface. It is of short duration, usually lasting for from four to seven days, but in mild cases it may have entirely disappeared in forty-eight hours, fading from the body in the order of its appearance.

The extent and severity of the eruption, determines in a large measure the amount of desquamation. Desquamation begins with the termination of the eruption, contagiousness existing till desquamation is completed.

Certain throat symptoms are rather uniformly present, viz.: inflammation and oedema of the tonsils, fauces and pharynx, with an exudation of a dirty yellowish pus.

Membranes may form pseudo diphtheritic, or diphtheritic, so near alike in appearance as to be recognized only by the absence or presence of Klebs-Loeffler bacillus. The lesions of the throat often extend to the posterior and anterior nares, to the Eustachian tube and middle ear. Diphtheria and all the other exanthemata have been found coexisting with scarlet fever. In the malignant forms of the disease these symptoms are more profound, more intense, the nervous system is overwhelmed, there are convulsions, delirium and coma with fatal results rapidly following. The hemorrhagic is one of the most malignant types of the disease. With it we have epistaxis, hematuria, hemorrhagic eruption and hemorrhages from the various outlets from the body. Difficulties are met with in diagnosis, for types of the disease occur without fever and without eruption. During an epidemic, cases are often seen in which the angina only is present and yet these cases are capable of communicating the disease to others.

By these unrecognized cases we may explain the continuance of an epidemic, the cause of which is otherwise obscure.

Scarlet fever during the puerperium and during surgical convalescence, at which times there exists a marked susceptibility, is of a severe type and often fatal.

The most frequent complications are nephritis, scarlatinal rheumatism, synovitis and disease of the middle ear. From these complications often come the most serious results, incident to the disease. Koplik states that nephritis occurs in fully 50% of the cases; also that fully 10% of those suffering from deaf-mutism trace its origin to ear complication in scarlet fever.

The treatment is first of all prophylactic. Various drugs, belladonna, mercury moto iodide, calcium sulphide have been lauded as capable of producing immunity. Since fully one half the people possess a natural immunity, the power of these drugs in that direction is hard to calculate.

Stickler in 1897 attempted to produce mild types of the disease by subcutaneous inoculation with mucus from the throat of a recent case. Scarlet fever developed in from two to twenty-four hours, but of a *severe type*, thus demonstrating the impracticability of preventative inoculation on the principle of vaccination for smallpox. A strict, close quarantine should be maintained. Preferably an upper room, well separated from the rest of the household should be selected. The room should be bare of all except what is absolutely necessary. Physicians, nurses and all others in attendance should exercise extreme care not to convey the germs of disease to others. No physician should enter a scarlet fever room, without first donning an outer garment completely covering his ordinary apparel and a cap to protect his hair. Nor should he leave the premises without placing such apparel in a room for fumigation or in the open air exposed to the sun. He should also thoroughly wash the hands and face in a carbolic solution.

Having isolated the patient, if possible one nurse should have the entire care. *Abundance* of fresh air should be provided by thorough ventilation. Milk, broths, beef teas and egg albumen should constitute the diet administered at three hour intervals. Cool drinks, such as water, lemonade and raspberry shrub well diluted should be allowed. The bowels should be moved by 1-10 gr. mild chlorides every hour for six doses followed in one or two hours by a saline. They should be kept open daily, if necessary by the use of some form of saline, or a high rectal enema.

If the temperature reaches 103° or over cooling should be used for its reduction.

Inunction of some oily material should be used once or twice daily to relieve the itching, and to limit the contagiousness by the spread of the desquamated material.

Fermentation and spore growth in the intestine and a certain amount of systemic anti-sepsis may be maintained by the administration of calcium sulphide gr. $\frac{1}{3}$ once in two hours. If the heart's action is weak, Am. carb. gr. $\frac{1}{3}$ to a child 5 years of age should be given, preferably in milk, once in three hours. Fl. Ext. Dig. in 1m doses and strychnia in 1-200 gr. doses are valuable remedies to be used as needed. Alcoholic stimulation may also be required. Nuclein m 10-20 three times daily is a valuable addition to our supportive treatment. The nose and throat should be cleansed by spraying frequently with glyco-thymoline—Dobell's or Siller's solution. Careful attention to the throat and naso-pharynx in this manner will tend to prevent ear complications. Should they arise cold applications at first may subdue the inflammation; if not they should be followed by heat. Laudanum and olive oil, or a 2-4% solution of sulphate of atropine instilled into the ear will often relieve the pain. The condition of the tympanum should be watched and if bulging occurs, paracentesis should be performed and the ear carefully syringed with a warm solution of boracic acid. Should nephritis develop water should be *freely given*, the bowels opened by active cathartics, the skin made active by hot baths, and the administration of pilocarpine gr. 1-30, four to six times daily, hot saline enemas given and such diuretics as Inf. digitalis and Pot. acetate.

Considerable work has been done in recent years to prepare an anti-scarlet fever serum. Atkinson in the Reference Handbook of Medical Sciences draws the following conclusions:

"From reports of 84 cases treated by Morer with a special immune serum, prepared from the streptococci obtained from scarlet fever cases. There is a rapid improvement in the general condition. With early injection the rash may not fully develop. Disturbance of the central nervous system rapidly disappears, the heart is favorably influenced, pulse and temperature often show a critical fall, the throat clears

up more quickly and the whole course of the disease is shortened."

Desquamation having been completed the child should be bathed in a bichloride solution 1-10000, wrapped in a sterile sheet, taken to another room, dressed in clean clothes and is again ready to mingle with the world.

The British Medical Association held its seventy-eighth annual meeting in London on July 26 to 29, 1910, under the presidency of Sir William Whitla. The address in medicine was delivered by Dr. John Mitchell Bruce of London and the address in surgery by Dr. Harry Gilbert Barling of Birmingham. The scientific business of the meeting was conducted in twenty-one sections.

The department of medicine and surgery of the University of Michigan has taken the first steps toward the proper regulation of the health of its medical students. At the beginning of the present college year the faculty made it obligatory upon every medical student to report once a semester to the department of internal medicine. Should a student show suspicious signs or marked evidence of tuberculosis he is required to follow the advice of the professor of internal medicine as to the proper mode of life to be pursued.

"Has your son had any success as a physician?"

"Well, no, to tell the truth, he hasn't. He has been practising now for nearly eleven years and has never read or published a rehashed medical paper, secured a place as third deputy assistant dog on a hospital staff, or even become an officer in a medical society. It looks as if he may have to eke out a living just practising medicine."

The late Jerry Simpson, of Kansas, used to tell a good low-necked dress story. He attended a swell social function in Washington, and his wife, who had not attended, asked Jerry when he got home how the women were dressed. The quick-witted Jerry replied: "Well, my dear, I cannot tell you. I did not look under the table."

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EDITORIAL.

The twelfth annual School for Health Officers in session at Montpelier as this issue of the journal goes to press calls attention again to the importance of these officials. The advances in sanitary science in the last few years are the most notable achievements in the history of medicine for centuries and the growth of the new science of preventive medicine has already led to wonderful results in minimizing the perils from infectious diseases, in fact it has so changed our relations to these maladies that they are now more appropriately termed preventable than communicable diseases. But the development of this branch of medical science has only begun. New problems are constantly demanding attention as is instanced by the present epidemic of infantile paralysis. This increase in our knowledge of the cause, methods of control and prevention of disease while promising so much for humanity in general, demands higher and higher qualifications on the part of the officers to

whom is intrusted the duty of safeguarding the community against these preventable maladies. It is not only no longer possible for the layman to intelligently perform these duties but the requirements of technical knowledge are fast running away from the training of the ordinary practitioner. A thoroughly equipped health officer should not only have a general knowledge of the causes and diagnostic features of the infectious diseases taught to all medical undergraduates but he should have in addition an intimate knowledge of the methods of laboratory research, sanitary architecture, engineering and chemistry and collateral branches. He should be something of a statistician, and above all he must have a thorough knowledge of the law relating to such measures and must possess the inherent qualities of good judgment and fearlessness. In England these ends are secured by a corps of sanitarians appointed by the general government and whose tenure of office is assured through efficient civil service, whose remuneration is adequate and whose removal by local political influences is prevented by the manner of their appointment. Thus there is developed a force of men who devote their lives to this special field of science and naturally develop a high degree of efficiency. Our own condition contrasts strangely with this. Here the health official is largely influenced by local politics. His pay is absolutely inadequate so that his time has to be devoted largely to other means of livelihood. If he is a physician his work is often done at an actual monetary loss to him. Under these conditions the tenure of office must of necessity be short. To provide this special requisite knowledge some of our leading medical schools are introducing post graduate courses leading to a degree of Doctor of Public Health (D. P. H.). This is a step in the right direction but until these positions are removed from politics and command larger salaries only

few men can be expected to spend the time and money necessary to such special training. In our state two very important steps have been taken toward increasing the efficiency of the town sanitary official. First in order of importance, the legislative enactment making the appointment of the health officer come from the state board of health and thus removing it in a measure from the influence of local politics and second the establishment of these health officers' schools with provision for the paid attendance of every health officer. If good men are selected and can be induced to stay in office and attend these schools year after year they can be made as competent to perform the duties of their office as it is possible for any one without the long technical university training to become. The next important step should be in the way of assuring to these men sufficient pay to make it worth while to remain in office and make sanitation a serious study. This in the opinion of the writer can only be done by making the health officer a county rather than a town official and providing his pay from the state treasury. This should be sufficient to compensate him for his entire time. One such well paid and well trained officer could undoubtedly look after the public health of the county to greater advantage than can the many underpaid town health officers now. We look for this improvement in our public health administration in the not distant future.

It is very much to be regretted that the last Congress did not pass a bill to establish a National Department of Health. It would seem to a casual observer that this government could maintain a Department of Health with as much profit to the people of the whole country as now comes to them from the Department of Agriculture.

It is true that there is now a Department of Health in each state, whose function is to look after the conditions influencing the public health in the state. We believe, however, that the efficiency of these State Boards could be very materially increased if the work could be correlated and directed from a National Department of Health.

There are also many conditions influencing the public health that can only be considered satisfactorily through a national department, for instance, the controlling of the spread of typhoid fever through drinking polluted water of interstate streams. Again, the publication and distribution of bulletins relative to public health would be of immense value in educating people in the fundamental principles of sanitation and preventive medicine; a work similar to this with reference to disease among domestic animals is being done by the Bureau of Agriculture with great benefit to the people.

It must be apparent to any thinking person that there cannot be systematic and satisfactory study of the cause of disease recurring in different parts of the country except through a National Department of Health. Investigations that are now carried on in state or private laboratories could then be made a part of general investigations and the results be published and distributed and become of general instead of local benefit.

The government has now several independent bureaus engaged in health work. These could be administered better and more economically from a common bureau; in fact, we cannot see any disadvantage to the public from having a National Department of Health and we can see many advantages which would result in the way of public health measures and without any expense to the people.

The opposition to this measure has raised the cry of "Medical Trust," setting forth that this

was an effort on the part of doctors of the old school to control the practice of medicine. They have organized "The National League of Medical Freedom" whose function seems to be to convince the public that this measure to establish a National Department of Health will legislate away individual freedom in securing remedial means or agents. This is absurd! The Owen bill was not a bill to regulate the practice of medicine, such a bill would be unconstitutional.

The purpose of the Owen bill was to establish a National Department of Health to investigate disease, enforce such regulations as will tend to promote the public health and disseminate knowledge of sanitation and hygiene.

The opposition to this bill does not come from the different schools of medicine as it has been made to appear in the general press, but from the drug trade. Prominent homeopathic physicians, osteopaths and Christian Scientists appeared before the committees and spoke in favor of the bill. It seems that this measure threatens ruin to some parts of the drug trade—the worthless and harmful proprietary medicines. Those interested in these nostrums are willing to sacrifice the public health that they may continue a money making business in worthless preparations.

Some idea of the money there is to be made in this business can be had from a statement published by the National Association for the Study and Prevention of Tuberculosis, showing that \$15,000,000 is paid annually for fake consumption cures alone. It is not strange that unscrupulous men will use every effort to defeat a measure that may stop their enormous profits; but it is strange that so many intelligent people can be hood-winked by these men into believing that their medical freedom is being taken away, only to be duped again into buying worthless preparations and so be

made to add their contribution to the millions already in the pockets of these men.

Think of the benefit that would come to the people of this country if the \$15,000,000, that is spent annually for worthless consumption cures, were spent annually in building and maintaining sanatoria for the treatment of tuberculosis among the poor.

It is ridiculous to assume that this government would be less careful in administering a Department of Health or have less care in directing measures for improving the health of the people than it now exercises in administering the Department of Agriculture in an effort to promote the general good by controlling disease among domestic animals, etc.

This measure is intended to promote the public health and it is only reasonable to suppose that it would be placed in charge of competent men, regardless of their medical belief. If the object of such a measure should be attained, the work of physicians would be made less in proportion as the public health was improved, but we do not believe you could find a physician who would oppose it for this reason.

The public will come to see the true condition in this matter and, we believe, demand the establishment of a National Department of Health.

NEWS ITEMS.

Dr. F. M. Shook, Medical Corps, U. S. Navy, has been detailed to conduct lecture and laboratory courses at the New York Post Graduate Medical School during the months of August and September.

The twelfth annual meeting of the American Proctologic Society was held at St. Louis, Mo., June 6 and 7, 1910. The following officers were elected for the ensuing year: President, George J. Cook, M. D., Indianapolis, Indiana; vice-president, Jerome M. Lynch, M. D., New York City, N. Y.; secretary-treasurer,

Lewis H. Adler, Jr., M. D., Philadelphia, Pa.; executive council, Dwight H. Murray, M. D., Syracuse, N. Y., chairman, George J. Cook, M. D., Indianapolis, Ind., Louis J. Hirschman, M. D., Detroit, Mich., Lewis H. Adler, Jr., M. D., Philadelphia, Pa. The place of meeting for 1911 will be at Los Angeles, Calif. Exact date and headquarters to be announced later. The following were elected honorary fellows: Mr. F. Swinford Edwards, Mr. W. W. Wallis, and Mr. P. Lockhart Mummery and Mr. W. Ernest Miles, all of London, England. The following were elected active fellows of the society: Dr. Horace Samuel Heath, 320 Temple Court Bldg., Denver, Col.; Dr. Stanley G. Zinke, 222 Fifth Ave., Leavenworth, Kansas; Dr. Granville S. Hanes, Masonic Temple, Louisville, Ky.

The annual meeting of the Addison County Medical Society was held at the Addison, Middlebury, July 10. Dr. B. H. Stone of the State Laboratory of Hygiene at Burlington, was present and gave a paper on "Tuberculosis," which was followed by discussion. These officers were elected: President, Dr. G. F. B. Willard of Vergennes; vice-president, Dr. R. W. Prentiss of Middlebury; secretary and treasurer, Dr. E. H. Martin of Middlebury; librarian, Dr. M. H. Eddy of Middlebury.

At the regular meeting of the Bennington County Medical Society on July 12, 1910, the following officers were elected for one year, beginning Oct. 1, 1910: President, A. E. Houle, Bennington; vice-president, C. W. Phillips, Arlington; secretary, L. E. Hemenway, Manchester; treasurer, F. W. Goodall, Bennington; delegate for one year, L. E. Hemenway, Manchester; alternate, L. H. Ross, Bennington; delegate for two years, C. W. Bartlett, Bennington, alternate, J. B. Woodhull, North Bennington; censors, A. E. Houle, F. W. Goodall, L. E. Hemenway.

The annual session of the Orleans County Medical Society was held at Barton, June 21st, Dr. J. L. Morse of Boston was present and gave a very interesting paper on "The Stools in Infancy." Dr. A. T. Bayin of Montreal gave a very helpful paper on "Empyema of Children." An obituary of the late Dr. F. S. Gray of Troy was read. The following officers were elected: President, Dr. R. M. Wells of Orleans; vice-president, Dr. C. C. Waller of Troy; secretary

and treasurer, Dr. J. C. Colby of Stanstead; censors, Dr. J. F. Blanchard of Newport and Dr. E. M. Cleasby of Orleans; delegates to the State Medical Society, Dr. J. F. Wright of Orleans, Dr. F. R. Hastings of Barton; alternates, Dr. C. C. Waller of Troy, Dr. P. C. Templeton of Irasburg.

Announcement is at hand of the marriage of Dr. Patrick S. Duffy of the medical class, U. V. M. 1906, to Miss Katherine D. Hale. Dr. Duffy is practicing in Ware, Mass.

Dr. Harry M. Hallock of St. Albans city, recently retired from the regular army as a major, has been appointed federal medical director at Hot Springs, Ark. It is contemplated to enlarge greatly and refit the government establishment, and to make it a model in all respects, and this work, together with the medical supervision of the use of the waters and of the conduct of all bathing houses, will be in the charge of Doctor Hallock. The surgeon-general has asked for an appropriation of \$350,000 to expend upon the army and navy hospital, now under command of Major Deshon, so that it is likely that Hot Springs will soon become, in fact it is now called, the Carlsbad of America.

Dr. John A. Peterson, a graduate of the University of Vermont school of medicine in the class of 1896, has been appointed medical examiner of the 5th Plymouth district in Massachusetts. Dr. Peterson practiced medicine in Guilford for four years after leaving college and for ten years has been a resident of Hingham, Mass.

Dr. A. M. Norton of Bristol has been suffering from an infection of the thumb which made necessary an amputation of the first joint.

Dr. Benjamin Ward Barker of Manchester, N. H., has been appointed to the superintendency of the New Hampshire School for Feeble Minded Children, succeeding Dr. C. S. Little, resigned.

Dr. Percy L. Templeton of Montpelier has been appointed by Gov. G. H. Prouty a member of the State board of medical registration in place of Dr. A. E. Parlin of Orleans, resigned.

Dr. S. L. Morrison, U. V. M. 1910, will serve an internship at the Mary Fletcher Hospital, Burlington.

Dr. F. E. Quigley, U. V. M. 1910, will serve an internship at the Fanny Allen Hospital.

Dr. Haven Palmer of Plymouth, N. H., died at his home of Bright's disease in April.

Dr. Dennis J. Carroll, U. V. M. 1910, has accepted a position at the Fanny Allen Hospital.

Andrew Bautista of the class of '10 has returned to his home in the Philippine islands.

Dr. A. J. LaPierre, U. V. M. 1910, will serve an internship at the Haymarket Relief Station, Boston, Mass.

Dr. William L. Bullock has accepted an interne position in Smith's Infirmary, Tompkinsville, Staten Island.

Dr. Sidney M. Bunker, U. V. M. 1910, has secured an internship at the Mary Fletcher Hospital, Burlington.

Dr. Luther J. Calahan, U. V. M. 1910, has secured an internship at the Massachusetts General Hospital Relief Outstation, Boston, Mass.

Dr. Everett L. Chapman, U. V. M. 1910, has secured a position in Smith's Infirmary, Tompkinsville, Staten Island.

Dr. Frederick D. Davis has accepted a position as interne at the W. J. Backus Hospital, Norwich, Conn.

Dr. P. P. Guertin, who has been practicing in Richford for a few months, has returned to his native town, Lewiston, Me.

Dr. E. A. Tobin has moved from Bristol to Bennington, where he has opened an office for general practice.

Dr. E. S. Douglass, U. V. M. 1910, has received an appointment to the resident staff of the Massachusetts Hospital for Epileptics at Palmer.

Dr. D. B. Goddard of the class of 1899, College of Medicine, U. V. M., died in Brattleboro July 13th. Doctor Goddard had been suffering from epilepsy and been at the retreat most of the time since his graduation. His death finally came as the result of cerebral hemorrhage.

A report of the American Medical Association just issued, after an investigation of medi-

cal education in this country covering a period of five years, places the medical college of the University of Vermont in the first class. In the country at large the report states there are only 70 institutions of the first class. The examination of the medical schools was made by a committee of five eminent physicians and surgeons representing each section of the United States. The committee members are: Dr. H. D. Arnold, Massachusetts; Dr. T. D. Tuttle, Montana; Dr. J. A. Capps, Illinois; Dr. James B. Bullitt, Mississippi, and Dr. Hubert Work, Colorado, chairman. Commencing five years ago, the investigation has been most thorough, and the classification of the various colleges has been made only after an immense amount of labor and study on the question of medical education. The first class colleges in New England, according to the report, are the University of Vermont College of Medicine, Burlington, Vt., the Medical School of Maine, Boston University School of Medicine, Harvard Medical School and Tufts College Medical school in Massachusetts, Yale Medical School in Connecticut and Dartmouth Medical School in New Hampshire. There are no second class medical schools in the New England States and but one in the third class. Like the report of the Carnegie foundation, the report of the American Medical Association says that there are too many medical colleges in this country. It advocates the combination of medical schools it numbers in its third class ratings with the second class schools.

Dr. Virgil W. Blanchard died at his summer home in Middlebury, July 30th, from a complication of diseases. He was 79 years of age. He was brought here ill from New York city about five months ago and from that time gradually failed. In his earlier years Dr. Blanchard attained considerable eminence in his profession. While still a young man he practiced for several years in Bridport and later in Weybridge and Middlebury. About 20 years ago he went to New York city and built up a very lucrative practice but after a few years abandoned it in order to devote all of his time to his inventions and to the formation of companies to put them on the market. He was a prolific inventor and it is said that he had obtained patents upon about 200 different products of his brain ranging all the way from typewriters to furnaces.

BOOK REVIEWS.

MEDICAL ELECTRICITY AND RONTGEN RAYS.—By Sinclair Tousey, A. M., M. D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Octavo of 1,116 pages, with 750 illustrations, 16 in colors. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$7.00 net; Half Morocco, \$8.50 net.

A work on this subject is very timely. It is safe to say that ninety per cent of the medical profession know very little about the scientific application of electricity to the diagnosis, mitigation and cure of disease. This book will help this deficiency. The author expresses his appreciation of the impossibility of making a book dealing with a rapidly developing subject up to date yet a thorough treatise like this one will always serve as a foundation for future additions to our knowledge.

INTERNATIONAL CLINICS.—Volume Two of the twentieth series of this valuable publication contains thirty-one articles grouped under the following heads, Diagnosis and Treatment, Medicine, Cancer, Surgery, Obstetrics, Dermatology, Dietetics, Neurology, Miscellaneous Topics and a Medical Homecoming.

A TEXT BOOK ON THE THERAPEUTIC ACTION OF LIGHT, INCLUDING THE RHO RAYS, SOLAR AND VIOLET RAYS, ELECTRIC ARC LIGHT, THE LIGHT CABINET.—By Gorydon Eugene Rogers, M. D., formerly Demonstrator of Anatomy in the University of the City of New York. 382 2nd Ave., N. Y. Price, \$3.50.

The author has presented in a concise manner the results of the employment of the new light rays in therapeutics. In his own words he has aimed to give an unbiased account of treatments coming under his personal observation. He describes a new ray, the Rho Ray first observed and used therapeutically by the author. After describing the various rays the author describes the application of these forces to various disease conditions.

SURGICAL AFTER-TREATMENT.—By L. R. G. Crandon, A. M., M. D., Assistant in Surgery at Harvard Medical School. Octavo of 803 pages, with 265 original illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$6.00 net. Half Morocco, \$7.50 net.

The first part of this book takes up the consideration of the room for a surgical patient, charts, records, etc., the conditions following anesthesia, thirst, pain, hemorrhage, shock,

coma, hiccough, diet, also a general discussion of the conditions and complications which may follow surgical operations in general.

Part two discusses the care of patients after special operations. It also discusses immunization and vaccine therapy and serum treatment for malignant tumors.

It is a carefully prepared work on a very important part of surgery that has been treated superficially until within a few years. It is complete, concise and practical and cannot fail to be appreciated by those having the care of cases after surgical operations.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

CLINICAL SOCIETY OF THE NEW YORK POLY-
CLINIC MEDICAL SCHOOL AND HOSPITAL.

STATED MEETING.

The President, DR. C. G. CHILD, JR., in the Chair.

AMPUTATION OF LEG FOR MELANOTIC SARCOMA, WITH INVOLVEMENT OF BONES OF FOOT AND INGUINAL GLANDS.

DOCTORS J. A. ROBERTSON and M. T. HORAN. Dr. Robertson showed a photograph of the foot as it appeared when first seen, about the middle of June. The condition developed after a traumatism of the right ankle in October, 1908. The right foot and ankle enlarged gradually, until, when Dr. Robertson first saw the patient, the diagnosis was uncertain. The question was to determine whether the condition was specific, diabetic, sarcomatous, tubercular, or a plain osteoma. A section was obtained and sent to the laboratory for examination. At this time there were enlarged inguinal glands, as well as enlargement of the right ankle and foot. The tentative diagnosis was probable sarcoma. The glands of the groin were removed and a section of the bone was excised before the tumor was reached. Dr. Jeffries made sections of these, and the condition proved to be melanotic sarcoma.

A week later amputation was performed below the knee, at the junction of the upper and middle thirds of the leg. A perfect stump was obtained, and the patient has done well ever since. The Forenboeup technic was employed, a transverse incision being made inward, producing a long external flap equal to one and one-half diameters of the leg, transversely. This allows the stump of the bone to be covered with the external and anterior groups of muscles, and permits the anterior external and posterior groups of muscles to cover the tibia and fibula, thus forming a perfect cushion. Since operation the patient has had no pain in the stump.

All of the deep involved glands of the groin may not have been removed, and it is feared that the deep glands of the pelvis may have become involved, so that even now the prognosis is problematical.

The question that now arises is in regard to the treatment. Similar conditions have been cured by

(Continued on page xv.)

HAY FEVER

Adrenalin in its various forms (we think we may say this without qualification) offers to the medical profession its most efficient palliative in hay fever. The preparations here mentioned are widely used, and with marked success in a vast majority of cases:



Solution Adrenalin Chloride

Adrenalin Chloride, 1 part; physiological salt solution (with 0.5% Chloretone), 1000 parts. Powerful astringent and cardiac and vasomotor stimulant. To be diluted with four to five times its volume of physiological salt solution and sprayed into the nares and pharynx (our Glaseptic Nebulizer is an ideal instrument for this purpose).

Once glass-stoppered bottles.

Adrenalin Inhalant

Adrenalin Chloride, 1 part; an aromatized neutral oil base (with 3% Chloretone), 1000 parts. An astringent and emollient. To be diluted with three to four times its volume of olive oil and administered in the same manner as Solution Adrenalin Chloride (above noted).

Once glass-stoppered bottles.

We also supply Adrenalin Ointment and Adrenalin and Chloretone Ointment (collapsible tubes, with elongated nozzles), both successfully used in the treatment of hay fever.

Anesthone Cream

Formula of Dr. J. E. Alberts, The Hague, Holland.

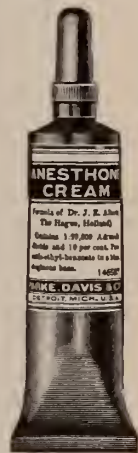
Adrenalin Chloride, 1:20,000; Para-amido-ethyl-benzoate, 10%; in a bland oleaginous base.

In contact with the mucous membrane of the nares, in the treatment of hay fever, **Anesthone Cream** affords marked relief, producing an anesthetic effect that is prompt and lasting. A small quantity (about the size of a pea) is applied three or four times a day, the patient snuffing it well into the nostrils.

Anesthone Cream has been tested by numerous clinical workers, the consensus of opinion being that it affords a practical and satisfactory means of relief from symptoms due to hyperesthesia of the nasal mucous membrane; and the fact that the relief continues for several hours in some cases is worthy of consideration when one remembers the fleeting character of most local anesthetics.

Collapsible tubes, with elongated nozzles.

We also supply **Anesthone Tape** (likewise useful in hay fever), a salvage-edge product, one-half inch wide, impregnated with a 1:20,000 solution of Adrenalin Chloride and 5% soluble salt of Para-amido-ethyl-benzoate, agreeably perfumed. A piece two or three inches long is cut off and inserted in each nostril. Small vials.



PARKE, DAVIS & COMPANY

Laboratories: Detroit, Mich., U.S.A.; Walkerville, Ont.; Hounslow, Eng.

Branches: New York, Chicago, St. Louis, Boston, Baltimore, New Orleans, Kansas City, Minneapolis, U. S. A.; London, Eng.; Montreal, Que.; Sydney, N.S.W.; St. Petersburg, Russia; Bombay, India; Tokio, Japan; Buenos Aires, Argentina.

THERAPEUTIC NOTES.

SUCCESSFUL TREATMENT OF ACUTE GASTRO-INTESTINAL DISEASE COMMON TO THE SUMMER SEASON. by Irwin Hibbs, M. D.—We have long since learned that in a majority if not all of the bowel affections, especially in epidemics with children of a catarrhal diathesis, the cause is primarily hyperacidity followed by undigested fermented food, formation of gas, etc., producing a catarrhal condition of stomach and bowels with auto-intoxication. Such an incubator for bacteria requires immediate attention to avert mortality and I have found Glyco-Thymoline nearly a specific, not only in diseases of this type but in all catarrhal affections.

My first opportunity of acquaintance in the use of Glyco-Thymoline dates back several years. At that time a very malignant epidemic of catarrhal bowel affections with children prevailed through central Indiana. I became eminently successful in treating what we diagnosed as enterocolitis, "cholera infantum," and I kept a tabulated record of many very interesting cases successfully treated, giving Glyco-Thymoline as the curative in each case, and without extending my paper too greatly I can give only a few of the many cases I have before me.

CASE I.—I was called to Edna L., 18 months old, who had been purging and vomiting every few hours for three days. Stools frequent, thin, green, odor very unfavorable and the patient was much emaciated; all symptoms demanding my immediate attention to prevent a speedy collapse.

Treatment—I flushed out the lower bowel by using a 25% solution of Glyco-Thymoline followed with $\frac{1}{4}$ gr. calomel well rubbed into sugar of milk given every three hours until six doses had been given. To check vomiting and to invigorate the patient I administered Glyco-Thymoline in 25% solution, et spirits frumenti 12%, two teaspoonfuls given every two hours until third dose, thus treating danger symptoms, then the Glyco-Thymoline one teaspoonful doses every four hours for two days. Successfully cleansed and removed cause from the intestinal tract, all the while supporting the patient by the above stimulus. As a safety adjunct to restrain stomach and bowels gave bismuth sub. nit., opi. pulvis, creta prep., given every three or four hours as required to control and give patient rest. Patient returned to normal condition, was placed upon a restricted diet and discharged.

CASES II, III, IV and V, July 5th and 6th.—I was called to these four cases as above, ages ranging from four to thirteen months, all being attacked by the usual symptoms of epidemic cholera infantum. Slow circulation, impaired digestion, fermentation, frequent stools, green and offensive with frequent vomiting and prostration.

Treatment.—With the exception of dosage proportioned to the different ages treatment was along the same line. By first eliminating cause, by neutralizing and flushing out the lower bowels by a 50% solution of Glyco-Thymoline, stimulating and treating danger symptoms upon general principles. To check vomiting I administered liberal doses of a 25% solution of Glyco-Thymoline, giving purgative doses of saline laxatives or castor oil to thoroughly cleanse bowels. In conjunction with the above treatment I ordered the discontinuance of all food from the first thirty-six hours. Progress satisfactory from the twelfth to the thirty-fourth hour in every case.

Discharged in from the third to the seventh day of treatment and replaced upon a cautious diet.

CASE VI.—Infant, five and a half months old, had been sick and under treatment for seven days, when I was called to the case and diagnosed the trouble as enterocolitis. The symptoms were truly very unfavorable as the patient was in marked prostration, with discharges from bowels and vomiting ten to fifteen times per twenty-four hours. Pulse 126, temperature 101° F., tongue thick, brown coat, abdomen distended and tympanitic dullness over the spleen, urine highly acid, specific gravity 1027.

Treatment.—First gave a liberal dose of brandy 10%, Glyco-Thymoline 25%, with orders to repeat every hour. Obtained a competent nurse. I had an enema of Glyco-Thymoline 25% thrown high up into the bowel and allowed to remain an indefinite time, which was continued every four hours for forty-eight hours and at the sixth hour I gave $\frac{1}{2}$ gr. calomel well rubbed in sugar of milk, repeating the dose every three hours until four doses had been given. Third hour after last dose followed with a dose of castor oil. All febrile conditions abated. A teaspoonful of Glyco-Thymoline diluted with water was ordered given per stomach in half ounce doses every three hours and to be continued until the fifth day. At this time all symptoms of disease disappeared and the little patient fast recuperated and was withdrawn from further treatment.

I also find Glyco-Thymoline valuable in obstetrical practice, as its use is indicated in all cases as a preventive for and against sepsis, and especially in cases of septicemia due to retained membranes, etc.

In this paper I cannot afford an elaborate report of the beneficial uses of Glyco-Thymoline in obstetrical practice by my experience in its use but I desire to urge that my professional brethren give it a trial. We are so often called to reflect upon the dangerous effects of bichloride of mercury and carbolic acid in gynecological treatments.

Glyco-Thymoline answers the purpose; being an alkaline and non-irritating solution it can be employed in irrigation of the uterus and douching the vaginal canal with perfect safety and efficacy, cleansing all parts of the female genital tract, removing diseased tissues without irritating healthy structures.

NEUROSINE is the standard neurotic, anodyne and hypnotic. Contains no opium, morphine, chloral or other deleterious drugs. Indicated in all neuroses, migraine, hysteria, spermatorrhea, uterine congestion, shingles, opium habit, chorea, neuralgia, asthma, neurasthenia, herpes, delirium tremens, whooping cough, sea-sickness, and all reflex and convulsive neuroses.

AN UNEXCELLED COMBINATION.—Two parts of Divoburnia to one part of Neurosine is par excellent in hysteria, eclampsia, melancholia, female neurosis, uterine congestion, ovarian neuralgias, an efficient diuretic, asthma sexualis, uterine irritability, lumbago, migraine, menopause, menstrual colic, anemic nervousness, nervous prostration, reflex cough, delayed catamenia, non-descriptive cases, subacute rheumatism, relieves all false pains, rheumatic, sciatic pains, neurasthenia from uterine diseases.



GLYCO=THYMOLINE

PROPHYLAXIS—The very nature of artificial foods and cow's milk predisposes to their rapid decomposition. A few drops of Glyco Thymoline added to each feeding corrects acidity and prevents disorders of stomach and intestines.

TREATMENT—As an adjunct to your treatment of summer complaints, Glyco-Thymoline used internally and by enema corrects hyperacid conditions, stops excessive fermentation and prevents auto intoxication. It is soothing—alkaline—nontoxic.

SUMMER COMPLAINT

KRESS & OWEN CO. (SAMPLES AND LITERATURE ON APPLICATION.) 210 FULTON ST., N. Y.

SOLE AGENTS FOR GREAT BRITAIN, THOS. CHRISTY & CO., 4, 10 & 12 SWAN LANE, LONDON, E. C.

THE PALLIATIVE TREATMENT OF HEMORRHOIDS, by H. G. Thomas, M. D., B. Sc.—The connection between the symptoms of the rectum distress and the lesion of hemorrhoids is quite irregular. There may be great complaint with little local change or much varicosity of the hemorrhoidal vein with little distress. The veins returning the blood from the rectum, because of the absence of valves, are easily affected by the position of the body, diet and customs and the functions of the rectum are liable to become altered. The veins dilate, congestion follows with an inflammatory exudate in the tissue and a tumor results. If above the external sphincter it is an internal hemorrhoid; if below the muscle it is an external hemorrhoid. No class of people are exempt from this affection, whether much out of doors or given to healthy exercise, or one of sedentary habits. The distress may be constant as caused by a foreign body, or the sensation of burning and smarting or still again, it may be accompanied by spasmodic muscular contraction of the rectal muscles, but pain is the symptom for which relief is sought, especially in the external variety. Such symptoms are greatly aggravated by long continued sitting, horseback riding, or by errors of diet. In conjunction with the pain in internal varieties the most prominent symptoms are a constant leaking through the anus of a sanguineous discharge from the inflamed mucosa and a tendency toward prolapse.

No other part of the body when diseased yields so readily to treatment. Operations in many instances are unnecessarily hazardous and again many cannot spare the time, or refuse to be operated upon, or the facilities may not be at hand. Palliative treatment in such cases is our only refuge and often results in a cure.

More commonly inflammation exists when the physician is first consulted and prompt relief is desired. It is now my practice to give ten grains of calomel and in a few hours follow with a dose of Rochelle salts. I then direct that a fifty per cent. solution of Glyco-Thymoline (hot) be applied to the piles three or four times daily and that a piece of absorbent cotton dipped in the same solution be applied to the inflamed tumor during the interval. This allays the pain and discomfort almost like magic. I advise a restricted diet and rest. When the tumors are large and much inflamed, first allow the patient to go to bed and apply a large Glyco-Thymoline compress kept warm. This will relieve the congestion and relax the tissues. After this follow with a treatment of Glyco-Thymoline as directed.

If we know one to be predisposed to this trouble, prophylactic measures are to be employed, outdoor exercise advised—eschew highly seasoned food, avoid constipation and prohibit alcohol.

The palliative treatment for internal piles is much the same as given above. The constipation, if it exists, must be relieved and habits regulated. In milder cases three or four drachms of a fifty per cent. solution of Glyco-Thymoline should be injected into the rectum by means of a hard rubber syringe. Here it produces exosmosis, reduces the engorgement, softens the feces and stops pain and bleeding.

The following case history will illustrate my treatment. A livery man came to me with a large protruding internal pile which could not be replaced. They had been down since the previous day. He could not go to bed and was compelled to attend his usual avocation, so he thought. I prescribed calomel with a saline as described, and ordered the inflamed protrusion bathed in a fifty per cent. solution of

Glyco-Thymoline every three hours and a piece of absorbent cotton dipped in the solution and applied to the anus in the interval. I saw him the following morning when I was able to press in the protrusion. Ordered the injection of Glyco-Thymoline as described for internal piles which gave efficient relief. He lost no time whatever from his work, nor has he had subsequent trouble.

Recently a prominent ex-resident physician of the Philadelphia Hospital reported the following cases:

CASE I.—Mr. H. L., a plethoric German, had a very severe case of internal hemorrhoids. Examination by means of the proctoscope was very difficult as the hemorrhoids protruded far into the lumen of the rectum. I put the patient to bed, had his rectum gently irrigated every four hours with hot Glyco-Thymoline solution and applied hot gauze compresses of Glyco-Thymoline to the same. In two days he was able to follow his occupation and a continuation of this treatment for one month as well as the patient could accomplish it has resulted in much relief and comfort. In addition to the Glyco-Thymoline the bowels were kept mushy with sulphur and small doses of podophyllin and leptandrin were given for the hepatic torpor.

CASE II.—Miss J., age 21, had been the subject of rectal pain for one year. Examination showed a very spasmodic and irritable condition of the sphincter with some internal hemorrhoids. She had used suppositories of witch hazel, belladonna, aristol, opium, etc., without relief. Three injections daily of Glyco-Thymoline for two weeks entirely removed the irritability and pain, with reduction in the size of the hemorrhoids.

CASE III.—Mrs. K., age 47, since the beginning of the menopause had been afflicted with internal hemorrhoids which gave rise to such pain that she had to lie down for about an hour after each act of defecation. Neither hot nor cold water applications had given her any appreciable relief. She was instructed to inject Glyco-Thymoline into the rectum as hot as could be tolerated after each stool. In two days the pain disappeared but recurred in about a week. A continuation, however, of the treatment has kept her from having further trouble since.

It has been my experience that Glyco-Thymoline is especially indicated in those cases where the patient refuses operation and also in incipient cases of hemorrhoids where the symptoms are as yet not aggravated. In any case, however, no matter how severe, Glyco-Thymoline has been a most valuable remedy in my hands.

A TISSUE NUTRIENT FOR THE SUMMER.—Ofttimes during the summer, the physician is put to his very wit's end to find a tissue nutrient for his tubercular and debilitated patients; one that will agree with them during the hottest weather. Cord. Ext. Ol. Morrhuæ Comp. (Hagee) by reason of its palatability and the ease with which it is assimilated, is the ideal agent of this character not alone in the summer but at all other seasons.

THE TRUE NERVE CALMATIVE.—The remedy *par excellence* in restlessness of fevers, producing natural sleep. *Neurosine* is almost a specific in *Epilepsy*.

(Continued from page 208.)

infection with streptococci, erysipelas or prodigious bacilli, according to Coley's method, and the speaker had not yet decided whether to so infect this case. Dr. Wyeth and others have reported a number of cases successfully so treated, some abdominal sarcomas involving the joint, where there has been absolutely no return of the condition. If the induration which can now be felt deep in the pelvis continues to enlarge, the advisability of using the infection method of treatment will have to be considered. Under careful observation, it has appeared to grow smaller.

OPERATION FOR VENTRAL HERNIA FOLLOWING OPERATION FOR APPENDICITIS.

Sixteen years ago this patient was operated on for appendicitis, and a large ventral hernia at the site of operation followed. Up to last January the hernia had gradually increased in size and continually produced symptoms of abdominal cramp, pain and marked constipation. Dr. Robertson first saw the case in December and advised the patient to enter the hospital. A perfect cure was not promised, as the hernia was almost as large as a head, the largest the speaker had ever seen. The patient was wearing over the affected area a very thick pad which held a mass of intestines and omentum into the abdominal cavity. The incision extended from the pubes to above the right anterior superior spine. The sac, when reached, was found to contain almost the entire small intestine, and was irreducible. The sac was dissected out thoroughly, going to the outer side. The intestines were adherent, and about 4 pounds of omentum were removed. The small intestines were returned to the abdominal cavity. The fibres of the rectus were found, and some of these fibres were transferred into the atrophied fibre of the obliques at the side of Poupart's ligament. Altogether, about a hundred stitches were made. The fibres were transferred and the tissues lapped as well as possible, an attempt being made to get the disorganized muscles and fascia into some shape. For six or seven weeks the patient was strapped with adhesive plaster and kept on the flat of his back, not being allowed to turn over or sit up. Even up to a short time ago adhesive plaster was kept around the body and as a result of keeping this dressing on for six months after the operation, there is a perfect union.

DISCUSSION OF CASE OF MELANOTIC SARCOMA.

Dr. F. M. Jeffries said that he did not understand whether or not the inguinal glands were actually involved by the sarcoma, and he did not remember the facts.

Dr. Robertson replied that the inguinal glands were very much enlarged, and were removed, as was also a section from the ankle, and both were sent to the laboratory, and were reported as melanotic sarcoma.

Dr. Connor inquired about the action of the scarlet red, whether it was not similar to methylene blue and other aniline salts used several years ago, being administered by mouth for the purpose of sterilizing the urine in cases of suppuration of the kidney and bladder? It was thought that these preparations inhibited the growth of bacteria.

Dr. Yeomans said that he used aqueous solutions of methylene blue in rectal and perirectal ulcerations of a chronic tuberculous type, and found that it acted

ERGOAPIOL
(Smith)

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as an astringent and antiseptic, and often heals when nothing else is effective.

CASE FOR DIAGNOSIS.

Presented by Dr. F. C. Yeomans. Dr. Yeomans said that some of those present had perhaps seen the patient at the time of operation. The patient is 33 years old, and the only pertinent fact in her family history is that her father died of carcinoma of the tongue at 56. Health always good until present condition arose. She was married at 15, and one year later had a healthy child, which died at 6 years of age. Subsequently she had a miscarriage at the eighth month, due to a fall.

Ten years ago she began to be constipated and developed a stricture of the rectum. Seven years ago this was operated upon, and she got along for two years with the aid of bougies. Five years ago the stricture was dilated under anesthesia, and again, four years ago, it was divided, but when she came to me in August last the condition was worse than before, and not even the tip of the finger could be inserted.

On the 24th of August a resection of the rectum was done, the lower five inches being removed by the same method employed in cancer of the rectum, preserving the sphincter as far as possible. The patient had occasional rises of temperature when the sinus back of the rectum did not drain properly. The wound, however, is doing very well, and is now

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W. Hayes Mitchell, M. D. Sheldrake, N. Y.

nearly healed. The sinus was injected today with bismuth paste. The finger can now easily be passed into the rectum and the bowels act normally.

She was up three weeks after the operation and then developed a sudden ascites. About two weeks ago she felt the binder to be tight, and from that time the ascites developed very rapidly. Last Friday four quarts of typical ascitic fluid were drawn, and the next day five quarts, since when she has been feeling well. The speaker said that he would be very glad to have the gentlemen present examine the patient's abdomen and determine, if possible, the cause of the ascites.

The speaker had desired to determine the extent of the rectal disease, as bearing on the operation, and for that reason had done a preliminary laparotomy. An examination of the peritoneum at that time disclosed evidence of tuberculous peritonitis. There was some adhesion of the tube on the left side, but it did not resemble sarcoma, carcinoma or papilloma of the ovaries or tubes, so those must be ruled out. The liver is small, if at all abnormal; the urine is normal, and there is no heart lesion.

There was some question as to the nature of the growth, but Dr. Jeffries' opinion, confirmed by Dr. Ewing, was that it was luteic, and that may enter into the cause of the ascites. There is no question of malignant growth.

DISCUSSION.

Dr. Beal said that the case was a very interesting one. A great many etiological factors could cause the ascites. He inquired whether there had been any temperature since the operation.

Dr. Yeomans replied that there had been no temperature immediately after the operation, but there had been a little off and on since. The temperature had been as high as 104 degrees for a day or so. There had been no pain.

Dr. Beal said that the condition might be caused by obstruction of the veins of the abdomen, a septic condition of the liver or a cirrhosis. In the very brief examination he had made, he was inclined to think the condition due to cirrhosis of the liver, for while apparently small, the liver is very low, the upper border being at the seventh rib, and yet the liver is three fingers' breadth below, and there is the

true feeling of cirrhosis. More than that, there is an involvement of the spleen. A specific liver might have involvement of the spleen, but there is a smooth, sharp edge running across the liver, which has no one point of involvement, but extends evenly all the way across.

EXTENSIVE SPECIFIC DESTRUCTION OF THE UVULA AND SOFT PALATE.

Presented by Dr. D. S. Dougherty. The speaker said that this patient had come into his clinic with a history of initial lesion eleven years ago, at the time of the Spanish-American War. He was treated at irregular intervals for two years, and was then declared cured. About six months ago he had a small sore in his mouth, which healed rapidly. He then noticed a slight perforation in the soft palate, but was not treated, and since the uvula and soft palate have disappeared there is ulceration of the posterior wall of the pharynx and on the lateral walls of the roof. He also has a perforation of the septum of the nose, and altogether, is in very bad condition. He applied for treatment not so much on account of the extensive destruction as on account of the change in his voice. He also has an ulcerative specific laryngitis. On the left side the gummatous ulceration has broken down and there is entire destruction of that side of the larynx. The case is interesting only because of the extensive destruction occurring in so short time, eleven years after infection. He has no septum at all.

He will be put in the ward at the City Hospital and given active treatment, but what hope is there of accomplishing anything? He will have proper constitutional antispecific treatment, and local treatment consisting of a 50 per cent. black wash frequently, and perhaps a strong solution of nitrate of silver once a day, but of course the lost tissue cannot be restored. The question of ability to wear an artificial hard palate remains to be settled after treatment.

The case hardly admits of discussion, but is interesting because such a condition is rarely seen in private practice; because the initial lesion occurred so many years ago and the patient, after having received fairly constant treatment for nearly two years and being discharged as cured, finally broke



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down so rapidly. He claims it is only six months since he found any mouth or throat symptoms.

DISCUSSION OF DR. BAINTON'S PAPER.

Dr. Henry Heiman said that he had listened to the paper with great interest and was very glad to note that early in the disease Dr. Bainton had laid stress upon the appearance of the stools. That is one of the most important points that can be brought out in a discussion of this kind. No diarrhoea should be treated until one has a good description of the stools, or, better still, can see them, for much depends on their consistency, color, odor and the presence of blood or mucus.

In treating this disease we must have a clinical classification—inflammatory or non-inflammatory. Cases of diarrhoea that depend on mechanical causes, irritations, drugs, etc., are not included in this discussion. We are speaking of true enteritis cases, brought about by heat, humidity, bacteria, etc. They might even be called infections. We have not been able to isolate many specific bacteria which can be held responsible for summer diarrhoea.

When mucus or blood is seen in the stools, attention should first of all be given to the rules laid down by Dr. Bainton. Most physicians follow them today, but one point should be especially emphasized, as it cannot be repeated too often; an ordinary case of diarrhoea, involving the entire intestinal tract, where there is blood and mucus in the stools, cannot be cured in two or three days. That is very important. The speaker said that he had seen castor oil, colon irrigations and all the astringents known, calomel, etc., administered, under the impression that they would control the diarrhoea in a few days. All such hopes will prove disappointing. A cold in the head is a similar parallel—no matter what is taken for a severe rhinitis, it is going to run its limited course of ten or twelve days, sometimes longer. Similarly, when we have a case of diarrhoea, it is necessary to impress upon the parents the fact that it is going to last for two to six weeks before it is entirely cured, for it is an inflammatory condition, caused by some bacteria. We know that certain streptococci may cause a streptococcic enteritis; we know that they will also produce an ileo-colitis. A great many bacteria have been isolated and some have been held responsible, but not all have been identified. We must make up our minds that we cannot check an enteritis any more than we can check a pneumonia. Much can be done in a preventative way, by giving the patients pure milk, as free from bacteria as possible, giving them food which will not decompose, and in this way do much to prevent the occurrences of the intestinal diseases.

In regard to treatment, one point may be suggested. After the patients have started to take

water, it is Dr. Heiman's habit to put them on whey. This is minus proteids to a large extent, and it is also minus fats, and in the way it is ordinarily prepared the clot is not separated after it is once formed; after the addition of the tablet or the essence of pepsin, the clot is not broken up, for it will hold many globules of the fat. It is then strained, so as to get the serum of the milk, so to speak. This is diluted with barley water. After this the babies are given skimmed milk and then gradually led up to other foods. Dr. Heiman was glad to note that Dr. Bainton did not use many broths, etc., for they will aid in the development of bacteria.

The cases must also be differentiated clinically—first, ordinary catarrhal enteritis: these may be gastritis, gastro-enteritis, etc., according to the part attacked; then we must differentiate from ileo-colitis, formerly called dysentery, due to the amoeba or streptococcus or shiga bacillus. Another form of intestinal infection is cholera infantum. That is an extremely severe infection, beginning with a high temperature, and the children look sick—that particularly impresses one. Sometimes the temperature will rise to 105 in these cases. There is very little mucus or blood in the stool, and the stools are very small and serous in character, almost watery. These children are poisoned, and have an auto-intoxication or an intestinal intoxication. Such cases must be treated differently from the ordinary enteritis: stimulate them, give them hot baths and rectal infusion or hypodermoclysis if necessary. With all this there is much trouble in saving these cases, and the mortality is very high.

Then, it is necessary to differentiate between the inflammatory and non-inflammatory type—whether we are dealing with ordinary dysentery or cholera infantum. This sums up clinically the varieties of enteritis usually seen.

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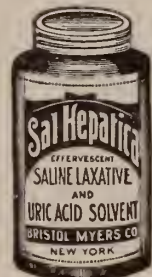
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Dr. Bopp said that he could substantiate Dr. Bainton's work. He had observed 10 or 12 cases treated on skimmed milk, and had very good results provided the mother followed the instructions properly. He had not had good results with Nestle's Food, which had proved anything but satisfactory.

Dr. Bainton, in closing the discussion, said that he had given whey in the past, and had failed, but he did not know why at that time. He knew there was fat in it, but did not know then that it was so harmful. Now he knows that if we exclude fat by the method suggested by Dr. Heiman, we have a proteid and a carbohydrate, and he can see no objection to the whey. The objection to Nestle's Food or any other similar preparation is that when prepared to represent mother's milk according to the directions given on the packages, they have 12 to 13 percent. of carbohydrates, which is fermentable in the small intestines, and in that large quantity is productive of much harm. He has not used malt soup in enteritis, but has used it in healthy infants, who were on proper food, but were not gaining sufficient weight, in order to change the carbohydrate to maltose. If you add the malt extracts and thus change the sugar, sometimes there is a more rapid gain in weight.

A LEGAL DECISION OF INTEREST TO YOU.—United States Circuit Court, District of Kansas, Third Division. *The Denver Chemical Mfg. Co., Complainant v. Colorado Chemical Company, Defendant.*—"This cause coming on to be heard in the United States Court House at Kansas City, Kansas, on the 26th day of January, A. D. 1910, the parties having agreed that it be there heard instead of in the Third Division, Mr. Wetmore appearing for the complainant and Mr. Jones for the defendant, upon the testimony in the case and due consideration having been had, it appears that the complainant is entitled to have a decree in accordance with the prayer of the complaint and it is hereby ordered, adjudged and decreed that the defendant, its officers, attorneys, servants, agents, workmen and employes and each and every of them be and they hereby are restrained and enjoined from selling, offering for sale or advertising or procuring the sale of, any medicine or preparation under the name of "Denver Mud," whether printed or in any manner inscribed, so that the words "Denver Mud" shall appear upon the wrapper of or advertisement of the defendant's said preparation, or upon the letter-head or other papers used by the defendant in its communications with the public or the trade in connection with its said preparation, or printed, written or inscribed in any manner whatever, or from representing, directly or indirectly, or furnishing others with the means of representing, directly or indirectly, that any preparation made or sold by the said defendant, its attorneys, servants, agents, workmen or employes, is the preparation and proprietary medicine made and sold by the complainant as aforesaid and known to the trade and to the public as "Denver Mud" as well as "Antiphlogistine," either by selling the same under any name so closely resembling the name "Denver Mud" as to be calculated to be mistaken therefor, or from violating the rights of the complainant hereinbefore set forth, in any manner whatsoever.

And it is further ordered, adjudged and decreed that the defendant deliver up any and all labels, advertisements or circulars and any and all cans or

packages of the defendant's preparation having labels or wrappers with the said words "Denver Mud" printed upon them, as aforesaid, to be destroyed, and that a writ of injunction issue in accordance with this decree and it is further ordered, adjudged and decreed that the complainant recover from the defendant the profits made by the said defendant from the sale of the plastic dressing mentioned in the complaint under the name of "Denver Mud" and that the complainant recover from the defendant its damages to be assessed as the court may direct and that the defendant pay the complainant the costs of this suit to be taxed.

Dated this 3rd day of February, A. D. 1910.

JOHN C. POLLOCK, Judge.

United States of America, District of Kansas, ss.

I, Geo. F. Sharitt, Clerk of the aforesaid Court, do hereby certify that the above and foregoing is a true, full and complete copy of the Order in the within entitled cause, as the same remains on file and of record in my office.

In Testimony Whereof, I hereunto sign my name and affix the seal of the said Court at my office in Fort Scott, in said District of Kansas, this 4th day of February, A. D. 1910.

GEO. F. SHARITT, Clerk,

By C. B. WHITE, Deputy Clerk.

(Seal)

EXPLANATORY.

Early in the history of the Denver Chemical Mfg. Co. our sole product, Antiphlogistine, was nicknamed Denver Mud and for many years has been known and sold under that name.

The merit of our product, years of indefatigable labor, and the expenditure of vast sums of money have created a world-wide business, which has led many individuals and firms to manufacture imitations of Antiphlogistine, and within recent years a few firms have been manufacturing and selling a plastic dressing under the name of Denver Mud, frequently misleading purchasers, who, in calling for our product under its nickname, have not received the original preparation.

In view of this, we brought suit against the Colorado Chemical Co. of Chanute, Kansas, which has recently been decided. A great amount of testimony was taken in St. Louis, Kansas City, New York and other parts of the country, defendant's counsel attending the cross-examining complainant's witnesses. After contesting the case to its conclusion no reason was presented by defendant on final hearing, why a decree should not be entered in this company's favor, and, on the testimony, a decree was granted accordingly. By the perusal of this decree which you will find opposite, you will see that we have been granted all that was claimed in our bill.

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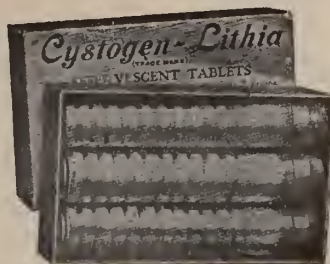
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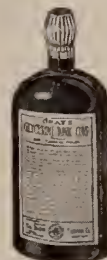
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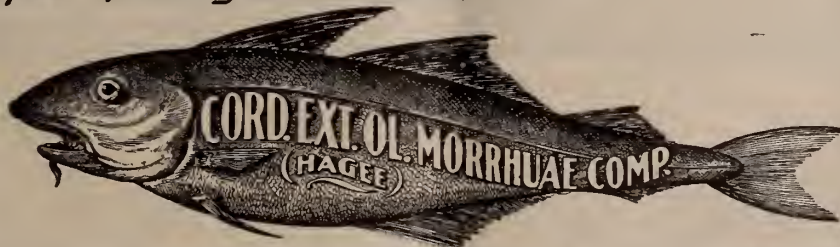
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reverse is also true, that biologic research is throwing new light on the clinic and on pathology.—*Munchener medizinische Wochenschrift*.—*Kentucky Med. Jour.*

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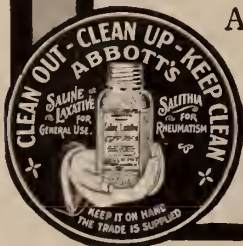
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A lady member of the Club wrote us that she stood in line with thirty-one other ladies to be welcomed by the hostess, who kissed each one as they appeared. When it came her turn, she pushed the end of her tie aside, and brought into full view the motto KISS NOT, saying "I belong to the W. H. O. and our motto is KISS NOT." Before our member went home the hostess had joined the Club, and given her name to be recorded on our book of Life and Health, and henceforth wore one of our buttons.

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ORIGINAL ARTICLES.

CARCINOMA.*

BY

H. C. TINKHAM, M. D.

It is not my purpose in presenting this paper to give you a monograph on the subject, for carcinoma presents so widely varying conditions and is found in so many parts of the human body that each part affected might well be made the title of a paper if the subject was to be discussed fully and in detail.

The number of cases of carcinoma that come to the surgeon too late for operation is so appalling, and the responsibility of an early diagnosis rests so largely with the general practitioner, that it is my desire to bring this subject to the attention of physicians so that if possible an early diagnosis may be made in a larger number of cases.

There are many general phases of carcinoma which are applicable to the disease regardless of its location and it is of these general conditions that I wish to speak rather than to give a detailed discussion of the various forms of the disease. In preparing this paper I have made use of all literature which was available in addition to my own experience.

I think it is generally concluded that cancer is much more prevalent than it was fifty years ago. Some observers state that it is four times as common as it was then. This alarming increase in the disease, together with the fact that we are still as ignorant of the cause of cancer as we were then, should stimulate the liveliest interest in the subject on the part of every physician.

The prevalence of cancer as compared with other diseases is more common than is usually supposed. The United States census for 1907 gives cancer as causing 4.5% of all deaths, this is practically the same percentage of deaths that is caused by apoplexy; Bright's disease

causes 6.4%, violence 7.6%, heart disease 8.6%, pneumonia 9%, and tuberculosis in all its forms 11%. Cancer then causes one-half as many deaths as either heart disease or pneumonia, and only lacks 1% of causing one-half as many deaths as tuberculosis in all its forms.

Carcinoma is a malignant disease arising in epithelium. There are two general varieties of epithelium, the squamous which serves as a covering, and the calumnar or secretory. This naturally gives two general varieties of carcinoma, one arising from the squamous epithelium and called squamous cell carcinoma, and the other arising from the calumnar epithelium and called calumnar cell carcinoma or adeno-carcinoma.

Carcinoma may arise from any epithelial surface, the most common locations, however, are the stomach and intestinal canal, the uterus and the female breast. Osler states that 50% of all cancers originate in the stomach and that from 75% to 85% of all cancers are located in the digestive tract including the rectum.

Keen's statistics of death returns show that in over one-half of the deaths ascribed to cancer the primary seat of the disease was in the digestive tract, and by far the largest part of these were located in the stomach. Of the three organs most commonly affected the female breast is the first in order of frequency, the uterus second and the stomach third.

The small intestine is very rarely the seat of carcinoma but the large intestine is a very common location of the disease especially the sigmoid flexure and rectum. Possibly an explanation of this is that the small intestine is the organ of proteid digestion and if cells from a carcinoma reach this epithelium they are promptly digested instead of finding lodgment and opportunity for growth, while the large intestine has little or no power of digestion and could not destroy cells in this way if they were carried to it. It is strange that the pylorus should be so common a location of the disease and that the ilio-cecal valve is almost never involved.

The cause of carcinoma is still a mystery.

The theory of Cohnheim that tumors and cancers arose from unutilized fragments of tissue in the development of the body, due to some

*Read before the Conn. River Valley Medical Association, at Bellows Falls, Vt., May 3, 1910.

embryonic irregularities, has neither been substantiated nor altogether discarded.

The theory that cancer is caused by a special germ has stimulated an immense amount of investigation and research along this line but as yet nothing has been discovered to substantiate the theory, and a like result has been the reward of those who have advanced the theory that cancer is due to some altered condition in the cell, independent of a special germ.

There is a tremendous amount of research work being done in investigating the cause of cancer and it is not at all improbable that before long the cause of this dread disease will be found and its prevention and cure will be understood. Until then it behooves us as physicians to do the best we can to relieve the misery and pain and hopelessness of the advanced cases, and strive harder to recognize the disease in its early stages when it is amenable to cure.

There is no question that carcinoma is at first purely a local disease and consequently there is a period during the early progress of the disease when it can be removed with a reasonable probability of a permanent cure.

As the disease progresses it becomes disseminated to other parts of the body, this is the result of the transportation of cells through either the lymph or blood vessels, or by the process of permeation.

It is obvious that when the disease has been transplanted into organs more or less remote from the primary lesion, or has involved adjacent tissues by permeation to any great extent, it has passed the stage when operative interference promises anything except possibly some palliation of the trouble.

Unfortunately the early symptoms of carcinoma in all locations are practically wanting. It produces neither pain nor discomfort, consequently patients, as a rule, do not seek advice for the disease until it is well advanced and the possibility of a cure is very small. Carcinoma occurs much more frequently between the ages of forty and fifty, although no period of life is exempt.

The question of heredity is beset with so many difficulties that it is still an open question, with the majority of opinion against it. The possibility of the transplantation of cancer is well established but its contagiousness is not accepted.

The first symptom of carcinoma that can be recognized is induration. This may be recognized early in the breast, uterus, rectum or about the face if opportunity for palpation is had, but it is a very difficult matter when the viscera are involved.

Any induration of the cervix, the wall of the rectum, the lip, tongue or any tumor in the breast should be regarded with suspicion, and when we remember that carcinoma is a disease with a fatality of 100% and that the only time when an operation promises a cure is in the early stage of the disease, we are forced to the conclusion that a radical operation early is more conservative, even if we occasionally remove innocent tissue, than to wait until a positive diagnosis is possible and the disease has progressed beyond the reasonable expectation of a cure.

The removal of a section of the indurated tissue or tumor for microscopical examination has its advantages and also its disadvantages. If the section removed presents the histologic picture of carcinoma the diagnosis is positive and all question in regard to the advisability of an operation is removed. On the other hand, if the examination of the section removed does not give the characteristic picture of carcinoma we cannot be absolutely sure that carcinoma does not exist in other parts of the indurated area. And again, to cut through carcinomatous tissue opens up blood vessels and lymphatics and materially increases the danger of the disease being carried to other parts of the body and beyond the possibility of a cure.

When a carcinoma of the lip is suspected, or any tumor exists in the breast, there is no excuse for deferring a radical operation as the operation on either of these parts is practically devoid of danger and is followed by slight if any deformity or impairment of function. Radical operations on the uterus and rectum are attended with greater danger and it might be well, if there was any doubt in regard to a diagnosis of malignant disease of these organs, to remove a piece for microscopical examination before doing a radical operation. Still, it must be remembered that a histologic picture of carcinoma may not be present in every part of the growth. Microscopical examinations must be regarded as a part of the clinical picture, an important part to be sure, but not necessarily conclusive taken alone.

When the disease is well advanced the diagnosis of carcinoma in any part of the above mentioned organs is very easy. Then it is not a question of diagnosis but of what if anything can be done to relieve the condition and make life more endurable while it lasts.

Diagnosis of carcinoma of the stomach is very much more difficult and in all cases of uncertain gastric trouble examination of an Ewald's test meal should be made. It is advisable to make repeated examinations before coming to a positive conclusion. The diminution or absence of free hydrochloric acid, together with the presence of lactic acid, in the stomach contents is evidence in favor of cancer. Sometimes an X-ray after bismuth subnitrate has been given furnishes additional evidence.

In all cases of uncertain gastric trouble where the symptoms are suggestive of malignant disease, I believe it is conservative surgery to do an exploratory operation, an opening only large enough to admit one or two fingers to palpate the stomach to determine the presence or absence of thickening at the pylorus or elsewhere is all that is necessary. It is advisable to have the necessary preparations made for going on with the radical operation in case malignant disease is found. To wait until a tumor can be palpated through the abdominal wall is to lose the favorable time for radical operation.

There is plenty of evidence that the results of early operations for carcinoma of the stomach are followed by as satisfactory results as are the early operations on other carcinomatous organs. It is generally conceded by both medical and surgical authorities that early and thorough removal of the carcinomatous tissue, together with the lymphatics and lymph glands that receive lymph from the affected regions, is the only treatment that offers any hope of cure. The earlier the operation the better are the chances of a cure. The question of the advisability of doing a radical operation in fairly advanced cases of carcinoma is very pertinent. When the chances of cure are small it may be a question whether it is advisable to subject the patient to the risk of a serious operation, but, in view of the hopelessness of these cases if left to themselves and also to the fact that a considerable number of them are made more comfortable and their life prolonged by operation, it seems to me an advisable procedure and one that I always rec-

ommend, except perhaps in the last stages of the disease.

It is well to explain the situation to the patient or to some of the family and let them decide for themselves.

In inoperable cases, or where carcinoma recurs after operation, it is possible many times to do a great deal to make the patient more comfortable. The X-ray seems to have more effect on carcinoma which has recurred following an operation than on the primary lesion, its usefulness is confined to superficial lesions, it usually relieves pain very decidedly, often retards the growth of the tumor and sometimes causes the tumor to grow smaller and ulcerated areas to heal.

It seemed probable for a time that the X-ray was to be an efficient means of treating carcinoma especially when the disease was located superficially, but the results of long and careful experimentation with it have been disappointing and the opinion of the majority of observers is that very little may be expected in the way of cure from its general use. In inoperable cases of carcinoma of the breast a small percentage are made decidedly better by performing double oöphorectomy, in some cases the disease has entirely disappeared after this operation, in others it has been checked, but in the majority of cases it has had absolutely no effect. Inoperable cases of carcinoma which are located in accessible places may sometimes be retarded and occasionally extensive ulceration healed by the thorough use of the cautery, removing as much of the diseased tissue as is possible and thoroughly burning the parts that cannot be removed.

The treatment of malignant disease with the toxins of the streptococcus of erysipelas and the bacillus prodigiosus introduced by Dr. Coley of New York, seems to have some effect in retarding the growth of sarcoma and is worthy of a trial in inoperable cases, but it is practically useless in the treatment of carcinoma.

It is evident that little or no advance can be made in the treatment of carcinoma until we understand the conditions that cause it, and when we do it is not unreasonable to expect similar conditions of prevention and cure to those now existing with tuberculosis.

In conclusion I want to urge more careful examinations with reference to the possible existence of carcinoma with the view of making

earlier diagnoses and obtaining earlier operations, for without present knowledge of this disease an early operation offers the only escape from a horrible condition of hopeless misery.

CHRONIC PARENCHYMATOUS NEPHRITIS

BY

J. S. HORNER, M. D.

Definition: Chronic parenchymatous nephritis is a chronic inflammation of the kidneys, including glomeruli, tubes, arteries and connective tissue, accompanied by a persistent exudation of blood serum and dropsy.

There have been described a great many classes of chronic Bright's disease, based upon anatomical changes both macroscopically and microscopically demonstrable; but all the varieties of chronic Bright's disease, whether characterized by large white, small granular fatty, mottled or small red kidneys; whether the inflammatory processes are predominant in the glomeruli, tubes, stroma, or arteries, while presenting all stages of inflammation or degeneration varying in degree and severity in different parts of the organ and merging the one into the other, show but two distinct clinical pictures, one in which the inflammatory and degenerative processes are confined principally to the stroma and in a less degree to the tubes, glomeruli, etc., and rarely showing albumen or dropsy; the other in which the inflammation and degeneration are confined more especially to the tubes, glomeruli, etc., and in a less degree to the matrix, and rarely showing ABSENCE of albumen or dropsy. In other words whatever the inflammatory changes in the kidneys, only two clinical pictures are produced, one accompanied by the exudation of serum from the blood vessels during nearly the whole course of the disease, the other without such exudation, except at intervals.

It is chronic parenchymatous nephritis, or nephritis with exudation of blood serum from the blood vessels that is considered in this paper. The morbid anatomy of chronic parenchymatous nephritis as shown in a careful study of the literature bearing upon the pathological changes taking place in the kidneys, varies with the subject, with the length of time the disease has run, and varies inexplicably.

For while we may have a large number of cases presenting the same clinical picture a careful examination of the kidneys after death may show no two of them alike in their gross or minute pathological changes. We may find the large granular fatty kidney, sometimes yellow, sometimes mottled red and white with non-adherent capsules, the increase in size being principally in the cortical portion, or the large ivory white kidney with non-adherent capsule and smooth surface twice its normal weight or the so-called small granular fatty kidney, small because its tubes have collapsed after losing their epithelium: also kidneys of different sizes, large, medium and small, with adherent capsules. In fact there are about as many kinds and varieties of kidneys following a chronic parenchymatous nephritis as there are observers and subjects, but no matter how different or varied the kidneys may be after death, before death they are all clinically alike. So it would seem that the going into the morbid anatomy would be of little or no practical use to us as practitioners of medicine.

The Etiology: Chronic parenchymatous nephritis frequently follows the acute form. Syphilis and tuberculosis are responsible for many cases. It is more common in males than females. My cases covering a period of ten years have been in the proportion of 11 males to 2 females, or rather 100% of males, as the females have the chronic interstitial form instead of the disease under consideration. Beer and alcohol have been put down as causes of chronic Bright's disease. This disease is more common in males than females and probably the majority of sufferers from this trouble drink, or have drunk, more or less spirits or beer. So it would seem to me that the following proposition would not be unreasonable: the majority of the sufferers of Bright's disease have drunk more or less beer or alcohol; the majority of people who do not have Bright's disease have drunk more or less beer or alcohol. The conclusions to be drawn are obvious, namely, a person who has Bright's disease is just as liable to have been a user of alcoholic liquors as one who has not Bright's disease. From my own experience, and my observation of the experiences of others, I am compelled to believe that indiscretions in diet do more harm physically than indiscretions in the use of any of the various alcoholic beverages. But of the cases that

come on insidiously in a previously healthy person, what is the cause? The only answer I can give is that it is either unknown—a result of nutritive disturbances—or trauma. Where the lesion is confined to one kidney as occurs in many cases the cause is apt to be trauma of some kind, stones, displacements, or direct injuries, although it would be within reason that irritating substances in the blood might affect a kidney predisposed to infection.

Symptoms: There are five symptoms that are always present at some period of the disease, albumen, dropsy, anaemia, casts and heart weakness, and of these the albumen, dropsy and casts are always present. The urine varies in quantity and albumen content in different stages of the disease: That of the acute form is apt at first to be scanty and sometimes above the normal specific gravity, though generally between 1012 and 1022. The quantity of urea is apt to be diminished, and it is to this that most of the convulsive seizures can be traced. The dropsy is early manifested and inclined to be general, but in those cases that go on for a number of years there is a remission in these symptoms, the urine becomes increased in quantity, the aversion to food is diminished, the appetite becomes more normal, the dropsy gradually lessens, and the patient can sleep, but there is always a relapse. When the disease is primarily chronic, about the first symptom noticed is a frequent desire to urinate, dyspeptic symptoms come on, the patient grows thin, pale and feeble, and at first while the urine is scanty and highly colored, later is more abundant and less colored. At about this time or later the hypertrophy of the heart which has been gradually coming on, ceases to be compensatory and then there is general dropsy from two causes. Casts are always present although there are times when the albumen may not show. The diagnosis is not difficult: With nearly colorless urine of low specific gravity, persistently albuminous, with dropsy, casts and the history of the case, one readily makes a diagnosis of chronic parenchymatous nephritis. There is one diagnostic point which at times is exceedingly valuable, especially to a physician of any considerable experience, and that is the patient's personal appearance, which is characteristic but not plainly describable; it seems to be different from the cachexia of other chronic diseases, though per-

haps one is biased by the albumen and dropsy. Chronic parenchymatous nephritis might in exceptional cases be mistaken for the chronic interstitial form, but an examination of the urine for a length of time and absence of dropsy soon show the true nature of the trouble. The nervous symptoms I will only mention as occurring, as it would require a separate paper for their discussion. I would like to mention in this connection, however, that it has always been a mystery to me why the optic nerve should be the principal victim in chronic nephritis in preference to any other nerve. I mean those cases where the optic nerve is primarily the sufferer and not where the neuritis is secondary to a retinitis.

Prognosis: Has always been unfavorable. With various remissions covering a longer or shorter period it is a progressively fatal disease. In my eleven cases of chronic parenchymatous nephritis only one died of uraemic coma. Ten out of the eleven have died. One is living, age 72, having had the disease five years. In all the fatal cases life was prolonged and made comfortable, all dying in the so-called last stages of the disease. Of the ten fatal cases: One died of uraemic coma, five of pleurisy or pneumonia, two died suddenly after an indiscretion in diet, one from overstrain of the heart, living about four hours, one during an attack resembling asthma.

The treatment of this form of Bright's disease taxes the patience of both the doctor and patients. Barring neurasthenia this is about the most unsatisfactory disease I am called upon to treat. The only hope we have of treating these cases is the prolongation of life sometimes for many years, and the rendering of the patient more comfortable. To accomplish this, waste material should be kept washed out of the kidneys, the kidneys aided by keeping the other organs toned to their highest pitch, general nutrition carried to its highest plane of efficiency, and the urgent symptoms treated as they arise. Digitalis during the stage of scanty urine, either alone or in combination, given for its diuretic effect, is probably the best remedy we have, and later when the hypertrophy of the heart ceases to be compensatory, it can be relied on to prolong the life from one to three years more or less. Calomel and blue mass are of the highest value in stimulating the functions of the liver, kidneys, and digestive system. Hydrogogue

cathartics or pilocarpine should be used only in emergencies. Dropsy of the serous cavities should sometimes be drawn with an aspirator. The headache and insomnia are relieved by bromides and codeine, or chloral and morphine cautiously used.

Delafield¹ says, "morphine and chloral should only be used when the arteries are contracted." Nitroglycerin given 1/100 of a grain every three or four hours as needed is most used for the relief of the high tension that comes on at intervals in the course of the disease. I would say that nitroglycerin may be given to a person with contracted arteries threatened with apoplexy in doses of 1/100 of a grain every three hours for two or three weeks with benefit. Chloral and iodide of potash are also used. There has lately been an agitation started against the use of large doses of digitalis, five minims being considered a large dose and ten minims an excessive dose; that frequently one, two or three drops of tincture digitalis acts as favorably as larger doses is probably true, but that sometimes five, ten, fifteen or twenty drops at a dose are needed is also true, as has been proven to me many times. In one of my cases referred to above, I first saw the patient in January, he was in the so-called last stages of Bright's disease, pulse exceedingly fast, feeble and intermittent, patient sat in the chair with his head on his arms on the table in front of him, had been unable to lie down since election day in November preceding, for two days had been without food or medicine, his family having been told that further medication was useless as his death was only a matter of a few hours, but as he lingered along for two days I was called in to see him. I prescribed a mixture of tincture digitalis containing a dram of digitalis to the ounce, a teaspoonful containing about ten drops, directed one or two teaspoonfuls as needed every three or four hours, the first two doses were one teaspoonful or ten drops repeated in three hours, then he was given twenty drops every four hours. It was twenty-four hours before he reacted to its influence, when he went to bed and was able to lie down for the first time in nearly three months, he was directed to take enough to keep himself comfortable. Some days he would only take a half a teaspoonful at a dose and at other times he would take a dose of two teaspoonfuls then reduce to one or one-half teaspoonful again. In connection with this he was given a

sixtieth grain of strychnine every four hours, after about a month he was able to get along occasionally for a week on the strychnine alone, but always had to fall back on the digitalis; this happened in January, and the patient lived till June of the following year, comparatively comfortable. This action of digitalis I have observed in a number of my other cases after the heart became unable to perform its work itself. I have not had enough experience with digitalis and aconite combined to venture an opinion as to their proper use. The remedies which are periodically lauded as a sure cure of this disease are many. Every once in about so often an article is published by some physician telling how he has cured this terrible disease. Of these remedies and their advocates I will only say that the most charitable view I can take in view of my own experience and the experience of those in whom I have confidence is that the physicians must have mistaken a remission for cure, and that the medicines which will cure chronic parenchymatous nephritis have not been satisfactorily proven. Nitroglycerin as an arterial dilator and digitalis as a cardiac stimulant are most used and have been in my cases with gratifying results. As to diet—milk diet is the choice of the majority of writers, as to my experience I would say that the diet of a certain case of Bright's disease which seemed most beneficial was any food that that certain patient could assimilate, as with babies, while one food agrees with one, another kind will agree with another. I have been able to follow the majority of my cases from nearly the beginning to the end and have found a judiciously selected mixed diet decidedly more beneficial than an exclusively milk diet. In a brief retrospective glance at the prognosis and treatment of this affection it appears that while we can alleviate the suffering or prolong the lives of these patients for three or more years, we cannot cure them; that chronic parenchymatous nephritis in spite of any or all medicines is remittently, a progressively fatal disease. There is one other point in relation to treatment that should not be passed, that is, that while in justice to ourselves we should inform the patient's relatives of the true nature of the disease, we should only hold out to the patient words of hope and encouragement. As the laity are fully cognizant of the fatal character of this disease a patient should never be informed that he has it, as the simple

knowledge that he has Bright's disease will surely make his life shorter and less comfortable. There is one method of treating these cases and only one at this present day that holds out a possible hope to sufferers from chronic Bright's disease. With this treatment I have had no personal experience but the emiaence of the physicians who make the claims render a passing notice compulsory. In 1895 Reginald Harrison² of St. Peter's Hospital, London, was on the right track when he said, in alluding to the inflammatory changes in the secreting texture of the kidneys commonly called chronic parenchymatous nephritis, "I have met with more than one instance where an albuminuria of some standing disappeared after an unsuccessful exploration of the kidney for stone. In 1892 Edebohls in operating for movable kidney complicated with chronic Bright's disease was surprised to find that after the operation the Bright's disease was cured in three out of five cases, although the operation was undertaken for an entirely different affection. On January 10, 1898, Edebohls³ performed the first operation purposely undertaken for the cure of chronic Bright's disease. The cure was radically effected. In April, 1899, Edebohls⁴ published an article proposing to treat chronic Bright's disease by operation. On May 4, 1901, the same surgeon in the *Medical Record*, page 691, advanced the proposition to treat all cases of chronic Bright's disease surgically. On Dec. 21, 1901, *N. Y. Medical Record*, page 962, the same author furnishes a table of 18 cases of chronic Bright's disease (some of the parenchymatous form) treated surgically; there was no mortality from the operation, and all but two of the 18 patients were alive when the cases were published, one dying from operation for ruptured tubal pregnancy one year after the operation for Bright's disease, and the other succumbing to operation for hysterectomy 8 years after operation. The operation of renal decapsulation is performed by Edebohls for the purpose of increasing the supply of arterial blood to the diseased kidneys. It is claimed by others that whether the operation be renal puncture, cleavage or decapsulation the relief of tension afforded is an element in the cure, that increased intrarenal pressure on account of the swelling inside the firm fibrous capsule interferes with the circulation of blood and secretion of urine and that cutting open the capsule re-

lieves the tension thereby ameliorating the symptoms; on the other hand, J. A. Schmitt⁵ claims that where the kidneys have been operated on directly for the cure of chronic Bright's disease the outcome has been a failure. He bases his opinion on the possibility that Edebohls was wrong in his diagnosis of unilateral inflammation and that time enough had not elapsed since the cases were operated on when they were published to give them any statistical value. That a man like Edebohls should be mistaken in the diagnosis of 18 cases of Bright's disease in most of which his diagnosis was confirmed by other physicians is possible but not probable, one reason being that this disease is diagnosed from its clinical manifestations and not from the post-mortem examination, the autopsy merely confirming a careful diagnosis. That he was mistaken in his unilateral cases in calling one kidney healthy from a macroscopic examination is possible but as the cases were cured by operation on the kidney he diagnosed as the seat of the lesion it is immaterial whether he was mistaken or not. If the surgeons are correct or even in a degree right, this method of treatment should receive our careful consideration and impartial investigation, since it holds out the only promise of the cure of a disease from which more than a hundred thousand persons die each year.

The literature on this subject is within the reach of all and it is our duty to ourselves and our patients to give the evidence contained therein our most careful study.

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A HOSPITAL FOR AMERICANS IN PARIS.—Mr. White, our Ambassador and M. Boumergue, the French Minister of Education, recently opened a hospital of twenty-five beds at Neuilly, in a garden of fine old trees. Patients are not compelled to pay, although it is expected that those who are able to do so will give a definite amount each week. Among the subscribers to this excellent enterprise were John H. Harges, J. J. Hoff, Helen Gould, J. P. Morgan, W. K. Vanderbilt, W. E. Corey and Clarence Mackay.—*Exchange*.

THE OWEN BILL FOR THE ESTABLISHMENT OF A FEDERAL DEPARTMENT OF HEALTH, AND ITS OPPONENTS.

BY

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Anyone who is familiar with the workings of governmental departments of health such as exist abroad, who has seen or experienced the sanitary benefits bestowed upon the people by the Reichs-Gesundheitsamt of Germany (Imperial Department of Health), the Conseil Supérieur de Santé Publique de France, and the similar institutions of most European governments, cannot help feeling amazed that any opposition should exist to the establishment of a federal department of health in this country. This amazement becomes all the greater when one considers some of the elements of which the opposition to that measure is composed. There is, for example, the *New York Herald*, a large and influential newspaper with an honorable career and a brilliant record for advocating everything that is conducive to the public welfare. Only in this particular instance has it allowed itself to become the mouthpiece of principles to which it is in general opposed, that is to say, principles and measures whereby the good of the people at large and the progress and welfare of mankind are hindered, and the lives of individual American citizens endangered. This particular newspaper is independent of any political party, or professional or religious association which might prejudice its point of view, and still it opposes a measure whereby all citizens of the country would benefit. The writer cannot help thinking that this powerful news organ has not informed itself thoroughly of the real purpose and function of a federal department of health, and in its attack upon a large body of men such as compose the American Medical Association, the American Public Health Association, the National Association for the Study and Prevention of Tuberculosis, the American Association for the Advancement of Science, and the various medical academies of the country, it is certainly misguided. It is to be hoped that the distinguished editors of the *New York Herald* will soon see that in their

attitude toward the Owen bill they are not on the side of the people but are working against the welfare and interests of the masses.

The principle of the Owen bill, establishing a Department of Health, has been endorsed by the President of the United States, by General George M. Sternberg, Surgeon General of the Army (retired) and Rear-Admiral Charles F. Stokes, Surgeon General of the Navy, by General Walter Wyman of the Public Health and Marine Hospital Service, by Dr. Harvey W. Wiley of the Bureau of Chemistry, by Governors of States, by the Conference of State and Territorial Boards of Health, by the United Mine Workers of America, by the National Grange, by the Republican and Democratic platforms, and by numerous other organizations.

What is the principle of this bill which is advocated by thousands of men trained in medicine or sanitary science and interested in the public welfare?

Section 7, which embodies the main purpose of the Owen bill, reads as follows: "That it shall be the duty and province of such a Department of Public Health to supervise all matters within the control of the Federal Government relating to public health and to diseases of animal life."

Section 2 of this bill deals with the unification under a Secretary of Public Health of the various agencies now existing which affect the medical, surgical, biological, or sanitary service.

There has recently been formed an organization which calls itself "The National League for Medical Freedom." It has for its purpose to combat the Owen bill; it is opposed to the establishment of a Federal Department or Bureau of Health. The name of this organization is certainly, if not intentionally, misleading. It cannot claim to battle for medical freedom, for there is not a word in the entire bill which could be interpreted as limiting the practice of medicine to any particular school. Their claim that the establishment of such a bureau of health would have any resemblance to a medical trust is entirely unfounded.

The life insurance and industrial insurance companies which advocate this bill certainly have no desire to limit medical freedom or to repress any system which offers the chance of lengthening human life. These companies do not favor medical partisanship, and their sole

interest is to prolong the lives of their policy-holders by whatever means possible. Their actuaries state specifically that they believe human life could and would be lengthened by the establishment of a Federal Department of Health.

Lee K. Frankel, Ph. D., representing the Metropolitan Life Insurance Co., is a member of the Committee of One Hundred, appointed by the American Association for the Advancement of Science to further the propaganda for the establishment of such a department. Neither the above mentioned great newspaper nor any of the leading spirits of the "National League for Medical Freedom," all of whom, I regret to say, have allowed themselves to ascribe the worst motives to the members of the Committee, will deny that the names of the officers of this Committee show that it is thoroughly representative of the highest type of American citizenship. The officers of the Committee of One Hundred are:

President: Irving Fisher, Ph. D., Professor of Political economy at Yale University.

Secretary: Edward T. Devine, Ph. D., LL. D., Professor of Social Economy, Columbia University, and Secretary of the New York Charity Organization Society.

Vice-Presidents are:

Rev. Lyman Abbott, D. D., LL. D., Emeritus Pastor of Plymouth Church, Editor of *The Outlook*.

Jane Addams, A. M., LL. D., Founder and Headworker of the Hull House Settlement; Ex-President of the National Conference of Charities and Correction.

Felix Adler, Ph. D., Professor of Political and Social Ethics, Columbia University; Leader of the N. Y. Society for Ethical Culture.

James B. Angell, A. M., LL. D., Professor of Modern Languages and Literature and President Emeritus of the University of Michigan.

Joseph H. Choate, LL. D., D. C. L. (Oxford), Diplomat and United States Senator.

Charles W. Eliot, A. M., LL. D., President Emeritus of the University of Harvard.

Rt. Rev. John Ireland, LL. D., Archbishop of St. Paul.

Ben B. Lindsey, Judge, Reformer and Author, Denver, Colo.

John Mitchell, President of the Labor Union of America.

Wm. H. Welch, M. D., LL. D., Professor of Pathological Anatomy, Johns Hopkins University.

Need I say anything in defense of the Committee of One Hundred after having given the names of its officers?

Direct and most unkind comments, not to use a strong term, have been directed especially against one vice-president of the Committee representing the medical profession. I refer to Dr. Wm. H. Welch, M. D., LL. D., President of the American Medical Association. Those who know Dr. Welch and even those who only know of him, would justly think it absurd if I should see the need to say even a word in defense of this master of medical science. To us it is indeed difficult to understand that there could be any man or woman in this land capable of speaking ill of Dr. Welch. There is no name in the medical world which is more honored in this country and abroad, no medical teacher more admired, no one who has a larger following than this Johns Hopkins professor of pathology, and no physician more beloved and looked up to as representing all that is best and noblest in the profession than Dr. Welch. If there is any man in the American medical profession who is unselfishly devoting his high intelligence, his time, and his means to the public welfare, it is Dr. Welch. Gladly do we acknowledge him as our leader.

To accuse the president and members of the American Medical Association of selfish motives in advocating the establishment of a Federal Department of Health is absurd. If there ever was an unselfish movement inaugurated, it is this one. It is a movement by physicians for the reduction of disease which *ipso facto* means a movement against their financial interests.

The writer is a member of the regular profession; he nevertheless would not wish for a moment to limit the freedom of any citizen to choose his physician from some other school or cult, providing the individual assuming the function and responsibilities of a physician had the training necessary to prevent him from endangering the life of his patient by lack of medical knowledge or skill.

The official mouthpiece of this "National League for Medical Freedom" is Mr. B. O. Flower who had heretofore the reputation of a fighter for everything involving the spiritual, social and physical progress of humanity, and

it is inexplicable to many of his admirers how he can lead a movement opposed to the improvement of the health of the nation. The vast majority in the ranks of this so-called "League," though they may be well meaning, noble, and earnest, are not men and women who have toiled patiently for years in order to acquire the thorough scientific medical training which enables one to assume that great responsibility of the care and treatment of the sick. They are unable to appreciate the inestimable value of federal help in preventing disease. These people are blindly following certain individuals who designate the regular profession as a medical trust, and accuse the thousands of noble men and women who are devoting their lives to the alleviation of human ills of a desire to monopolize medical practice. The establishment of a federal department of health would mean pure food, pure medicine, control of plagues and epidemics, the advancement of medical science and through it the improvement of the health and increase of material wealth of the nation. It is said that many of the individuals opposing the Owen bill are commercially interested in the manufacture of drugs or patent medicines, of which latter the American people swallow about \$200,000,000 worth annually. Whether it is true or not that the National League for Medical Freedom is backed financially by drug manufacturers and patent medicine concerns, I am not prepared to say; yet even these men have nothing to fear from a Federal Department of Health if the drugs they put on the market are pure and the claims made for patent medicines do not delude the public or endanger its health. The element which clamors most loudly for medical freedom is composed in many instances of men and women who have attended one or two courses of lectures or got their "degrees" without any training at all, and have developed into "doctors" and "healers" in a most remarkably short space of time.

Because the American Medical Association has always advocated thorough medical education, is pleading constantly for pure drugs, is opposed to quackery, patent medicines and nostrums, its 40,000 members are considered a medical trust. Yet it is in the ranks of this very American Medical Association that are found the greatest number of unselfish devotees to preventive and curative medicine. It is

among this association that are found the men who have added the greatest glory to the medical and scientific reputation of this country. America's greatest surgeons—Marion Simms, Gross, Sayer, O'Dwyer, Bull—were members of this association. McBurney, Jacobi, Stephen Smith, Welch, Osler, and Trudeau have graced this association by their membership for nearly half a century. The heroes in the combat against yellow fever—Reed, Lazare, and the hundreds of others who have devoted their best energies and knowledge and often sacrificed their lives for the sake of medical science were members of the American Medical Association.

One of the most illustrious members of the American Medical Association is its former president, Col. William C. Gorgas of the U. S. Army, Chief Sanitary Officer at Panama, an adherent to the regular school. It is thanks to the genius, the scientific and thorough medical training of Dr. Gorgas that the formerly deadly Isthmus of Panama has now become as sanitary a region as any. A great patriotic enterprise, important to commerce and the welfare of nations, was made possible by this man. He has labored and is constantly laboring for the establishment of a federal department of health because he knows the inestimable benefit which such a department would bestow upon the nation.

Whatever advance has been made in medical science in America or in Europe has been made by scientifically trained men or by physicians not without but within the ranks of the regular profession. The greatest benefactors of mankind are those who diminish disease by prevention and cure. As another illustrious example of medical benefactors, may I be permitted to cite that great trinity of scientific giants who through their labors have accomplished so much in reducing disease and lessening human misery in all parts of the globe? They are Pasteur of France, Lister of England, and Koch of Germany; all of them aided their governments by direct participation in the governmental health departments. We are still mourning the death of perhaps the greatest of the three—Robert Koch. I do not believe that there is, even in the camp of our opponents in this so wrongly called "League for Medical Freedom," a single intelligent individual who will deny the inestimable benefits which Koch will deny the inestimable benefits which Koch has bestowed upon mankind through his dis-

covery of the germs of tuberculosis, of cholera, of the spores of anthrax, of tuberculin, and through his many other equally important scientific labors. Yet, had it not been for the Imperial German Reichs-Gesundheitsamt, which is the equivalent of the institution we are striving for—a Federal Department of Health—Koch never would have been able to devote his life, energy, and great genius to those important discoveries through which thousands of lives have been saved in all civilized countries during the past few decades. It was while working in this governmental institution, which is doing exactly the work the Owen bill asks the Federal Department to do, that Koch discovered the tubercle bacillus and the bacillus of cholera. Because of the discovery of the coma bacillus, we no longer have those fearful cholera epidemics which formerly decimated our own and other countries. This disease can now be easily diagnosed and by proper quarantine its mortality can be reduced to a minimum. And what shall we say of the progress that has been made in the fight against tuberculosis because the Federal Department of Health of Germany enabled Koch to do research work and thus discover the bacillus of tuberculosis to be the primary and only direct cause of the disease? As director of the Hygienic Institute and member of the Reichs-Gesundheitsamt he inaugurated that wonderfully effective campaign against tuberculosis whereby the mortality from this disease in Germany has been reduced to nearly one-half what it was prior to the discovery of the tubercle bacillus.

Under Koch's inspiration and guidance and in the same institute many great scientific discoveries of incalculable value to humanity were made. Foremost among them are the works of Ehrlich, one of Koch's most celebrated pupils, who recently gave to the world a new remedy which promises to prove a specific in an affliction from which mankind has suffered for centuries.

As co-worker in the Kaiserliche Gesundheitsamt and the Institute for Infectious Diseases, affiliated therewith, we must also mention Behring, the discoverer of the anti-diphtheritic serum. Thanks to the discovery of this serum thousands of young lives are now saved which would formerly have fallen victims to the terrible disease known as malignant diphtheria. This was made possible by the opportunity given

to the workers in the Reichs-Gesundheitsamt and Imperial Institute for Infectious Diseases.

Can there be any better argument in favor of the establishment of a Federal Department of Health?

GALL-STONES.*

BY

E. H. ROSS,
St. Johnsbury.

The two chief constituents of gall-stones are cholestrin and bilirubin calcium.

The origin of these substances has now been definitely settled. Much careful work has established the fact that they are derived from the mucosa of the gall-bladder; that for their production certain alterations are necessary such as slight inflammation with desquamation of the epithelium. Commonly, therefore, gall-stones are found in the gall-bladder. Those found in the ducts, even the hepatic or intrahepatic ducts have in most cases migrated there from the gall-bladder though they may form in the ducts primarily.

The slight forms of cholecystitis necessary to the formation of gall-stones may be produced by the injection of chemical irritants into the gall-bladder or by the introduction of bacteria. It was formerly considered that the bile possessed mild but important antiseptic properties. It has been proven, however, that bacteria can be cultivated in normal bile though their growth is less rapid than in broth. Normal bile in animals and man is sterile.

The bacteria most often concerned in the production of gall-stones are the bacillus coli and the bacillus typhosus.

The streptococcus pyogenes and the staphylococcus pyogenes aureus rarely cause gall-stones, because of the very severe cholecystitis usually resulting from their invasion of the gall-bladder.

These bacteria gain access to the gall-bladder commonly in one of two ways: first, along the common duct, from the duodenum, second, by the blood current, chiefly from the portal vein.

So long as the bile remains normal and its passage unobstructed no bacteria can enter the gall-bladder from the duodenum, but as soon as

*Read before Caledonia County Medical Asso., July, 1908.

an obstruction occurs and stasis results then there is an immediate invasion of micro-organisms.

From these facts and many experiments we must conclude that gall-stones are most commonly the result of infection of the gall-bladder rather than of any constitutional diathesis.

While gall-stones have been found in the foetus, the cases which present themselves to us for consideration are most commonly between the ages of 30 and 70. Women are much more often affected than men.

Gall-stones are present in approximately 10 per cent. of all bodies examined on the post-mortem table. Naunyn writes, "On an average every tenth human being, and of elderly women, perhaps every fourth, has gall-stones."

In the great majority of cases these stones have not caused symptoms of enough severity to cause their recognition during life.

The principal symptoms of gall-stone disease are pain and colic, nausea and vomiting, jaundice, fever and tumor.

Pain is either local or referred. Localized pain is of two types: a dull aching pain, due to increased tension and inflammation, limited to the gall-bladder; and an acute, almost intolerable pain which results from more intense infection and a more widespread inflammation.

The dull localized pain is usually due to a slight degree of irritation and inflammation. The pain is diffused over a large area along and below the margin of the liver. Tenderness is not specially marked. The best way of bringing out this tenderness is well expressed by Dr. J. B. Murphy, who writes, "The most characteristic and constant sign of gall-bladder hypersensitiveness is the inability of the patient to take a full inspiration when the physician's fingers are hooked up deep beneath the right costal arch below the hepatic margin. The diaphragm forces the liver down until the sensitive gall-bladder impinges upon the examining fingers, when the inspiration suddenly ceases as though it had been shut off. I have never found this sign absent in a case of calculus or in infectious cases of gall-bladder or duct disease."

Frequently, however, the liver tenderness is only shown by a rigidity of the abdominal muscles more marked upon the right side and best observed in the upper part of the rectus.

This variety of pain is frequently confounded with that due to diseases of the stomach. It is often worse after eating and is almost invariably relieved by vomiting. The more severe the pain and the greater the tenderness, the more acute and extensive is the inflammation indicated.

The referred pain is almost always associated with the localized pain. It radiates to the right scapular region, occasionally to the left; to the neck or down the arm and to the epigastric region.

Boas describes an area of referred tenderness increased by pressure on the right side, behind, on a level with the twelfth dorsal vertebra, two or three finger breadths from the spine. No tenderness is found at a corresponding point on the left side.

The extreme agony of a patient suffering from gall-stone colic is a familiar picture to us all. Moynihan says of it, "An attack of colic or spasm is caused only by an over-exertion, of the nature of cramp, of the muscular wall of the gall-bladder or ducts in the onward passage of a foreign body. It is never found as a result of a gradually increasing distension of the gall-bladder or ducts; it is not aroused by inflammation, whether acute or chronic, in any part of the bile tract; it is not found in cicatricial stenosis, nor in those cases in which a gradually increasing pressure is made upon the ducts from without. It is due to the sudden blockage of the ducts and to their exaggerated muscular efforts to rid themselves of the foreign body. It occurs only when this foreign body is in transit."

Since many stones never leave the gall-bladder to enter the ducts the symptoms of colic, while very characteristic are much less frequent than those of localized and referred pain already mentioned.

Nausea and vomiting. These are among the commonest manifestations of gall-stones. In most cases the feeling of deadly sickness and the vomiting which follows it are due to the impaction of a stone in the cystic duct. In the relaxation following the vomiting the stone frequently drops back into the gall-bladder and relief is secured.

Jaundice. Is a rare symptom of gall-bladder disease. It is due to an impacted stone in the common or hepatic ducts or infection of them.

Fever. This is due to infections caused by gall-stones. The rise in temperature is very abrupt and its fall equally so. Between attacks of infection the temperature is normal or nearly so. In severe cases a chill may occur. The range of temperature is from 101 to 104 degrees. One attack frequently follows another at irregular intervals.

Tumor. Tumor of the gall-bladder is due to blocking of the cystic duct by a stone, by enlargement of a lymphatic gland or by torsion or flexion at the neck of the gall-bladder. It may result from pressure on the common duct from enlargement of the head of the pancreas. Rarely it may be due to a very large number of stones. Tumor of the bladder is usually easy to recognize.

Differential Diagnosis. Gall-stone disease should be distinguished from gastric and duodenal ulcer, inflammation of the pancreas, appendicitis, diseases of right kidney especially calculus, or Dietl's crisis, lead colic and affections of right pleura or lung.

Most difficult is it to differentiate between gastric and duodenal ulcer and gall-stone disease. Patients are apt to refer all troubles in this location to the stomach and ask to be treated for indigestion. The pain in almost all cases of gastric ulcer and duodenal ulcer bears some relation to taking food. It comes on one, two or three hours after eating, and does this day after day.

The pain of gall-stones comes often during the night and bears no relationship to food. The pain of gastric ulcer has its seat in the epigastrium. Gall-stone pain is to the right of the median line.

The important fact to keep in mind is that many patients come to us complaining of indigestion. We give them some "stomach remedies" and let them go, when closer inquiry would bring out localized and referred pain and tenderness and nausea and vomiting during the attack without any reference to ingestion of food. Inquiry may also bring out a history of an attack of colic with or without jaundice and fever.

Treatment. Treatment of gall-stones once formed and causing trouble is purely surgical. Medicine is of no effect on the stones themselves though it may relieve in a measure the attendant catarrh and bring about an improvement for the time being. I will not describe the technique of operation but will simply say

that its results are highly satisfactory to patient and surgeon alike. In this connection a brief history of a case which came under my care a short time ago may not be amiss.

The patient, a woman about 45 years of age, came to me in the first instance saying that she did not feel well, had little appetite, food did not digest well, thought she was bilious and needed a spring tonic, etc. I prescribed for her and she came back two or three times reporting quite decided improvement. She then left town for the summer and upon her return in the fall I found that she had been ill a great part of the summer. She had had two attacks of indigestion—so-called—attended with soreness and pain in right side. After these attacks she would be unable to stand straight because of a pulling sensation in the neighborhood of the gall-bladder. There was also tenderness in the back about the level of the 12th rib and some tenderness over McBurney's point.

She did not like the idea of an operation especially as I told her I could not positively say whether the appendix or the gall-bladder was the offending organ.

So we tried medical measures for two or three months longer. Finally operation was decided upon and I opened the abdomen to find a normal appendix, but a gall-bladder adherent to nearly all the surrounding organs and full of gall-stones. Two were about the size of small hazel nuts and were firmly pocketed in the cystic duct. The remaining 224 were small, not larger than grains of rice. Immediately her indigestion vanished and she has been able to eat anything and everything since. Recovery was uneventful.

RELATION OF LABORATORY EXAMINATIONS TO THE DIAGNOSIS OF TUBERCULOSIS.*

BY

B. H. STONE.

When asked by your secretary to give you something this afternoon on tuberculosis I rather thoughtlessly consented to do so. If I had taken longer to consider the matter, I am quite sure I should have declined. Any talk on a subject concerning which so much has

*Read at the July meeting of the Addison County Medical Society.

been written and said in the last few years, seems almost superfluous. I will try, however, to give you some suggestions in reference to the aid which a laboratory examination can give in the diagnosis of this disease which may possibly emphasize some points which I suspect are often confused and misunderstood. In doing this, I shall attempt to place such methods of diagnosis in their proper relations to other methods rather than magnify them.

We naturally think when we mention the laboratory diagnosis of this disease, of a search for the specific organisms in the sputum. Of course this is the way in which the laboratory can more often than in any other, give aid to the clinician. I am, however, inclined to think that there is considerable misconception even among medical men regarding the results of such examinations. To properly weigh the value of a positive or negative examination of the sputum for tubercle bacilli, we must bear continually in mind, the pathology of the disease. This resolves itself largely into the histology of the tubercle. The specific germ gaining entrance to the body through the respiratory or digestive tract or more rarely through the skin, usually finds its way to the lymph gland nearest to point of entry. Here it may give rise to an inflammatory reaction which may result in the death of the organism, thus ending the infection, or in the breaking down of the gland, or still again, the germ may pass through the gland without leaving any appreciable evidence of its sojourn there. This latter course is probably most often the case, the bacillus being only temporarily stopped in the gland and the reaction there being so slight, as to be unnoticed by the patient. Finding its way into some resting place in the most susceptible tissues, it immediately exerts its irritating effect and stimulates on the part of the fixed tissues of the locality, a reaction. The result of this is the formation of the tubercle which shows admirably the local manifestation of the phenomena of infection and immunity. The body in an attempt to isolate the germ, prevent its spread and localize the infection, produces the familiar aggregation of leucocytes and increased growth of connective tissue, tending to produce a wall around the focus of infection. The germ on its part and by its actual irritating and poisoning effect, causes the death and necrosis of the cells immediately adjacent to it and we

see soon, the beginning of cheesy degeneration. If the germ is more vigorous than the resisting tissue cells, the tubercle gradually enlarges in size until (if this location be the lung) it breaks into some air vesicle or small alveoli and discharges its necrotic material into these passages. It is to be borne clearly in mind that tubercle bacilli do not appear in the sputum until this stage is reached. In other words, until the patient is in the third stage of tuberculosis, considered from the history of the individual tubercle. Thus when bacilli are found in the sputum, the case can hardly be said to be incipient. It is possible for a case of tuberculosis in which there is a simultaneous infection of a large portion of the lung to go on to death, without the presence of tubercle bacilli in the sputum. Cases of tubercular pneumonia and rapidly progressing miliary tuberculosis do frequently follow this course. These are cases in which a large number of bacteria are thrown out at one time into the circulation, probably by the breaking down of some gland and the discharge of its contents into the blood vessels. This fact was forcibly drawn to my attention early in my career as a laboratory worker. The very first patient whose sputum was examined at the Laboratory of Hygiene was a case of this kind and the man died of tuberculosis without ever showing tubercle bacilli in the sputum. On the other hand in a far larger class of tubercular patients, the focus of infection is at first small, consisting possibly of a single tubercle which may go on to the breaking down stage and discharge its contents, leaving a cavity no larger than a buck-shot before any other portion of the lung is involved. In this class of cases the finding of tubercle bacilli in the sputum may be and usually is the first positive evidence of tuberculosis. Unfortunately, lesions of so small an extent are not usually accompanied with subjective or objective symptoms sufficient to attract the attention of the patient or physician and it is only after infection has spread by contiguity or auto-infection from the primary focus that such an examination is thought of. When we remember that the temperature upon which so much reliance is made in the early stages of this disease is largely a question of mixed infection which only takes place after the commencement of cavity formation we see more clearly how this is so. I have recently had called to my attention two cases in which the

physical signs are absolutely negative but which show the presence of large numbers of tubercle bacilli. In both of these cases the examination of the sputum was made by the merest chance with no real idea on the part of the physician in charge of the case that it would show tubercle bacilli. Thus we must remember that the failure to find these germs in the sputum of suspicious cases is by no means absolute proof of the absence of the disease but simply means that the sputum examined contained none of the necrotic material from a breaking down tubercle. The presence of the germ on the other hand is the best possible evidence of the existence of the disease but gives us no clue to its extent.

As you all know many cases of tuberculosis begin with a history of pleurisy with effusion. Here again a laboratory examination may and should be of great value. The question to be decided in such a case is whether the condition is a pyogenic infection or an infection with the tubercle bacillus. The effusion usually takes place before any ulceration of the pleura occurs, consequently the demonstration of the tubercle bacillus in such an exudate is difficult and uncertain. But we have other means of determining its nature which are almost as valuable as the demonstration of the presence of the germ itself. In the first place the absence of pyogenic bacteria (pneumococcus, streptococcus, staphylococcus, etc.) is negative evidence that the exudate is tubercular in origin. Secondly a pyogenic infection is always associated with the presence of a large number of polymorphonuclear leucocytes. In other words it is purulent, while the exudate from a tubercular infection shows the presence of no increase in cells or an increase limited to the lymphocyte type of cell. Some one of these distinguishing characteristics is universally present so that I feel that I am not over-stating the matter when I say that a laboratory examination will always determine the nature of a pleural exudate. If it can not be determined by rapid methods, we can always fall back on animal inoculation.

What I have said regarding a pleural exudate is true of a cerebro-spinal fluid and the nature of the material drawn by lumbar puncture from this cavity can in a majority of cases be readily ascertained. In fact a macroscopic examination will usually exclude a pyogenic infection and prove by process of elimination that the menin-

gitis is of tubercular origin. This is due to the fact that a pyogenic infection will invariably produce a fluid varying from a visible cloudiness to almost pure pus, while the tubercular meningitis results in an accumulation of fluid which is to the naked eye clear.

Tuberculosis of the genito-urinary tract is present in about fifty per cent of all cases of pulmonary tuberculosis and has been found to be present as the principal tubercular lesion in about one per cent of cases dying from all causes. It is safe to say that comparatively few of these cases are diagnosed before death and yet the diagnosis of renal tuberculosis is not difficult. Any case which gives a history of pain along the region of the kidneys, vesicle irritation, frequent micturation, should, unless these symptoms can be accounted for satisfactorily otherwise, be suspected of having tubercular infection of the kidneys or bladder. While it is probably true that renal or bladder tuberculosis is always secondary to infection in some other part of the body, it is also true that these lesions are often the most important localizations, thus an unimportant infection in a gland or a trifling infection in the apices of the lung, may give rise to a renal or bladder tuberculosis which gives trouble after the primary focus is healed. As renal tuberculosis in fully fifty per cent of cases begins as a unilateral infection its early diagnosis is very important. A urine passed by a patient with any of the symptoms above enumerated, which is cloudy on passing and which shows the presence of pus and is acid in reaction, should be strongly suspected of being tubercular. In such a urine, tubercle bacilli can, if present, be readily demonstrated. The technique is simple and depends for its success largely on centrifugalizing large quantities of the fluid. If bacilli are found, the aid of the cystoscope and renal catheterization should be sought to determine which is the infected kidney. Here again in doubtful cases which give negative results, the laboratory man should resort for final confirmation to animal inoculation. This of course takes time but results are very reliable.

Tubercular ulceration of the bowel is usually accompanied by diarrhoea which renders the search for the tubercle bacilli very uncertain. It is obviously impossible to centrifugalize such material with any success owing to the large amount of suspended matter and the dilution is

so great that an examination of the material taken at random from the whole amount, promises little hope of success. If peristalsis can be stopped by the administration of opium to such an extent that a formed faecal mass is passed, it is oftentimes possible to demonstrate tubercle bacilli from the mucus and muco-pus which is carried along on the surface of this mass. This method should always be adopted in cases of suspected tubercular enteritis. I have time and time again been able to demonstrate tubercle bacilli in this way when it was impossible to do so with the ordinary diarrhoeal stool.

The demonstration of tubercle bacilli in pus from broken down glands or ulcerating foci is simple enough and requires no comment.

Oftentimes confusion may exist between acute miliary tuberculosis and some other acute infection. In such an exigency, an examination of the blood may be of value. Tuberculosis is one of the few diseases which carries with it no leucocytosis but an increase of lymphocytes. If with the symptoms of an acute infection, we find an absence of leucocytoses and an increase in lymphocytes and can exclude typhoid fever, which unfortunately for our diagnosis, gives a blood picture of similar character, we can usually decide that the infection is tubercular in nature.

In this discussion I have said nothing concerning the ophthalmic or cutaneous reaction with tuberculin as I do not consider these as strictly laboratory methods of diagnosis. I mention them here merely to emphasize that one or the other of these tests together with every other method of diagnosis known, should be used in every suspected case of tuberculosis.

Too many men, I fear, have been inclined to rely exclusively on the results of laboratory examinations. I can say without casting any reflection upon these examinations that they should not be relied upon exclusively in negative cases for reasons before explained and any physician who fails to make a complete physical examination of his patient as well as submitting specimens of exudate for laboratory examination, falls short of his duty.

The laboratory has in a way been a detriment to some men as there has been a tendency to rely upon its results to the exclusion of careful physical examination. This has not been the fault of the laboratory worker for very few of

these men have been extravagant in their claims. The fault has been largely with the practitioner himself, either from the failure to thoroughly appreciate the significance of the laboratory results or through actual laziness on his part.

SCARLET FEVER should always be regarded seriously, how mild soever the manifestations. A. Baginsky (*Therapie d. Gegenwart*, Jan., 1910) keeps his patients abed for four weeks, the diet light (principally milk), non-irritating, and as salt-free as possible. Soups, meats and bouillon are excluded. Meat extractives are even more harmful than salt; a combination of these is very bad. The milk (2 to 3 litres a day) is supplemented with cocoa, vegetables and zwiebach. In the fourth week the patient may get up occasionally if the urine is normal; for six weeks, however, he should be kept under observation and sent back to bed upon the slightest untoward manifestation. (As the quarantine is for five weeks, this is not difficult.) Thus only can we forestall nephritis, anuria and uremia, which Baginsky never encounters if this rule is followed. He has seen severe injury in some cases from serum treatment, as also from silver salt ointment inunctions. In the beginning of scarlet fever the fever is, as in all other acute infections, and requires the same therapy; but later this fever is the expression of complications, and the treatment must vary accordingly. Much bathing is not good; the danger of catching cold must be avoided. A cool room is permissible while there is fever; but here we must be cautious as the fever subsides.—*N. Y. Medical Times*.

HIS NATIVE ELEMENT.—A man returned to his native Indiana village after having emigrated to Kansas some twenty years previous. He asked about different ones he had known in the old days, and finally of old Nicodemus Bainbridge, the town drunkard of his time.

"Oh, he's dead," replied the one questioned.

"Well, well, dead and buried, is he?"

"Nope, they didn't bury him."

"Didn't bury him!" exclaimed the former resident. "Well, then, what did they do with his remains?"

"Oh, they just poured them back into the jug."

Vermont Medical Monthly.

*A Journal of Review, Reform and Progress in the
Medical Sciences.*

H. C. TINKHAM, M. D., }Editors.
B. H. STONE, M. D., }

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EDITORIAL.

The great advances in the science of sanitation together with the complete organization of forces in the cities, should not be permitted to develop a false sense of security among either the medical profession or the laity. When hygienic measures are instituted and enforced in the city, the work is only begun, for the source of many communicable diseases still remains in the rural districts. To cleanse the city alone is analogous to treating symptoms only without attacking the underlying cause. Sanitarians have before them a problem worthy the attention of any man in preventing the farmer from carrying disease and death to the tenements of the neighboring town, unwittingly, of course, but none the less surely. Typhoid, tuberculosis, malaria, scarlet fever, anthrax and possibly infantile paralysis are all rural diseases brought to the city by water, milk or produce, but usually in such uncertain ways that the origin of the disease is only found after long

searching and often not until an epidemic has been fairly started. The mysterious "spontaneous" cases of contagious diseases would no doubt be often explained by careful examination of rural sources of contamination. The farmer knows that if corn comes up in his field, a kernel of corn has found lodgment there and grown. The sanitarian cannot get far from the conclusion that if a disease appears in a city, the producing organism has in some means been planted on fertile soil. The rural dweller is less amenable to law than the urbanite, largely by reason of his isolation, but also because of his proverbial independence. He seldom has the means or the disposition to live in the sanitary manner which the city officials endeavor to maintain and the city suffers the consequences. One only needs to count over the number of articles of food and drink which we get from the country to realize why rural sanitation should be enforced to the last degree possible. Education by means of lectures is no doubt one useful method of attacking the problem, but usually the ones most in need of instruction fail to attend the lectures. Literature explaining the dangers and prevention of communicable diseases would also reach some not touched in other ways, but the average farm producer is not a reader, and certainly the man who locates his shack, and outhouse on the feeding stream of the city reservoir is not likely to devote himself to literary diversions. House to house inspection and instruction followed by enforced improvement is probably the only means by which the worst offenders can be hindered from continuing their unholy habits. The maintenance of such work along broad lines is the problem to be solved. The whole subject is one more strong argument for the establishment of a department of health for interstate supervision and direction.

We take pleasure in announcing in this issue a gift by some person at present unknown of a bequest to the State Medical Society for the purpose of securing lecturers at the meetings of the society. This bequest is in line with a very hopeful tendency on the part of many men of means to devote some part of their resources to the purposes of study in medicine in its various branches. No more useful disposal of money can be conceived than this. Problems of cause and prevention of disease can only be studied at considerable cost and the practitioner who has to depend upon the income from his practice for his daily bread, cannot usually afford to spend the time and money necessary to study these abstruse problems. His time must be fully devoted to the treatment and cure of disease already contracted. Undoubtedly we can attribute nearly all of the epoch discoveries in medicine of the last thirty years to this public interest in affairs relating to the cause of disease and the maintenance of health. We sincerely trust that this present gift to our State Medical Society may be but the starting point of an endowment fund which will be sufficient to call to our meetings leaders in the various lines of medical science. Nothing can do more to raise the standard of the medical profession in the State and thus minimize the prevalence of and decrease the suffering from disease than such a fund.

Along the line of the editorial published in the last issue on the National Department of Health, we are printing in this number at the request of the Committee of One Hundred an article by Dr. Knopf on The Owen Bill for the Establishment of a Federal Department of Health and Its Opponents. We recommend to our readers a careful perusal of this article.

The importance of a pure water supply has again been emphasized in this state by the occurrence of a milk epidemic of typhoid fever, apparently traceable to the drinking water, in one of our Vermont cities. The rather sudden outbreak of the disease with cases widely separated, on different milk supplies, and among different classes of people, together with the fact that the public water supply shows colon bacilli, makes it more than probable that the disease is water-borne. The water supply of this city is furnished by streams direct from mountains, emptying into a reservoir near the city. These mountain streams unquestionably start with the purest of natural waters, but along their courses are farms and cottages which must at times furnish drainage to the brooks. Cattle are pastured along the banks and a public highway, much traveled during the summer months, is for several miles in close proximity to one of the largest streams, so that each heavy rain will of necessity wash the roadway with water to be drunk by the city. With the increasing acceptance of the belief that typhoid patients may continue to excrete the bacilli for months, or even years, it becomes more evident that such a water supply is endangered by residents along the streams, by occupants of summer camps or cottages, and even by people passing along the highway. And the swiftness of the water flow will aid contamination, as disease germs may be carried in a few hours from high up among the mountains into the city reservoir, and in a few hours more into the city homes. Nor is typhoid fever the only danger from polluted water. It may give rise to dysentery and other intestinal disturbances without the presence of typhoid bacilli. But in this country, typhoid is the best example of water-borne disease, while infected water is admitted to be the chief cause of typhoid fever. The

value of a safe, pure water supply for any community can not be over-estimated and safety can be assured in but two ways, by control and careful supervision of the sources, to keep out contaminating agents, or by some efficient system of filtration or purification that will remove or destroy any infection present.

NEWS ITEMS.

An unknown donor has recently left fifteen hundred dollars in trust to the Vermont State Medical Society for the establishment of a lectureship.

Rutland is suffering from an epidemic of typhoid fever supposedly coming from a polluted water supply.

Dr. C. H. Beecher, who has been carrying on studies in medicine in Vienna, has returned to his home in Burlington.

Dr. C. J. Rumrill of Randolph is spending some time in Rochester, Minn., in the study of surgery.

Dr. H. H. Sutor of West Burke left September 1st for Hatfield, Mass., where he assumed the practice of Dr. A. J. Bonnyville.

Dr. K. L. Macleay, who has been located at Newport for several years, has sold his real estate and gone to the northwest.

Dr. W. E. Parlin of Orleans has given up the practice of medicine and purchased a farm at Island Pond.

Dr. S. H. Martin of _____ has recently located in Georgia.

Dr. L. Clough of Bethel has purchased the practice of Dr. C. A. Pratt of Enosburg Falls.

A daughter was born to Dr. and Mrs. W. H. Ranks of Shelburne, on August 27th.

Dr. E. H. Buttles has resigned his position as Sanitary Inspector with the Vermont State Board of Health and has accepted a position in the laboratories of pathology, histology and bacteriology in the College of Medicine, University of Vermont.

Dr. C. S. Caverly has recently sailed for Europe, where he contemplates spending three or four months in nose and throat work. Most of this time will probably be spent at Vienna.

Dr. E. E. Whitaker of Newport, Vt., is at this writing in a critical condition, afflicted with cancer of the tongue.

Dr. Theodore M. Togus of Hooksett, N. H., died at his home July 28th. Dr. Togus was born at St. Johns, P. Q., fifty-seven years ago; graduated from the Medical Department of the University of Vermont and practiced his profession successively in Lowell, Concord and Hooksett. He was a member of his state and county medical societies and prominent in offices of the town.

Dr. L. Drakely Rood, aged 49 years, a prominent physician of Des Moines, Iowa, died in that city recently, after a 12 days' illness with blood poisoning. Dr. Rood was born in Milton, Jan. 20, 1861, graduated from the Medical Department of the University of Vermont and 19 years ago went to Des Moines from Jericho. He leaves a wife, who was Miss Bertha Allen of Milton, a mother, Mrs. T. D. Rood of Milton, two brothers and two sisters.

At the conclusion of a summer course given by Dr. Richard C. Cabot at the Massachusetts General Hospital during July, a loving cup was presented him by his students who numbered forty.

Dr. Virgil W. Blanchard, University of Vermont, College of Medicine, Burlington, 1859; died at his summer home in Middlebury, Vt., July 30th, aged 79 years.

Nathaniel Seward Parsons, M. D., University of Vermont, College of Medicine, 1874, died at his home in Kewanee, Ill., August 8th, from Bright's disease, aged 69 years.

Charles S. Parker, M. D., Castleton, Vermont Medical College, 1847, a practitioner at Three Mile Bay, N. Y., for more than sixty years, died at his home in that place July 28th, aged 89 years.

Dr. E. P. Lunderville of Richford is suffering from a fracture of one of the bones of the foot.

Dr. Delmer D. Durgin has temporarily taken the practice of Dr. W. J. Upton at St. Albans.

Dr. E. V. Farrell has temporarily taken the practice of Dr. Mitchel at South Stafford.

Dr. A. D. Finlayson, U. V. M. 1910, has secured an internship at the Lynn Hospital, Lynn, Mass.

Dr. M. W. Hunter, U. V. M. 1910, will serve an internship at the Lynn Hospital, Lynn, Mass.

The trustees of the University of Pennsylvania have announced recently certain changes in the personnel of the teaching staff to go into effect at the beginning of the next academic session, September 1, 1910. To fill the Chair of Theory and Practice of Medicine made vacant by the resignation of Dr. James Tyson, Dr. David L. Edsall has been transferred from the Chair of Pharmacology and Therapeutics and the vacancy in the latter will be filled by the appointment of Dr. A. N. Richards, now Professor of Pharmacology in the Medical School of the Northwestern University. One hundred thousand dollars has been received for the endowment of a Chair of Physiological Chemistry and Dr. Alonzo Englebert Taylor of the University of California will be its first occupant. Dr. Richard M. Pearce of the University and Bellevue Hospital Medical College of New York, has been appointed Professor of Pathology. Dr. Pearce will also direct the work of the department of Research Medicine recently established by an endowment of \$200,000. Dr. Allen J. Smith, the present Dean of the Medical School, will be the occupant of the new Chair of Comparative Pathology and be at the head of the newly instituted courses in Tropical Medicine. Dr. Paul Lewis, who will have charge of the Laboratory of the Phipps Institute for the Study, Prevention and Treatment of Tuberculosis, now an integral part of the university, has been elected Assistant Professor of Pathology.

The American Electro Therapeutic Association will hold its 20th annual meeting at Saratoga Springs, N. Y., Sept. 12th, 14th and 15th, 1910. This National Association is composed of many of the most eminent physicians in the country, who are studying and using different forms of electricity, together with light, water, vibration and other mechanical remedies, in their practice. A large exhibit of different apparatus and new mechanical inventions will be made, illustrating recent researches in this field of

medicine. A very extensive programme of papers of more than usual interest is promised, and the occasion will attract a large number of medical men who are anxious to keep in touch with the great advances in this field. A warm invitation is extended to the physicians to make this a vacation season, and combine recreation and business, in becoming acquainted with the rapid advances made in this field. For circulars and programmes address the secretary, Dr. J. W. Travell, 27 East 11th Street, New York City.

The twelfth annual School for Health Officers was held at Montpelier, August 1 to 4 inclusive with the following program: Address of Welcome, Mayor Frank R. Dawley; address, Charles S. Caverly, M. D., president of the State Board of Health; address, Governor George H. Prouty; paper, "Methods Explanatory of Sanitary Science—Recent Advancement—Examples Illustrative and Administrative—Essentials Along Lines of Education and Law to Insure Greater Progress," by H. L. Stillson, Esq., Bennington; discussion, W. W. Styles, M. D., South Hero; E. M. Pike, Esq., Mendon; paper, "Diseases Which Menace Public Health and Morals—Sociologic and Economic—Prevalance of These Diseases in the United States and Great Britain—Statistics of Venereal Diseases—The Admission Rate in the United States Army—Compulsory Notification—Prevalence of Venereal Diseases in Civil Life," by Geo. M. Kober, M. D., Professor Georgetown University, Washington, D. C.; discussion, William Warren Townsend, M. D., Rutland; Rev. C. C. St. Clair, Morrisville; paper, "Medical Inspection of Schools," by Henry A. Wood, M. D., Waltham, Mass.; discussion, H. E. Sargent, M. D., Brighton; A. C. Bailey, M. D., Randolph; William Lindsay, M. D., Montpelier; paper, "Tuberculosis in Relation to the Public Health Officers," by Livingston Farrand, M. D., Secretary of the National Association for the Study and Prevention of Tuberculosis, New York City; discussion, P. C. W. Templeton, M. D., Irasburg; M. F. Prime, M. D., Barton; paper, "Two Years' Work As Engineer of the Board," by Prof. J. W. Votey, Burlington; discussion, R. E. Welch, M. D., Franklin; E. S. Lane, M. D., Ferrisburg; paper, "Meat Inspection," illustrated with lantern, by Hon. A. D. Melvin, M. D., chief of the Bureau of Animal Industry, Washington, D. C.; discussion, B. D. Colby, M. D., Sudbury; W. H. Pow-

ers, M. D., Sheldon; paper, "Symposium on Communicable Diseases—Diagnosis and Quarantine of Contagious Diseases—Duty of Public Officers and the Public," illustrated by lantern, by S. Dana Hubbard, M. D., Chief of Infectious Diseases for the Borough of Brooklyn, N. Y.; discussion, "Atypical Cases," C. F. Ball, M. D., Rutland; "Disinfection with Actual Demonstration—Duty of Health Officer in these Diseases," C. F. Dalton, M. D., Burlington; paper, "Demonstration of Common Forms of Artificial and Substitute Food Products—Legality and Healthfulness—Demonstration of Artificial Colors, Flavors, Sweeteners and the Methods of their Application to Food Products—Substitutes on Account of Demand for Something Cheap," by H. L. Thomson, Food Chemist for the Board, Burlington; discussion, J. J. Ross, M. D., Richmond; Fred S. Harriman, Esq., St. Johnsbury; paper, "The Causes of Disease—Chemical, Physical and Mechanical Causes—Animal Parasites—Insects as Carriers—Origin of Disease Germs—Mixed Infections," illustrated by lantern, by Prof. Geo. M. Kober, M. D., Georgetown University, Washington, D. C.; discussion, Wm. H. Hurley, M. D., Williamstown; F. C. Phelps, M. D., Vergennes; paper, "Legal Points in Health Work," by Hon. H. B. Shaw, State's Attorney for Chittenden County, Burlington.

BOOK REVIEWS.

"**BORDERLAND SURGERY.**"—By Gustavus M. Blech, M. D., Professor of Clinical Surgery, Medical Department Loyola University, Chicago; Director-in-Chief Illinois Legion American Red Cross; Surgeon-in-Chief Abraham Lincoln Hospital, Chicago, etc., etc. Published by Professional Publishing Company, 923-925 Spruce Street, Philadelphia, Pa., U. S. A.

This little book is intended to exert a normal inhibitory force on an abnormal desire to operate. It endeavors to point out the dangers of surgical procedure and compare this with the probable benefit the patient will derive as the result of operation. It does not advise against surgery but deploras wanton and unnecessary operations, and surgical work done by men with little or no special preparation. It abounds with wholesome ideas and good, commonsense advice.

A MANUAL OF OPERATIVE SURGERY.—By Sir Frederick Treves, Bart., G. C. V. O., C. B., LL. D., F. R. C. S., Sergeant-Surgeon to H. M. the King, Surgeon-in-

Ordinary to H. R. H. the Prince of Wales, Consulting Surgeon to the London Hospital; and Jonathan Hutchinson, F. R. C. S., Surgeon to the London Hospital. New (3rd) Edition, revised and rewritten. In two octavo volumes. Volume II, 820 pages, with 302 engravings, and 8 full-page plates. Half-morocco, \$6.50, net, Lea & Febiger, Publishers, Philadelphia and New York, 1910.

The second volume of the 3rd edition of this work shows unmistakable evidence of careful revision and the advances in surgical technique have been incorporated. In a word, the work has been made thoroughly modern.

This volume covers the surgery of the head, neck and spine, the thorax and breast, arteries, veins, nerves, amputations, bones and joints, tendons and contracted muscles, ligaments and fasciae.

The description of operations is clear and not unnecessarily long, and the illustrations are exceedingly good. It is a very valuable work for those wishing to learn surgical technique or to refresh their memory before operating.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

"**NO DOPE FOR QUACKERY.**"—That the patent medicines used to build fortunes on the credulity and misfortunes of the weak are manufactured and supplied to their exploiters by certain well-known and supposed to be ethical pharmaceutical houses has been known in a general way for a long time, though the enormous extent of this evil and the degree to which these "ethical" concerns participate in the profits is not appreciated by the majority of physicians.

Some interesting and enlightening facts on this subject are contained in two editorial articles on "Pharmaceutical Manufacturers and the Great American Fraud," which appeared in the *Journal of the American Medical Association* for July 2. Any doctor who desires to know the source of the fraudulent "Castor Oil Pills," of the abortifacient "Pennyroyal Pills" (which contain no pennyroyal), of "Danderine," "Cascarets," "Neuralgine," "Drake's Palmetto Compound," "Nutriola," "Getwell Tablets," "Zymole Trokays," and other things of this kind, should read this number of the *Journal*. He can hardly do so without having the fact borne down upon him that the Abbott slogan of "no dope for quackery" has an immense significance to every self-respecting physician, who has the interests and the honor of his profession at heart. Certainly that house deserves the support of the profession which refuses the patent medicine blood money, and which is willing to rest its future upon its ability to serve the medical profession well and that only.

EPSOM SALT AS AN EVACUANT.—All authorities agree that magnesium sulphate (epsom salt) is a good and useful evacuant barring its vile taste, which even a liberal addition of lemon juice does not conceal.

Years ago The Abbott Alkaloidal Company, of Chicago, essayed to make it palatable and they succeeded, as is well known in medical circles. Their Saline Laxative affords all the virtue of pure, full-strength magnesium sulphate without its objectionable features. With water it yields a very acceptable draught, which no patient will refuse.

Others have tried to steal the credit that properly belongs to this progressive firm but there are at least fifty thousand doctors in this country who are not influenced by false claims and empty adjectives.

Just now, and in fact whenever it is desirable to empty the bowel quickly and completely, Saline Laxative should be kept in mind. In summer toxemia it is a good initial purge, leaving the bowel clean and clear of toxin-breeding, bacteria-feeding residue.

As a daily before-breakfast-dose in constipation, biliousness and liver torpor it is far more economical and serviceable than the mineral waters so blatantly exploited.

Saline Laxative is made openly and sold ethically, which is not true of all of its imitations.

Those who have not already been supplied may have a sample package of this preparation for the asking, as well as printed information about it.

AN EPIDEMIC OF TRICHINOSIS DUE TO EATING BOILED HAM, WITH SPECIAL REFERENCE TO THE OCCURRENCE OF EOSINOPHILIA.

HENRY ALBERT in the *American Journal of the Medical Sciences*, August, 1910, describes an epidemic of trichinosis at Grinnell, Iowa, in which fourteen persons were affected by eating boiled ham. This ham had passed inspection, but it was not possible to learn to what temperature it had been subjected. The temperature needed to kill the parasites is not clear, and will doubtless depend somewhat upon the degree of encapsulation and the nature of the capsule, whether calcareous or fibrous. Sufficient cooking seems to be the only certain method of destroying the trichinae, though thorough salting and hot smoking will generally do so. In the epidemic cited all cases recovered, the severe part of the illness varying from three to fourteen days. Twenty blood counts were made from 10 cases, showing the percentage of eosinophiles to range from 4 to 72, the average being about 20. This eosinophilia seems to be a characteristic finding, and is valuable in differentiating the condition from rheumatism, ptomain poisoning and other conditions. Some conclusions drawn by the writer from this epidemic are as follows:

1. Trichinosis is more frequent than supposed, being often mistaken for typhoid fever, rheumatism, ptomain poisoning, etc.
2. The disease is generally caused by eating uncooked pork or sausage, but may come from insufficiently boiled ham.
3. A temperature of 170 to 200 degrees F. from one to six hours is required to kill trichinae.
4. Cases vary in severity according to the number and vitality of the parasites.
5. The diagnosis is made easier by a blood count, as eosinophilia appears to be higher and more constant than in any other condition.
6. This eosinophilia appears in practically every case, beginning some seven to ten days after infec-

tion, at the time of the acute muscular symptoms, and is highest during the second or third week.

7. The eosinophilia varies from 10% to 60%, and the total leucocyte count is usually increased, with the neutrophiles relatively decreased.

CHRONIC NEPHRITIDES, DUE TO ACUTE SYSTEMIC INFECTION.

HEINRICH STERN, (*American Journal of the Medical Sciences*, August, 1910) says that the relationship between acute systemic infections and chronic disease of the kidneys has not been sufficiently considered. He believes that most cases of chronic interstitial nephritis, not due to constitutional causes, result from an acute infectious disease. Such infectious disease may produce more or less parenchymatous inflammation, later followed by indurative processes, and a latent condition may ensue, lasting perhaps for years, during which the renal lesions will be unrecognized, only to be later stimulated to activity by some cause, when the condition will often be considered as a new affection. Many cases of chronic nephritis give a history of previous acute nephritis, following scarlatina, diphtheria, rheumatic fever, typhoid, or other acute infection. In the last 200 cases of chronic nephritis under the writer's observation 192 gave history of one or more acute infectious diseases, with acute renal involvement in at least 121. While the writer does not claim that all chronic nephritis is due to previous acute infection, he does believe that such infection lowers the resistance of the kidneys and sometimes their functional activity, predisposing to chronic trouble. Some conclusions drawn are as follows:

1. Acute affection of the kidneys often lowers the resistance, and sometimes the functional activity.
2. Clinical evidence indicates that acute systemic infection is a cause of chronic renal disease.
3. The typical renal involvement from acute infections is of parenchymatous nature. Indurative and amyloid lesions may follow.
4. The transition of an acute nephritis, through subacute and subchronic stages, to a chronic condition, is not rare.

TYPHOID BACILLI CARRIERS AND THEIR RELATION TO PUBLIC HEALTH.

In the *American Journal of the Medical Sciences* for August, 1910, J. P. SIMONDS, M. D., cites a large number of typhoid epidemics that have been traced to chronic bacilli carriers. One instance, investigated by Kayser, showed that seven epidemics had been started by one man, who was excreting typhoid bacilli thirty years after an attack of the disease. Another case is cited where bacilli were present in the stools after 42 years, while in a third case a bacilli carrier started an epidemic 51 years after having had typhoid. Many instances are reported where bacilli of typhoid have persisted in the stools for several years, and where epidemics have arisen from such causes. Of the bacilli carriers about three-fourths are women, the percentage being about the same as in cholelithiasis, suggesting a connection between the conditions. The discharge of bacilli appears to be intermittent and the danger of giving infection to vary. Most of the epidemics have been caused by persons who had to do with food supply, such as dairy workers, cooks, etc. It is also sig-

nificant that most of the epidemics occurred under more or less uncleanly conditions. In controlling and guarding against these bacilli carriers there is considerable difficulty. Isolation is impossible or at least impracticable, but they can and should be prevented from coming into contact in any way with the food of others. In two cases at least cholecystotomy has resulted in a disappearance of the bacilli from the feces.

EXPERIMENTAL POLIOMYELITIS IN MONKEYS.

S. FLENNER and F. A. LEWIS. New York (*Journal A. M. A.*, August 20), contribute an eighth note on their experimental research on poliomyelitis in monkeys. It can now be accepted as an established fact, they state, that human beings and monkeys who have passed through an attack of poliomyelitis have come to contain in their blood certain neutralizing principles for the virus of the disease which are demonstrable by animal tests for two or more years in human beings, and probably are equally persistent in monkeys. It has been shown, however, that monkeys after recovery from poliomyelitis are highly refractory to reinoculation with the disease, and it is probable that recovered human beings are similarly protected. A strong active immunity has been conferred. Recovery from the disease, however, is not the only way to obtain immunity, as it has been proved possible to make monkeys actively immune by infection into the subcutaneous tissue, either of a full strength virus or that which has been modified by chemicals like glycerin. This, however, is not uniformly safe, since some of the animals do not develop a strong immunity, but develop paralysis from the treatment. The test of this active immunity, as published, consisted in the power to resist a large intracerebral injection of the filtrate that in far smaller quantities produces paralysis in the control animal. It has been shown that the blood serum of human beings and monkeys recovered from the disease contains neutralizing principles for the virus lacking in normal serum, and it is safe to assume that these neutralizing substances are responsible for the immunity. Like substances, therefore, should be found in the serum of animals directly actively immunized which have not gone through an attack of poliomyelitis. When an active filtrate containing virus is mixed with the serum of actively immunized monkeys and inoculated for a period of 37 C., it no longer causes paralysis in normal monkeys from intracerebral injection. In the previous neutralization experiments the serum had been taken from monkeys in which, after recovery, reinforcement of the immunity had been attempted, either purposely by subsequent injection of active virus, or circumstantially produced by other experiments on immunity to infection. The authors have since ascertained that reinforcement is not necessary and the animals act as human beings do in respect to the disease, possessing immunity after recovery. The test would also indicate the previous occurrence of any atypical attack of poliomyelitis otherwise unrecognized. In the last published communication the authors pointed out that the serum of monkeys recovered from poliomyelitis possessed therapeutic properties for the experimental disease. They have since ascertained that the serum of directly immunized monkeys possesses like therapeutic properties. It can now be stated that the human serum derived from children also has a therapeutic value.

It has been frequently observed that failure to develop paralysis after an intracerebral inoculation of an active virus does not increase resistance in monkeys to infection by the same route. The animals that have once withstood an inoculation, react on another occasion like the control animals, and no explanation for this has been found. Monkeys that have been protected from paralysis by the employment of mixtures of virus and immune serum or sub-arachnoid injections of immune serum do not show any unusual resistance to subsequent intracerebral injections of active virus, from several weeks to 4 or 5 months after the original experiments. Three important points are developed by this fact: Neutralized mixtures of virus and immune serums do not lead to any degree of active immunization; the therapeutic action of the serum is associated with restraint of multiplication of the virus, such as would be required to establish any grade of active immunity; and a simple passive immunity is either not produced by the serum injection or is of brief duration or of small amount. The authors are still seeking for an immune serum for the treatment of poliomyelitis. They have found normal sheep serum to have a definite though slight neutralizing power for the filtered virus, and this is augmented by injection of emulsions of the spinal cord and brain of recently paralyzed monkeys into the sheep. The serum treatment of poliomyelitis is still in the experimental stage and the outcome cannot yet be predicted.

SERUM DIAGNOSIS OF SYPHILIS.

HOWARD FOX. New York (*Journal A. M. A.*, August 27), gives a comprehensive detailed review of the literature of the sero-diagnosis of syphilis during the past year from June, 1909, to June, 1910. He summarizes the results of his critical review as follows: "1. The various precipitation tests for the diagnosis of syphilis are too unreliable to be of much practical value. 2. The Schürmann color reaction has been extensively tried and found to be worthless. 3. The favorable results that have been claimed for the intradermic reaction are at least encouraging, as the performance of the test seems to be simple. 4. Excellent results have been claimed by Richard Weil for his cobra-venom test. They are, however, somewhat lessened in value by the fact that very considerable experience is required to perform the reaction. 5. Further investigations are required to show whether the leuko-diagnosis, the antitryptic index or the meiotagmin reaction can be used as diagnostic aids in syphilis. The results obtained with the Muck-Holzmann reaction appear to be of no value. 6. The artificial antigens of Sachs and Rondoni, and of Schürmann for the Wassermann reaction have not succeeded in replacing the use of organ extracts. 7. The use of barium sulphate suggested by Wechselsmann to remove the disturbing complementoids from the patient's serum has apparently given a greater proportion of positive reactions than those obtained by the original Wassermann method. 8. The use of urine in place of serum for the Wassermann reaction is not to be recommended. 9. No single modification has as yet entirely replaced the original Wassermann method. The modifications of Hecht and of Stern have apparently given good results abroad, while the Noguchi test has received almost universal recognition in America. The methods of Bauer and of Tschernogubow second test ap-

pear to be of much less value. 10. To the list of non-syphilitic diseases which at times give a positive Wassermann reaction, must apparently be added acute lupus erythematosus. It has also been found that many individuals give a positive reaction following ether narcosis. 11. The diagnostic value of a positive reaction is generally recognized. There is no general agreement as yet regarding the value of the test as a guide for treatment. 12. From recent serologic investigations it would appear that syphilis plays a very important role in the etiology of aortic insufficiency. Syphilis is probably of more importance in the causation of nerve-deafness than has been previously supposed. There is apparently little or no relation between syphilis and ozena. 13. A new field seems to have been opened by the Wassermann reaction for the discussion of the problem of the inheritance of syphilis and of the interpretation of the laws of Colles and Profeta. 14. In the field of pathologic-anatomic diagnosis the Wassermann reaction seems to be of considerable value. 15. Serologic examinations have shown that the percentage of syphilitic infections in prostitutes is extremely high."

PELLAGRA.

J. D. LONG, Washington, D. C. (*Journal A. M. A.*, August 27), offers a working hypothesis of the cause of pellagra. It is as follows: "Pellagra is a disease resulting from an injury to the intestinal mucous membrane, produced by the ameba. As a result of the ulceration there is an inflammatory process extending throughout the alimentary tract which interferes with the absorptive power of the intestine and the manufacture of the digestive ferments normally produced in the intestines. Later, owing to long-continued inflammation in the intestine, the pancreas and liver undergo inflammatory change which interferes with the quality and quantity of the digestive juices that they produce, with the result that the food ingested is improperly digested. The presence in the intestine of undigested food favors fermentation and putrefaction of its elements, with the production of certain toxins, ptomaines and intermediate products of digestion which are harmful to the body." The insanity of pellagra was assumed to be due to the severe and long continued toxemia and the skin lesions to the mechanical pressure on the nerves and their degeneration as a result of the toxemia. This mechanical pressure on the nerves was assumed to be due to some kind of deposit on the articular surface of the vertebræ encroaching on their exit from the vertebral canal and causing the degeneration found in the cord. The seasonal occurrence of the disease was assumed to be due to the extremes of atmospheric temperature occurring in the spring and fall when pellagra most manifests itself. These render the cases much more toxic and the patients become delirious. He treated 25 patients on the basis of this hypothesis, giving enemas of quinin bisulphate, with regulated diet, panceatin, sodium carbonate and small doses of salts to produce one or two bowel movements a day aside from the effects of the enema. The deposits were treated with inunctions of mercury and the internal use of iodid pushed to the therapeutic limit. Under this treatment 3 patients died, 2 of amebic dysentery after the pellagra lesions had disappeared, 12 patients improved in varying degrees, and 6 more improved and continued to improve, 4 recovered, all symptoms of pellagra

disappearing except a slight increase in the patellar reflex. While his studies, he thinks, are suggestive, no conclusions can be drawn as yet; much longer and more detailed studies will be required.

SANITATION OF FARMS.

A. N. FREEMAN, Richmond, Va. (*Journal A. M. A.*, August 27), first remarking on the progress that has been made in the sanitation of cities, says that no such progress has been accomplished in the country districts. In only a few states is there adequate supervision of the rural communities and in most cases what activity there is there is confined to the control of small-pox, diphtheria and scarlet fever, with occasional attention to a flagrant nuisance. There are of course isolated exceptions, such as the work of the Pennsylvania Department of Health in regard to tuberculosis. The reasons for the contrast are obvious. There is more individualism in the country and their isolation makes it almost impossible to educate the people so thoroughly as to the importance of health measures. The crowded city demands health protection but when neighbors are half a mile apart they may never feel the danger of contagion. This, however, is not a justification of the condition. The country, even more than the city, stands in need of health precaution. The bearing of rural sanitation on the health of cities is itself a sufficient reason why the country districts should be looked after. A single case of typhoid fever on a dairy farm may infect a whole city and there is need of rural sanitation because of the more or less general residence of city people in the country while on their vacations. In addition to the crying need of such work, the rural conditions afford the best opportunities for research work as to the transmission of disease and in Virginia, Freeman is convinced that the key to the eradication of summer typhoid, for example, is to be found in the country. Other transmissible diseases also afford special opportunities. The proper study of small-pox, diphtheria, scarlet fever, etc., as well as their prevention, can be best carried out in the country. He gives an account of the methods now being followed in Virginia. At present typhoid fever and uncinariasis are receiving the first attention. The former is the greatest single problem of rural hygiene and hookworm has been placed beside it because the latter is essentially a disease of the country and plays an important part in the causes of ill health in the country districts of the South. The farm is the point of attack. It is, to all intents and purposes, a separate community and the questions of soil pollution and water supply are among the first to be considered. Almost unspeakable conditions have prevailed, as described by Dr. Freeman. The work is being done in detail, county by county and district by district, and a campaign of education is being carried on by means of lectures, press notices, demonstrations, etc. The effort has been made to do this by the appointment of rural district inspectors who visit the physicians like the nostrum detail man, distribute literature and interest them and obtain their co-operation in the work. They also inspect schools, give public lectures and demonstrations, and agitate the question till every person in the community is acquainted with the facts of the disease. The inspector is a graduate physician, thoroughly qualified for practice, but he takes no fees and gives his whole time to the work. He carries with him a small amount of medicine

together with his microscope and literature, so that he can demonstrate cures. The amount of territory which can be covered by an active man is very large and Freeman believes that in 4 or 5 years Virginia will have been fully canvassed for hookworm disease and the extermination of the disease will be in the way of accomplishment. Equal results will also be obtained with typhoid and the successful campaign of this character will place preventive work on a new and firm basis before the country people and should render the systematic and permanent extension of this work, covering all diseases, easily practicable. In any case the present rural sanitary conditions must not be allowed to continue.

for excision of carcinoma of the rectum, whenever the malignant growth is three inches or more above the sphincter.

The technic for Excision of the Rectum in Proctocentia, as given by Dr. John H. Cunningham, Jr., Boston, Mass., *Annals of Surgery*, May, 1909, is referred to and favorably commented upon.

Dr. A. L. Wolbarst's improved rectal irrigating tube is referred to. A description of the instrument may be found in the *Journal of the American Medical Association*, July 31, 1909.

REVIEW OF PROCTOLOGIC LITERATURE FROM MARCH, 1909,
TO MARCH, 1910.

By SAMUEL T. EARLE, M. D., of Baltimore, Md., (a paper before the American Protologic Society.)

The Committee on Protologic Literature reviewed the following papers as worthy of the attention of the members of the Protologic Society:

"The Treatment of Hemorrhoids by Zinc-mercury Ionization," by Dr. T. J. Bokehham, which appeared in the Proceedings of the Royal Society of Medicine, May, 1909, p. 135.

A paper by Dr. Herman A. Bray in the *Monthly Cyclopedic and Bulletin*, May, 1909, p. 268. "The Importance of Careful Post-operative Treatment in Rectal Operations."

A paper from the *Albany Medical Annals*, May, 1909, Vol. XXX, by Dr. George Blumer, New Haven, Conn. "A Neglected Rectal Sign of Value in the Diagnosis and Prognosis of Obscure Malignant and Inflammatory Diseases Within the Abdomen." The sign is spoken of as the rectal shelf, which is observed on making a digital examination of the rectum on the anterior rectal wall, from two to four centimeters above the prostate gland in males. This shelf is of almost cartilaginous feel which projects into the rectal cavity. In some cases the circumference of the rectum is involved in an annular zone of infiltration, more marked anteriorly and tapering off toward the posterior wall, a signet ring stricture, as Schnitzler calls it. The summary of his paper is contained in the following:

1. In certain forms of carcinoma of the abdominal organs, notably gastric carcinoma, and in some cases of tubercular peritonitis, implantation metastases in Douglas' pouch are common.

2. These metastases impinge upon the rectum and may infiltrate its submucosa, causing a peculiar shelf-like tumor on the anterior rectal wall, readily felt by the examining finger.

3. In cases of gastric carcinoma this may be an early metastasis, and occurs especially in males.

4. In such cases the primary tumor may be latent and the metastasis may be large enough to cause symptoms of obstruction. It has been mistaken at times for rectal carcinoma and has been removed as such.

5. The not infrequent occurrence of this rectal shelf makes it a diagnostic and prognostic sign of a good deal of importance, and warrants the statement that in no case of obscure abdominal disease should a rectal examination be omitted.

Dr. W. I. DeC. Wheeler, in the *London Lancet*, March 6, 1909, gives excellent reasons for always using the abdominal route, or a combined method

MALFORMATIONS OF THE ANUS AND RECTUM; REPORT
OF FOUR CASES.

Read before the American Protologic Society, by ALOIS B. GRAHAM, A. M., M. D., of Indianapolis, Ind. Congenital malformations demand prompt surgical treatment. Many cases are never reported and the percentage is evidently much larger than statistics indicate. These malformations are sufficiently uncommon and interesting to warrant placing every case on record. Report of four cases.

Case 1.—White male child, born with no trace of an anus, and in whom careful dissection and exploration failed to find any trace of a rectum. Colostomy was suggested but the parents refused their consent. Child died four days later. Autopsy refused.

Case 2.—Colored male child, age five years, born with a complete obstruction of the anus by a membranous diaphragm, which was perforated by the attending physician. Examination revealed a dense stricture, almost impermeable, involving the entire anal canal. The interesting point was the presence of a hypospadias through which feces had escaped for two years. The communication between the rectum and urethra was the result of ulcerations above the stricture rather than defective embryological development. Surgical treatment was refused.

Case 3.—Colored female child, age fifty-six days, in whom examination revealed a well-formed anus and a protruding or bulging imperforate rectum. A photograph shows a pronounced distention of the abdomen, the result of a fifty-six days' intestinal obstruction. Posteriorly, the rectum had no attachments, and the finger could be introduced easily behind the bulging imperforate gut, through the anal canal, into a blind pouch. A fistulous opening was found in the vagina just behind the hymen. The meconium and a small quantity of feces had escaped through this opening. The protruding rectal mucosa was dissected from its attachments and excised. The rectal mucosa was then sutured to the free skin at the anal margin, except for one-eighth of an inch posteriorly. This was used for drainage in case the blind pouch became infected. This patient made a good recovery. At the last examination, which was three months following operation, the finger could be introduced easily into the rectum, the stools were normal, and sphincteric control was good. The fistulous opening into the vagina was closed, and the posterior rectal mucosa was firmly united to the skin at the anal margin. With the exception of an abdomen which seemed to be a trifle prominent for one of its age, the child appeared normal.

Case 4.—White child, one of twins, age forty-two hours, in whom examination revealed an imperforate urethra and no trace of an anus. Penis and scrotum were well developed, but neither testicle

could be palpated. Careful dissection and exploration failed to find any trace of a rectum. A two inch incision was made in the median line just above the pubis, but no bladder could be found. Decided to perform a colostomy or sigmoidostomy. A portion of what was supposed to be the sigmoid was opened and a large quantity of meconium escaped. Exploration revealed a pouch which appeared of much larger dimensions than a normal colon or sigmoid should be. Operation was completed, and yet our inability to find the bladder made the case a hopeless one. Child died twenty-four hours later. At autopsy no bladder was found. The entire large intestine was removed. This case is of interest from the point of view of defective development. The pouch-like termination of the intestine might well be termed a monstrosity. The writer is inclined to believe that it is one of those rare cases in which the colon or sigmoid opens into the uterus. While the local examination revealed a male child, with the exception of being able to palpate the testicles, the examination of the specimen removed at autopsy reveals marked evidence of the female generative organs. This child was a transverse hermaphrodite—namely, one in whom the external genitals seem to be of one sex and the internal of the other. Report of examination of specimen states that the pouch-like termination of the intestine is formed of three organs: namely, the bladder, uterus and rectum.

THE USE OF QUININE AND UREA HYDROCHLORIDE AS A LOCAL ANESTHETIC IN ANO-RECTAL SURGERY.

Read before the American Protologic Society by LOUIS J. HIRSCHMAN, M. D., of Detroit, Mich. Dr. Hirschman presented to the Society a report of his work with quinine and urea hydrochloride as a local anesthetic in ano-rectal surgery. The cases operated upon were as follows: Acute thrombotic hemorrhoids, 10; internal hemorrhoids, 22; interno-external hemorrhoids, 7; external hemorrhoids, 10; fistula-in-ano, 14; abscess peri-anal, 7; fissure-in-ano, 7; excision of scar tissue, 3; Ball's operation (pruritus ani), 2; hypertrophied papillae, 16; inflamed morganiian crypts, 4; total, 102.

He reported perfect results as far as operative anesthesia was concerned in every case, and in but seven cases was there any post-operative pain. He uses the one per cent. solution of quinine and urea hydrochloride in all of his cases of ano-rectal surgery, where suturing of the skin is not required.

The technic of administration as employed by Hirschman is the same as that used with weak solutions of cocain and eucain. He describes this technic in detail. He believes that the substitution of quinine and urea hydrochloride for any of the other anesthetic salts hitherto employed will be found eminently satisfactory in all cases of ano-rectal surgery, where suturing of the integument is not required. He sums up its advantages over the other anesthetic drugs as follows:

1. It is soluble in water.
2. It can be sterilized.
3. It is equal to cocain in anesthetic power.
4. It is absolutely non-toxic.
5. It has a pronounced hemostatic action.
6. Post-operative anesthesia lasts from four hours to several days.
7. It is inexpensive and most always available.

GETTING THE TREATMENT MIXED.—A Kansas editor announced in his weekly paper that he would run a question and answer department, beginning the next week. In case an immediate answer was desired the editor agreed to reply at once, by mail, if the correspondent inclosed a two-cent stamp for postage. By return mail he received two inquiries, each inclosing stamps, and asking for an immediate reply.

One was from the unhappy father of twins. They were teething, and their crying kept him awake at night. He wanted to know how to relieve the twins, and to stop their crying so he could get some rest. The other man had a field of growing wheat which the grasshoppers were devouring. He wanted to know how to get rid of them and save his crop.

The editor carefully answered each and mailed the replies the same day. By a cruel mischance he got the letters crossed and mailed each in the wrong envelope. The man with the grasshoppers was amazed when he read the editor's advice to "Take the little chaps on your knee and gently rub their gums with a bone." The father of the crying twins was both amazed and indignant when he read: "Place several armloads of dry straw in the corner of the field. Drive the little pests up in this corner and set the straw on fire."—*Medical Brief*.

THE DIAGNOSIS OF APPENDICITIS AND THE INDICATION FOR OPERATION.—Dr. F. W. McRae says that statistics prove conclusively that early operations, done within the first twelve to forty-eight hours, give a mortality of less than 2 per cent, while the cases treated medically throughout, give a mortality of 20 per cent, showing a balance of 18 per cent. in favor of prompt operation. Further those operated on are cured. Those treated medically have simply been tided through an attack, and are ever after menaced by a recurrence. Any recurrence may be a death dealing one.

All fulminant cases of appendicitis are operative throughout the course of the disease, until the last vestige of hope has vanished. All cases of appendicitis progressing unfavorably should be given the privilege of immediate operation, and forcefully urged to submit thereto, as well as all marked exacerbations in the course of a case apparently progressing favorably towards recovery.—*Charlotte Med. Journal*.

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THERAPEUTIC NOTES.

COLONIC FLUSHING, by T. D. Lyons, M. D., New York City.—The supplementary treatment of intestinal disorders of children by irrigation of the colon is a method of treatment long used and invariably successful if the proper technique is used and details carefully adhered to. These details include a properly medicated solution, a proper temperature and its introduction into the bowel by a suitable tube.

Since using Glyco-Thymoline I have continued with that medicament, as I have found its use invariably followed with success. The temperature should be about 70° or 80° F. Ice cold solutions I do not approve of as, in feeble children, serious collapse has often followed their use. Where the case is more acute, temperature high and patient's vitality little impaired, cold solutions may not cause such serious symptoms, but the warmer solution of Glyco-Thymoline fluid will, I am assured, reduce the temperature sooner by removing the bacterial factors more effectually.

The child, whose clothing must be removed, is placed on a table on which may be laid a quilt covered by a rubber sheet, the buttocks raised slightly and body inclined and supported towards the right side. The receptacle for the solution, a glass irrigating outfit or fountain syringe, is suspended about three and a half feet above patient. A soft rubber catheter of the largest size is secured to the tubing of the irrigator. About seven and a half to eight inches from the catheter's distal end a cotton bandage whose edges are frayed is wound around till a diameter of three and a half inches is reached. This permits a firm pressure around the anal orifice and produces no discomfort to the child.

The catheter, well lubricated, is now carefully introduced and the Glyco-Thymoline solution permitted to flow in advance of the tube, thus inflating the bowel and permitting an easy introduction. As the fluid is passing onwards the contour of the bowel may be seen and a careful manipulation of abdomen will assist its advance. The amount necessary to fill the colon, as the ileo-cecal valve is the limit of irrigation, will be for a child of six to eight months from 14 to 16 ounces; a child of one and a half to two years, 30 to 36 ounces. The amount specified must be present in the bowel before the Glyco-Thymoline is permitted to run out. The flushing must be continued until three and a half quarts are used. If properly done more than one irrigation in twenty-four hours in acute cases, or two in the same period of time for chronic conditions will not be necessary.

DISEASES OF WOMEN AND THE GENERAL PRACTITIONER.—The general practitioner or family physician is the one usually first consulted in reference to menstrual irregularities and diseases of women. The tendency to refer these cases to specialists takes from the general practitioner much practice which he could successfully handle if consideration was only given to their treatment.

For over 25 years Hayden's Viburnum Compound has proven its efficacy in dysmenorrhea, amenorrhea, menorrhagia, metrorrhagia and irregularities incident to the menopause.

This standard remedy has grown in popularity with the profession simply through its merits of ac-

complishing that which was expected of it. It is not a narcotic or secret remedy. Its formula is a matter of common knowledge and it produces positive results where the many substitutes and imitations foisted upon the medical profession and trading upon the well-known reputation of H. V. C. are disappointing, sometimes dangerous.

Imitation might be considered a flattery, but when treating diseases of women and expecting results from a remedy prescribed, it is always safest to use the original and not a substitute.

Argument: The therapeutic value of Hayden's Viburnum Compound has built up an enviable reputation for its efficiency, hence its many substitutes. Why let a druggist put up something inferior upon your prescription for the original H. V. C.?

MEDICAL GYNECOLOGY.—The value of internal treatment in certain gynecological and obstetrical conditions is so firmly fixed that even the enthusiasm of the surgeon specialists can not set aside well tried and well proven facts.

That Hayden's Viburnum Compound, after an existence of over a quarter of a century is still growing in professional popularity, best demonstrates its usefulness in the treatment of diseases of women, such as dysmenorrhea, amenorrhea, threatened abortion, etc.

The New York Pharmaceutical Company of Bedford Springs, Bedford, Mass., have just issued a brochure entitled "Medical Gynecology and Therapy in Obstetrics," and upon request will send you a copy, also samples of "H. V. C." If you have never given Hayden's Viburnum Compound a trial you will never appreciate its value over the many substitutes that are trading upon its reputation.

WHEN SUSPICIOUS EXAMINE THE URINE.—Of all body excretions, the urine offers the best index of threatening maladies and pathological changes. For this reason a little brochure just issued by the New York Pharmaceutical Company of Bedford Springs, Bedford, Mass., is not only timely but useful and from its arrangement extremely practical. Besides presenting working tests for the detection of albumen, sugar, phosphates, uric acid, etc., their significance when found, is clearly set forth. The few moments spent in reading this booklet will be time well devoted. Send for a copy.

THE TALE THE TONGUE CAN TELL.

Always look at the tongue. People expect you to do so; and besides, helpful information can occasionally be gleaned from such inspection, as may be apprehended from the following outline:

Movements.—Slowly protruded and tremulous in typhoid and chronic lead poisoning; tremulous and smooth in chronic alcoholism; tremulous with fibrillar contractions in locomotor ataxia and general paresis; projected with difficulty in general and diphtheritic paralysis and

progressive muscular atrophy; turned toward affected side in apoplexy and hemiatrophy; incompetent as to mastication and speech and not projectible in progressive bulbar paralysis or glossolabio-pharyngeal cerebral paralysis (cortical symptoms); rapidly protruded in nervous and excitable persons; constant rolling in feeble-minded; tongue may be involved in movements of hysteria, epilepsy, chorea or tuberculous meningitis; tongue-tie due to an abnormally short or broadly attached frenum.

Shape and Size. Narrow in typhoid; shrunken and pinched in functional dyspepsia and advanced fevers and inflammations; long, narrow and rounded when protruded (parrot tongue) in dysentery, hepatic abscess or carcinoma, acute peritonitis and advanced tuberculosis; bilateral or unilateral atrophy in hemiplegia, glossolabio-pharyngeal paralysis (crenated in later stages), hypoglossal disease (softening, hemorrhage, tumor), progressive muscular atrophy, locomotor ataxia (surface-ridged), general paralysis of insane and tertiary syphilis (smooth atrophy of base of tongue).

Broad and flabby in anemia, atony (edges turned upward) and biliousness (yellow coating; breath foul and heavy), severe acute infections, scurvy, ptyalism, acute articular rheumatism and chronic gastroenteritis; dark and swollen in passive congestion (heart disease, lung affections, compression of veins in neck); inflamed and swollen from irritant and corrosive poisons; excessively enlarged (macroglossia) with benign or malignant growths, cysts (mucus, blood, hydatid), gummata, congenital lymphangioma, inflammatory hypertrophy, acute glossitis (pain, tenderness, salivation), actinomycosis or Ludwig's angina (hard swelling of tongue and along inside of lower jaw, causing thickening of floor of mouth), myxedema, acromegaly, cretinism or idiocy; ranulae (cystic tumors of various size observed on either side of frenum) due to obstruction of Wharton's duct or ducts of Rivini.

Moisture. Dry from talking or agitation, dyspnea and mouth breathing (most noticeable on waking), long continued fasting, tonsillitis and pharyngitis (path of dryness down central line); acute fevers (in proportion to height and



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duration—returning moisture a good sign); prostrating diseases (bare, smooth and polished), especially hectic, cachexia and suppuration, diabetes insipidus and mellitus, severe diarrhea, dysentery (bare), acute peritonitis or intestinal obstruction, dropsy, severe pneumonia (rough), cirrhosis, aneurysm, brain disease and with opium and belladonna. The tongue is smooth and glazed (dried mucus) when moderately dry. In pronounced cases of appendicitis it is dry, cracked, often brown—altogether out of proportion to temperature and abdominal symptoms.

Moist in acute rheumatism (white), hyperchlorhydria (smooth), coma and collapse (leathery), Asiatic cholera (creamy and cold, becoming dry and brown with reaction), weak digestion (pale and white furred in patches), pyalism, constipation (furred).

Color.—Red from slightest irritation in infants; red and moist in chronic debility; small, bright red spots in ecchymoses; red, inflamed and tender in stomatitis, diphtheria, trauma (hot liquids) and chronic superficial glossitis (continuously sensitive; often smooth, shiny ovoid patches separated by deep furrows); red and irritable in severe acute gastritis; red, dry and harsh in advanced diseases of stomach, kidneys, lungs and liver; red, dry, cracked, irritable in diabetes; raw and beefy in severe abdominal disease, especially dysentery and hepatic abscess; deep dark red in septicemia; tip and edges red in typhoid (dusky in severe cases); strawberry, raspberry or mulberry color (tip and edges red at first; whole surface bright red by fourth or fifth day) with injected papillae in scarlet fever (somewhat similar appearance in pneumonia and influenza; also raised red papules in gastric irritation, exhaustion and lack of digestive power); angry red or yellow-brown, smooth, raised patch to one side of median line in "smoker's patch"; red, ringlike, spreading circinate patches with light yellowish edges in annulus migrans of delicate children (trophoneurosis; harmless anomaly); pale and swollen in chlorosis and anemia (flabby and marked with teeth); white and blue-white opaline plaques in leucoma (coalescent), leucoplakia (isolated), ichthyosis and keratosis; yellow plaques on edges in xanthelasma; purple or bluish-black spots in Addison's disease and following glossitis; purple margins from malaria or plethora; dark discolorations from bruises, blood stains

(purpura) or infarcts; livid and cyanotic in chronic nephritis, infectious fevers and cardiac, dropsical or pulmonary affections with defective hematosi; recurrent spreading dorsal black patch in nigrites (parasitic; mucor stains with Lugol's solution); soft, venous, somewhat elevated bluish tumors, paling on pressure, in angiomatous nevi; hypertrophic papillae show a soft base, rarely ulcerating. Stained black by iron, bismuth, ink, charcoal, blackberries, mulberries, grapes, cherries or other pigments; brown from tobacco, licorice, nuts, prunes, cocoa or chocolate; orange in professional tea tasters; yellow from rhubarb or laudanum; shriveled and lemon-yellow in poisoning by nitric or chromic acid; pearly red or yellow and pulpy from caustic soda or potash; white or pearly in ammonia poisoning; white and glazed in corrosive sublimate poisoning; puckered, with white or brownish spots turning red then black, in phenol poisoning; white and scalded from oxalic acid; white and parchmentlike, turning gray and black, in sulphuric acid poisoning; pearly eschar from silver nitrate.

Coating.—Normally whitish at birth and a few weeks thereafter; nearly always dry-coated in old age; slight coating normally at back of tongue in smokers (thickly stippled, mornings); stippled with moist white points in non-febrile chronic debility; dry stippling in mild acute febrile diseases; thick, uniform plaster in acute febrile diseases with prostration; smooth, gray and moist, with sharply defined red patches, in gastroenteritis; thick, moist white fur in chronic rheumatism; heavy dry-brown fur on either side of median line in typhoid (may be cracks and fissures); grayish coating, like diphtheria, in mycoses (microscope shows fungus); sticky furring in chronic alcoholism, tongue usually much furred in migraine; white and sodden in neuroses and with anxiety and emotions; irregular white patches, with local heat and soreness, in thrush (*oidium albicans* under microscope); white, milky and glistening in mycosis leptothricia; rough and white in milk drinkers; white or bluish-white scarlike spots or notched patches in lepkoplakia oris (from irritants, such as use of pipe; moderate pain if ulceration); horny, raised, whitish or slate-colored dots, lines and patches in leukokeratosis buccalis, lichen planus or scleroderma; slightly stippled or coated in simple dyspepsia and ulceration (clean tongue with dyspeptic symptoms suggests hyperchlor-

hydria or extra-gastric disease) autointoxication and acute obstruction of bowel; moist and white in acute articular rheumatism and onset of scarlatina (central, clearing away in a few days); thick, soft, yellow-white fur in acute glossitis (may be dry, cracked or ulcerated); maplike appearance (from epithelial hyperplasia) in lingual psoriasis or tylosis (ichthyosis; keratosis; usually in smokers); uniform light yellow and pasty fur in biliousness, severe tonsillitis and acute catarrhal jaundice; encrusted, dry-brown tongue in cancer, phthisis, albuminuria and chronic nervous diseases; more or less black dorsal patch in old persons weakened by digestive disorders (acidity; leptothrices); one-sided furring from decayed or ulcerating tooth, one-sided mastication, facial neuralgia, hemiplegia, disease of gasserian ganglion or injury to chorda tympani; opalescent white, central dorsal patch, highly acid, in influenza; thrush in advanced phthisis.

Fissures.—Stomatitis impetiginosa (sore, with tenacious exudation); chronic gastritis of weak children and weak digestion of adults (pale, moist, white fur in patches); glossitis desiccans (gradually developed deep fissures and indentations, giving tongue an uneven, ragged look; syphilitic glossitis (deep furrows at edges in tertiary form); chronic alcoholism, tea-drinking or abuse of tobacco; chronic kidney diseases; foot and mouth disease (edema with vesicles and sometimes sloughs); febrile states (dry, brown and often fissured); chronic dysentery. Furrowed commonly in elderly persons as a result of past glossitis, or rarely hypertrophy (often smooth, shiny ovoid patches separate by deep furrows); indentations in swollen tongue in various forms of glossitis and states of debility; bitten in epilepsy (often nocturnal at first) and early stage of the glossolabio-pharyngeal paralysis. Fissures without furring or dryness sometimes present in health.

ULCERS.

Simple.—[Any age; any part of tongue; smooth, red, glazed, irregular, sensitive; little or no hardness about base; tends to heal after removal of cause.] Local irritation (ragged tooth, pipe, knife or fork); herpes and aphthae (preceded by vesicles; slight fever and fetor); psilosis (herpetic); stomatitis (very sensitive, with involvement of buccal mucous membrane

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and gums); Schoenlein's disease (cutaneous wheals and purpura); pertussis (frenal ulcer); acute infections; chronic superficial glossitis (dorsal superficial, with local swelling and soreness); foot and mouth disease (vesicles and ulcers on edges of tongue and inside of lips; infection from milk); chicken pox and other skin affections. Dyspeptic or catarrhal variety small, often circular, superficial, red, irritable, frequently about tip.

Tuberculosis.—Multiple, shallow, uneven, sinuous, ovoid or stellate, pale red, flabby, sensitive; usually near tip, spreading slowly and laterally; mucous membrane pallid; yellowish-gray muco-purulent secretion containing tubercle bacilli; nearly always secondary to pulmonary or general tuberculosis; lymphatic glands may be involved or not; lupous ulcers very rare.

Syphilitic.—Any time after puberty; dorsum or sides of tongue; previous manifestations of syphilis; edges well defined but not very indurated; slight soreness as a rule; posterior cer-

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vical glands enlarged; therapeutic success of specific treatment; chancre single usually near tip with patches glazed, stellate and, if fissured, very sensitive; gummata single or multiple, superficial or hard base—soon softens and ulcerates, mucus deep, usually on dorsum; tertiary ulcer deep, sinuous, punched-out.

Carcinomatous.—Usually 45-55; sometimes history of irritation from sharp tooth or short pipe; single; commonly at side or under tip of tongue; edges of ulcer everted—surface hard and covered with characteristic granulations; burning, darting, cutting pains; no tendency to heal; submaxillary and sublingual glandular enlargement.—*Denver Medical Times.*

TEACHING YOUNG PEOPLE HOW TO KNOW AND AVOID INFECTIOUS AND CONTAGIOUS DISEASES.—Among the -ologies and -onomies taught at school a very practical study would be a course in recognizing measles, scarlet fever, and their dangers, together with an understanding of disinfection and general prophylaxis.

In this course some appropriate place could be found for a word on venereal disease and the hygiene of sexes.

Why a young man should grow up, pass through school and marry without knowing the chief facts about diseases which he may contract from other people remains a question as large as the gross stupidity of the age permitting such a state of affairs.

Tuberculosis is wholly a preventable disease.

How many adolescents know this in the sense of having knowledge of preventing it?

Of what use is astronomy or differential calculus if the student is to be allowed to contract some fatally infectious ailment?

A practical lesson in fumigation might save more lives than a study of the higher arts and sciences could ever beautify.

It seems that preparatory schools are to train us in the elements of knowledge—so that we may have faculties at our command for the special studies of personal development. Even here the knowledge of motor forces should be joined to a command of the senses and a knowledge of the care of them, eye, ear, tongue, nose and hand. Some physiology is indicated even here.

But in the high school the pupil deserves more than surface teaching. His body and its adolescent needs are imperiously awaking.

The social order becomes his playground. Life is real in a miniature form in his field of study. From history, language, mathematics and art, he turns to sports and to the enjoyment of his fellows, other boys and girls.

When one of these playmates takes ill, what mystery is made of the occurrence. The fatality of death is made horrifying, instead of the natural series of events being explained.

Antitoxins, fumigations, prophylaxis, all of these are of to-day and for us of to-day. Can the school meet this need? Do the realities of to-day find a live teaching in our institutions of learning? The answer to this is the future of our young men and women.—*Med. Times.*



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RIGHT AND LEFT-HANDEDNESS.—The editor of the *Echo Medical du Nord*, April 25, 1909, finds some curious facts concerning the habits of engravers of coins in the times of Roman emperors. For nearly all their profiles turn to the left.

Children habitually draw faces looking to the left.

In speaking of this to two artists, W. L. M. Pendleton and Gertrude Evans, they were both much interested and acknowledged a feeling that the profile so drawn would appear to be effected more naturally.

The French editor says that this position has to do with the matter of right- and left-handedness. He continues by referring to the common

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dislike which is felt for left-handedness. He does not sympathize with this, and expresses some concern, thinking that the use of both hands equally may have advantages.

Some Italian criminologists believe that left-handedness is a strain upon the nervous system.

Our American ophthalmologist Gould is of the opinion that left-eyed habits are pernicious in many instances. The Philadelphian Pyle has seen cases supporting such a view. Approaching the disputed land of eye-strain we fear to raise the whole question, but the writer has found much importance attached to pathologic left-eyed conditions.

Co-ordinative needs are drawn too heavily upon, in some cases of ambidextrous, or sinistrous patients. Reports of cases of disease in the corpus callosum in alcoholics showing in co-ordination support the view that right or left localization may be a factor of some concern.—*Med. Times.*

RADIUM THERAPY.—Since the beginning of radium therapy for deep seated lesions a problem has been how to apply the radiation to the

spots desired without injuring the skin, which is exceedingly sensitive to these emanations. Gottwald Schwarz of Munich has given the results of two years' study of the subject. (*Münch. Medizin. Wochenschr.*). He began his experiments by observing that the sensitiveness of the vegetable cells to Roentgen rays varied materially according to the activity of the processes of development at work within the cell. Dry seeds, in which the life embryo is in a latent condition, could support radiation for days without injury; but grain that had begun to sprout showed itself very sensitive to rays even of small power. This led Schwarz to the hypothesis that the human skin might be safe against injury if its activity were reduced as far as possible. Simple experiments seemed to confirm this discovery. The arms of one person were subjected to the action of a radium capsule applied loosely, and in another case strapped tightly around the arm, so as to arrest the local circulation. In the first case the X-Ray burns appeared in due course; in the second case there were no ill-effects. Similar experiments on a human head resulted in baldness being produced on the spot where the active skin had been



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subjected to the emanations; but when the blood circulation had been reduced by means of pressure the hair was not harmed. Schwarz finds mechanical pressure to be only one means of producing immunity; experiments are proceeding with local applications of compressed air.—*Exchange*.

MME. JEANNE DUPRES, aged 65, was recently an aspirant to the degree of bachelor of science at the Paris Sorbonne; since the death of her celebrated husband she has given herself to study and is now working for the degree of medicine. Mme. Duprès presents by reason of her industry a strong contrast to twenty-five young women students whose names were erased from the roll of the Berlin University for failing to attend the prescribed minimum number of lectures.—*Exchange*.

"STIEL'S DISEASE."—D. Hingston. (*Arch. Pcd.*, June, 1909) reports two cases: a chronic enlargement of the joints associated with general enlargement of the glands, chiefly the supra-trochlear and those of the axilla and neck, and enlargement of the spleen. Fresh air, arsenic, massage and passive moments produced results good in one case, slight in the other.—*Medical Times*.

SURGEONS YIELD TO WOMEN.—The Royal College of Surgeons in London will now admit women students to the college museum in order that they may have the same opportunity to study as men. A number of women students, encouraged by this innovation, have entered for the examinations of the conjoint board of the college and also for the examinations for its diplomas in public health.—*Medical Times*.

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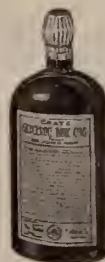
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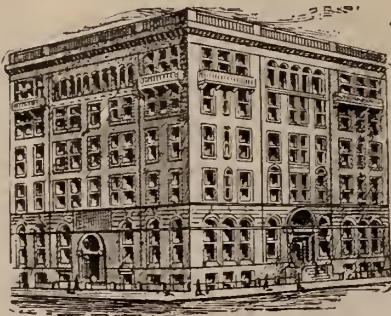
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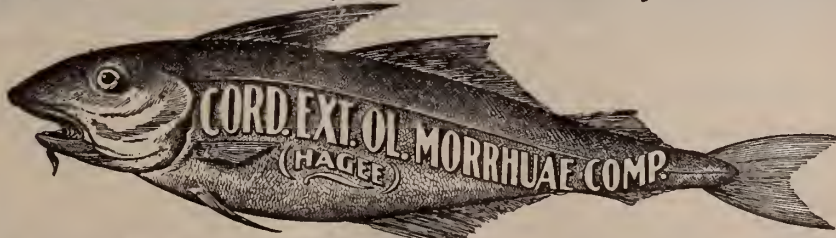
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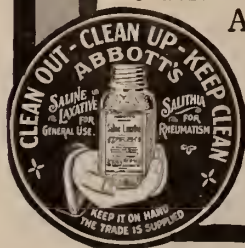
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PELLAGRA.—The extent to which this disease exists in the South is indicated in recent reports to the Public Health and Marine Hospital service from both the Carolinas and Florida, covering in one instance a period of five years. In Wilmington, N. C., there is a marked increase; but the type of the disease is much milder than formerly, now more nearly resembling that found in Italy. Since June 49 cases have come under the observation of the Wilmington physicians, with three or four deaths reported as being due to this disease; eight cases, all fatal, are reported from Beauford, S. C. At Georgetown, S. C., Surgeon Mooner has had under observation in the last five years six cases—in five of which the patients have recovered, the fate of the sixth not being known. Most cases are in negroes between the twentieth and the fortieth years. No cases, except possibly one, are known to have occurred in Florida this year.—*N. Y. Medical Times.*

SURGERY FOR MORAL DISEASE.—There was recently a meeting of representatives of the Children's Society, of the Children's Court, of the Presbyterian Hospital Dispensary, and of the Cornell Medical College, to decide upon some course with regard to children of the Children's Court whose faults seem due to physical defects. Rooms will probably be set aside for the examination of such children with a view to operation when surgery is appropriate—no child to be operated on without the consent of the parents or the Court. It is considered that if children having such physical characteristics are not taken care of "they are apt to develop into habitual criminals. The examinations are to be most conservative, and no operations are to be undertaken except in cases where they can reasonably be expected to cure mental deficiency."—*N. Y. Med. Times.*

A SYMPTOM IN DIAGNOSIS OF TRUE SCIATICA.—Gara (*Il Policlinico*, an. xiv., fasc. 22, p. 694) says that in cases of primary sciatica there is a tenderness found localized over the spinous process of the last lumbar vertebra. He has diagnosed differentially a carcinoma in a case in which sciatica pains coexisted with tenderness over several vertebrae; and in a case of fracture of the neck of the femur with pain in

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WALTER D. BERRY, M. D.

Burlington, Vt.

the region of the sciatic nerve, the absence of tenderness as described gave a valuable indication. Schlessinger adds 4 cases to those of Gara.—*Exchange.*

THE PUBLIC HEALTH IS IMPROVING.—Prof. Walter F. Willcox in a recent lecture to Cornell students, said that \$140,000,000 was yearly being spent in the United States for the safeguarding of the public health. He defined vital statistics as the bookkeeping of the public health movement. At present mortality reports are fairly accurate, but in many cases disease reports are not to be had. On an average, for every death, there are two years of disease. One great factor that raises the national death rate is the negro population in which the mortality is twice that among the white. The female death rate is also lower than the male. Married people have a lower death rate than the unmarried; here a factor undoubtedly is that healthy persons have a better chance than others of winning a husband or a wife. From 104 to 106 males are born to every 100 females. On the whole our public health seems to be improving.—*Exchange.*

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ORIGINAL ARTICLES.

A DECADE IN MEDICINE.

BY

WALTER B. HAVENS, M. D.,

Chester Depot, Vt.

PRESIDENT'S ANNUAL ADDRESS.

One year ago this evening I was informed over the telephone of my election to the presidency of the Vermont State Medical Society, which was then holding its ninety-sixth annual session. While I deeply appreciated the great honor conferred upon me by election to the high office which had been occupied by many of the ablest medical men of Vermont, had I been present at the session of 1909, at White River Junction, I should have informed you of my unfitness for the position instead of leaving it for you to discover at the session of 1910, at St. Albans, and I should have asked you to release me from the office to which blindly, but kindly, you had elected me.

Gentlemen, we are on the border-land of a new world in the practice of medicine, a world in which, as St. Paul aptly puts it, "Old things are passed away, behold, all things are become new"; a world in which there is wisdom in the command of St. John to "Lift up your eyes and look on the fields, for they are white already to harvest."

Seneca Egbert, in his "Oration on State Medicine," said "If a text were necessary for my address to you to-day, I should at once select the declaration of the revered Pasteur that 'it is within the power of man to rid himself of every parasitic disease.' Correlated with this is the more recent and almost equally impressive statement of Prof. Irving Fisher that "fifteen years at least could at once be added to the average human life-time by applying the science of preventing disease," and that "more than half of this additional life would come from prevention of tuberculosis, typhoid, and five other diseases, the prevention of which could be accomplished by pure air, water and

milk." Note that this authority says that these results could be achieved *at once*. We need not wait for further necessary contribution at the hands of those who are searching for secrets of unsolved problems of disease, we have abundant equipment for action and results even now.

If it be true that we, the medical men of this day and hour, by taking thought and action, can banish or partly banish parasitic diseases and add a decade or a day to the length of human life, may we not permit ourselves to forget the pessimism which oftentimes o'ercomes us when we recall the days that were, the days of failure and defeat in our battle with germ diseases, and may we not allow ourselves to be filled with a splendid optimism when we think of the days that are, the days of progress and promise? Have we not come to a period in our medical calendar when we can change the emphasis from "The good old times to the good new times?" Yet, while hopefully and gladly looking forward to the medical millennium for which our profession has ever striven and is striving still, may we not profitably and thankfully look backward to the pathway over which our brethren travelled as they journeyed from achievement to achievement, sometimes by patient bed-side effort, sometimes by earnest laboratory endeavor, sometimes by wise legislation in Congress and Capitol and sometimes by crusade.

The fact that we are now in the closing days of the first decade of a new century suggests to me the appropriateness of calling your attention this evening, though only briefly and imperfectly, to a few of the medical and sanitary achievements of the decade that is waning, as I ask you to take thought of the good things that have come to aid you in your professional work since the dawn of the twentieth century.

A DECADE IN MEDICINE.

I have nothing original to offer to you this evening. The facts that I am presenting as I am talking to you on A Decade in Medicine were largely collected from recent journals and publications; mainly from "*The Journal*" of the American Medical Association. Dr. William

Welch, in his "President's Address" at St. Louis, speaking of the achievements of the association said, "Among the more striking beneficial results accomplished by the association during the past decade I may enumerate the unification and effective organization of the profession; the growth of the national and constituent associations in membership and influence; the development of *The Journal* to an importance unsurpassed by any medical weekly in the world; the improvement of the educational and scientific work of the association through its sections, its scientific exhibit, its grants in aid of research and the public lectures and addresses of Dr. McCormick; the establishment of the Council of Pharmacy and Chemistry with its chemical laboratory, the Council on Medical Education, the Committee on Medical Legislation, the Council on Defense of Medical Research, the Committee on Classification of Disease and the Board of Public Instruction on Medical Subjects." The achievements of the association as enumerated by Dr. Welch are the achievements of the organized and unified medical profession of the hour. As never before the medical men of our land are organized for work. Competition, the watchword of the narrow past, is fast giving way to cooperation, the better watchword of the broader present. While physicians the world over are in keen competition in the struggle for their daily bread, they are in hearty cooperation in their effort to raise the standard of their profession and the quality of its achievements.

Legislation.—Organized effort, cooperation, in a little more than a decade has resulted in the enactment of medical and sanitary legislation of inestimable value in banishing disease and lengthening human life. Organized effort, a little more than two decades ago, gave to Vermonters a new lease of life when it commanded the governor to appoint a state board of health and forced the enactment of that beneficent law which says "The board shall take cognizance of the interests of life and health among the inhabitants of the State; shall make or cause to be made sanitary investigations and inquiries respecting causes of disease, especially of epidemics, and means of prevention; the sources of mortality, and the effect of localities, employments, habits, and circumstances of life on public health. They shall also, when requested, or when in their opinion the sanitary interests of localities require it, advise

with municipal officers with regard to the location, drainage, water supply, heating and ventilation of public buildings and the drainage and sewerage of towns and cities and of the erection, construction, heating, ventilation and sanitary arrangement of public buildings with authority to require and compel such public buildings to be provided with all necessary appliances and fire escapes for preventing accidents and injuries to persons who may at any time be in said building; and shall exercise all the powers and authority imposed upon said board by law for the protection and preservation of the public health." Organized effort has given us laws which guard us against the introduction and spread of communicable diseases, laws regulating the transportation of dead bodies, laws against pollution of streams and sources of water supply, laws against expectorating in public places, against careless distribution of medicines, drugs and chemicals, laws commanding inspection of school houses, slaughter houses, meat markets and stables, laws to abate all nuisance against public health. Organized effort has not only given us these laws, it has also given us power to enforce them, it has made it possible for us in times of peril or disaster to say "Thou shalt or thou shalt not" and the old commandment of Sinai is alive again and forceful. A little more than a decade ago, organized effort, under the competent leadership of one of our lamented members, placed upon our statute book a law which gave to the Commonwealth a Laboratory of Hygiene which has been of inestimable value to Vermonters during the decade now ending. Yes, inestimable is the word, for who can estimate the number or value of lives saved by the efficient work of Dr. Linsley and his worthy successors? In the year 1900, Vermont, awakening to the need of better equipment on the part of local health officers, authorized the establishment of a "School of Instruction for Health Officers of the State." This school has yearly brought to Burlington or Montpelier many of the ablest specialists of this country to give instruction to the men in the two hundred and forty-six towns of the State who directly guard the inhabitants thereof against disease and death from preventable causes. The establishment and maintenance of the "School of Instruction for the Health Officers of the State," the first to be established in this country if not

in the world, is an achievement of the decade worthy of commendation by every Vermonter, worthy of emulation by every state. Organized effort has recently inspired the enactment of a law which establishes the standard of purity for food and drugs, and says to every person who manufactures or produces any article of food or medicine "Thou shalt not lie." The label must tell the truth as to purity or adulteration. Dr. Welch, referring to the law preventing misbranding, says "A check has at last been put on the exploitation of the profession and to a considerable extent likewise of the public by the strongly entrenched and widely ramifying patent medicine evil with its shameless frauds, misrepresentations, deceits and dangerous practices." For this important achievement of the decade, the exposure of fraudulent proprietary medicines, patent medicines, quacks and fraudulent institutions, the public and profession are largely indebted to the Association's Council on Pharmacy and Chemistry. It is unfortunate that a credulous public does not recognize the faker nor realize the danger of his nostrums; it is equally unfortunate that a careless profession does not expose the faker and reveal the worthlessness of his mixtures.

The American Medical Association is doing valiant service by exposing one by one these frauds, publishing the matter first in *The Journal* and then printing it in pamphlet form. *The Journal* of course, reaches only physicians, the pamphlets should reach the public, but unfortunately they do not. Can we not, as members of the American Medical Association and Vermont State Society, do something to place these instructive pamphlets in the hands of the men and women who ought to know that this or that or the other "cure all" is a fraud? Can we not "lend a hand" in this modern crusade? *The Journal* has these pamphlets in stock and will gladly send them free to any member of this society who will ask for them. Organized effort, which has given us so much beneficent medical and sanitary legislation in the last few years will ultimately give us the national department of health for which the profession is pleading, against which the enemies of progressive sanitation and medication are fighting.

Sanitation.—For evidence of achievement in sanitation in the decade that is passing, I refer you to Cuba, Porto Rico and the Panama Canal Zone. In Cuba the

disappearance of smallpox, the reduction of the mortality from malaria to the extent of bringing it down from the first to the eighth place in the record of mortality, the eradication of yellow fever with its former average yearly record of 600 deaths of Spaniards in the city of Havana, and the gradual decrease of the mortality from infantile tetanus and tuberculosis are striking indications that cleanliness is fast approaching its normal relationship to godliness. Listen to an extract from Dr. Ashford's "Summary of a Ten Years' Campaign Against Hookworm in Porto Rico." "The number of deaths from smallpox and yellow fever for the last five years of Spanish rule in the island was three thousand and sixty-two." The Spanish war occurred in 1898. Practically no deaths occurred after June 30, 1899, from smallpox and none from yellow fever. Thus, under American government and modern sanitation, smallpox and yellow fever have ceased to be factors in the death rate of Porto Rico. For a brief record of sanitary achievement in Panama, I quote from *The Journal* of April 9th of the present year, "The annual report of the Department of Sanitation of the Canal Commission shows that the remarkable record already established by the department has been fully maintained. The total number of deaths in 1909 was only a few more than in 1905, when the entire force was only about one-third of that of 1909. The death rate from special diseases was also remarkably low, there were only eight deaths from dysentery, thirteen from typhoid and fifty-two from malaria. The most remarkable of all, however, is the fact that not a single case of yellow fever, bubonic plague or smallpox occurred on the Isthmus during the year. This is an object lesson of what can be accomplished by careful, patient, scientific work in freeing tropical and pest-ridden regions from diseases, and in saving life." Panama has been changed by sanitary means from a region fatal to life by virtue of disease into one as free of disease as the average country. These achievements of the decade in Cuba, Porto Rico and Panama are magnificent and therefore impressive. Let us not, however, forget the sanitary achievements that are wrought nearer home. Every closet that is cleaned, every drain that is improved, every well that is guarded, every public water supply that is maintained in purity, every germ-ladened

fly that is destroyed, every nuisance that is abated is a sanitary achievement that is worth while in the battle with disease.

Education.—The elevation of the standard of medical education in this country has come largely, as it should, from forces within the profession instead of from influences without. An editorial in *The Journal* of May 21, 1910, says "As is well known, the birth of the American Medical Association was the result of a convention called in May, 1846, to consider the subject of a higher standard of medical education. After the association was formed, this subject was the principal topic of annual discussion, and there are very few of the reports of the transactions that do not contain discussion or resolutions on the subject." Something was accomplished by repeated agitation. Many colleges raised their standards of entrance and final examinations, but the greater number made no change in requirement for admission or graduation.

Still, slowly but steadily the standard improved; the two years' courses in medical colleges lengthened to three and the three soon gave place to courses of four years' duration; hospital appointments were more eagerly sought by students; post graduate courses more frequently attended by recent graduates and long-time practitioners; medical journals and publications became more accessible to the profession at large; laboratories were erected and maintained for scientific research; and national, state, county, town and city medical societies were organized and improved, opening to physicians everywhere places for frequent association and offering ample opportunity for them to absorb knowledge from contact with their fellows. Until nearly the middle of the present decade the standard of medical education was raised very slowly, but in 1904, upon the appointment of the permanent Council of Medical Education, a systematic investigation of conditions in the medical schools of this country was made, and the standards quickly raised. During the college session of 1906 and 1907, personal inspection was made of every medical school in the United States, revealing the fact that they were without uniformity of equipment or requirement. *The Journal* says "The collection, and still more the publication of these facts, have had a tremendous effect on the standards of medical education. The publication of facts re-

garding medical licenses in various states has aided in the movement toward higher, more uniform and more effective laws and methods in the licensing of physicians." This publication of facts has had much to do with the reduction of the number of medical colleges, the number falling from 166 to 132, partly by closing the doors of poorly equipped institutions and partly by the union of two or three weak colleges in several cities." The achievement of the decade in raising the standard of medical education is concisely stated as follows in *The Journal* * * * "While much remains to be done and while there are still a large number of deficient medical schools the character of the greater number has decidedly improved. Entrance requirements have been increased and better enforced, college terms lengthened, college buildings and hospitals erected, new laboratories added and old ones better equipped, a larger number of expert, full-time, salaried instructors secured and better methods of teaching adopted. In fact, so many have been the improvements in medical education as to warrant the assertion that more has been accomplished in the past six years than in the previous sixty years of the association's existence."

Medication.—Fisher uttered a truth when he said that "the practice of medicine, which for ages has been known as the 'healing art' is undergoing gradual but radical revolution. The change is based on the conviction that an ounce of prevention is worth a pound of cure." The medical man of to-day and to-morrow must adapt himself to the change and devote himself largely to keeping his patients well, incidentally ministering to them by advice and medication only when his prophylaxis fails. In the administration of drugs the physician of the present decade has a right to expect better results than ever before, better than followed their administration by his forefathers in the profession, for recent legislation has made it possible to obtain pure medicines. Yet it is a question whether the medical practitioner of this age prescribes his drugs as wisely as did his predecessors. The old-time doctor, with crude drugs, few pharmaceuticals and no combination tablets, learned the art of making his own prescription and giving his patient the drug indicated by his condition, while we of a later period too frequently dispense a ready made tablet which an accommodating pharmacist has

manufactured by the barrel and labeled "Tonsillitis, Rhinitis or Rheumatism No. 2." We fit our patient to the tablet, not the tablet to our patient. It is not, however, to time-honored medication that I desire to call your attention this evening, but to the new treatment of disease by serums and vaccines which is accomplishing so much at present and promising so much for the future. Every medical journal of to-day tells the story of a serum, the story of its success or failure. The history of Jenner's discovery of vaccination is the history of a chance discovery, the record of an accident, but the history of the discovery of all later serums is the history of laboratory labor, the record of scientific achievement. Listen to these words from a paper read by Dr. Welch in 1895, describing the discovery of diphtheria antitoxin, "The discovery of the healing serum is entirely the result of laboratory work. It is the outcome of the studies of immunity. In no sense was the discovery an accidental one. Every step leading to it can be traced, and every step was taken with a definite purpose and to solve a definite problem. These studies and resulting discoveries mark an epoch in the history of medicine." It is equally true that every step taken in searching for new serums is definite and purposeful. Who dares to say that in the fulness of time this careful investigation may not be rewarded by the discovery of an antitoxin for every poison that invades the human system? In *The Journal* of January 22, 1910, is a list of antitoxins which indicates that already the quest has been eager and fruitful and in the same journal is an editorial which says "With an increasing knowledge of antitoxins and similar products, come the realization of their great importance as remedial agents * * * * In these products the medical profession has an agency equally as potent and exact as drugs and one whose limitations are still unknown."

Termination.—In the decade that is passing marvelous progress has been made in matters pertaining to public health. The day of dirt, the day of pollution of water supplies, the day of expectorating in public places, the day when communicable disease is not quarantined, the day when law is silent as to the quality of barter in the market place, is the day that was and is not. In the day that now is new laws command that filthy places shall be made clean, that food and water for human consumption shall be

pure, that spitting in public places shall cease, and that spread of communicable disease shall be restrained by isolation. In the decade that is passing many germ diseases have been fought and partly or wholly conquered. The great scourges which formerly closed the countries of the far South to habitation by people from the North are practically diseases of the past, and now in latitude we know no North, no South. In the decade that is ending we are learning the value of human life. "Life," says one writer, "is shortened by death and narrowed by invalidity. The ideal life, with respect to health, would be free from illness and disability of every kind. To approximate such an ideal is the aim of hygiene." It is usually true that the healthier a life the longer it will last, so every effort of the hour is to prevent disease by insisting that children shall be better born and more carefully nurtured, and that men and women shall be given better environment and more intelligent care. Fisher says "Using the statistics, experience and estimate of eighteen physicians as to the preventability of each of the list of ninety causes of death, we find that the length of life could easily be increased from forty-five to sixty, an increase of fifteen years." This is a vision of the future, let me give you Fisher's record of the past. "So far as we can judge from statistics of the average duration of life, it has been on the increase for three hundred and fifty years, and is now increasing more rapidly than ever before. During the seventeenth and eighteenth centuries the increase was at the rate of about four years per century; during the first three-quarters of the nineteenth century the rate was about nine years. At present in Massachusetts life is lengthening at the rate of about fourteen years per century; in Europe about seventeen; in Prussia, the land of medical discovery and its application, twenty-seven; and in India, where medical progress is practically unknown, the life span is short and remains stationary."

Finally, brethren, Paul was right, "Old things are passed away, behold, all things are become new"; Pasteur was right, man is fast ridding himself of parasitic disease; Fisher was right, the span of human life is lengthening. These great achievements of the decade, the lessening of human sickness and lengthening of human life, have been wrought by better education, better legislation, better sanitation

and better medication; wrought by the industry, intelligence and integrity of the great profession to which it is our privilege to belong.

THE DIAGNOSIS OF INCIPIENT TUBERCULOSIS.*

BY

W. C. KLOTZ,

Supt. and Med. Director of Vermont Sanitarium for Incipient Tuberculosis.

With the great abundance of tuberculosis literature that has filled both the lay and medical press during recent years, one would expect that any patient presenting vague symptoms of failing health, would at once awaken a suspicion of pulmonary tuberculosis unless there were positive evidence of some other disease. But it still happens only too frequently that such symptoms as fatigue, lassitude and diminished working capacity are misinterpreted as neurasthenia, or malaria, or referred to a recent attack of grippe or cold when a more thorough and painstaking examination would disclose a beginning infiltration at the apex of one lung, as the cause of such symptoms.

In many instances it is true an attack of grippe or a severe cold were the actual forerunners and predisposing causes of the tuberculous process; the factors that produced a low power of resistance and favored its development. In other cases again, the disease is actually suspected, but the physician out of fancied consideration for his patient, withholds the truth or evades a direct statement until such time as the disease has advanced too far, and the prospects of cure have become less favorable than they would have been at an earlier stage.

While some skill and practise in physical diagnosis may be essential in order to discover the slight signs of extremely incipient cases, the general practitioner provided with a good stethoscope can and ought to recognize any case with active infiltration. Such cases do not require expensive or complicated apparatus, nor is their diagnosis dependent upon delicate or difficult laboratory technic. The different tuberculin tests are of service in some cases but *require*

more skill in their interpretation than their application, and can never replace a careful physical examination.

What is required is a mind on the alert to suspect the disease, a careful clinical search, and if any evidence is found the courage to tell the patient the true nature of his trouble, so that no time will be lost in exercising the greatest possible therapeutic effort at a period when this will be most productive of good, and when moreover, a cure can be accomplished at the least possible expense, for the cost of maintaining an incipient patient is only about half that of an advanced case.

A thorough clinical search is incomplete without a careful inquiry into the past history of the patient and his family. Particular attention should be directed toward his early environment, mode of living, the diseases of childhood, ages at which he entered and left school and his occupation and habits since leaving school.

A family history of tuberculosis may show either a tendency to the disease or exposure to infection, particularly if the disease has occurred among near relatives, parents, children, brothers, sisters, husbands or wives.

The possibility of exposure to infection should also be inquired into as regards fellow workers and houses of friends that have been visited frequently, also the possibility of tuberculosis of a previous occupant of the patient's dwelling.

Certain occupations as is well known, are particularly liable to the disease and it is only necessary to mention that of wool operators, tool grinders, emery workers, marble cutters and polishers, slate workers and especially granite cutters.

Alcoholic and other excesses, poverty and the struggle for existence, poor, ill ventilated and unsanitary dwellings and poor food, are all important factors; in other words, *any cause that lowers the general nutrition of the body.* As such causes we must also consider previous illnesses which may have left the body with a low power of resistance.

The insidious onset of pulmonary tuberculosis frequently leads to confusion with other diseases. Thus where a patient states that he has had malaria, he should be carefully questioned as to whether he has lived in a malarious district, as to the occurrence and character of the chills, the periodicity of their occurrence and any effect that quinine has had on the symptoms. The

*Read before a meeting of the Examiners of the Vermont Sanitarium at Pittsford, Sept. 8th, 1910.

spleen should be examined and in case of doubt a blood examination made. A history of recurrent frequent attacks of "grippe," is also suggestive of beginning tuberculosis, such attacks of chills with fever and malaise are quite common and frequently mark a fresh extension of the tuberculous process.

One of the most constant and frequent symptoms is that of *getting tired easily*. This tendency to fatigue, this lessened capacity for work is almost invariably present. Often it is accompanied by nervousness, increased irritability, loss of sleep and loss of appetite. This may constitute the entire clinical picture.

Later in the disease there may be a slight dry hacking cough or *simply a clearing of the throat*, so slight that the patient may be entirely unconscious of it and even deny that there is any cough.

An abnormal daily variation of *temperature* or actual rise of *temperature* may be entirely absent in the initial stage of the disease, or if very slight, will escape the patient's notice. In some individuals there is a slight elevation for but a very short time, or the rise may occur in the morning hours instead of in the evening as usual and thus escape detection unless the temperature is taken at *frequent intervals*; every hour or at least, every two hours. With a more marked rise of temperature the patient may note a little flushing or complain of feeling feverish. In other patients there may be a rise of temperature after meals, or after moderate exertion. This fluctuation of temperature following trivial causes, is very common in tuberculosis though not necessarily characteristic.

The body weight may be normal or even higher, but a gradual progressive loss of weight is very suspicious.

Haemoptysis may be, and is frequently the first and only symptom. It may occur in a patient who has apparently been in perfect health, and in whom it may be extremely difficult or impossible to *discover any signs* or to *determine the site of lesion*. Its occurrence, without any positive evidence that the source of blood was elsewhere than in the lungs, should lead one to make a tentative diagnosis of tuberculosis even without any further proof.

Loss of appetite and digestive disturbances are frequent forerunners of tuberculosis and may, for some time, be the only symptoms. They should therefore, awaken suspicion in all cases where they fail to respond to treatment.

If cough and expectoration are present, a sputum examination should be made and *repeated* if the first reports are negative. If bacilli are found it is, of course, the most important diagnostic proof, but it must always be borne in mind and this point cannot be sufficiently emphasized, that *the presence of tubercle bacilli is not necessary in order to make a diagnosis*. Bacilli will not be found until there is ulceration of the alveolar mucous membrane and there may be extensive infiltration of the walls of the aveoli and alveolar passages, and constitutional disturbances from the absorption of tuberculous toxines, before there is ulceration. Thus by the time bacilli are found in the sputum the disease is no longer in its most incipient stage and other things being equal such an open case will require a longer time for a cure than one in which tubercle bacilli are not present in the sputum.

Abundant expectoration, severe chills and high fever, night sweats and marked emaciation with loss of strength, are symptoms of advanced tuberculosis and need not be discussed here.

The *examination* of the chest should be conducted slowly and methodically and should, if possible be arranged for a time when neither the physician or patient are unduly hurried. The clothing should be completely removed as far as the waist. In cold weather and in case of women, the body can be protected from undue exposure by a flannel shawl or nightingale or a large bath towel. To conduct a thorough and satisfactory examination *through any clothing* whatsoever is an impossibility and no consideration of false modesty or convenience should allow any exception to be made.

For the examination the patient should be placed in good light, standing or on a rotary stool. The different steps in the examination should be taken systematically, taking both sides of the chest in front and then both sides of the chest in back.

Inspection does not usually elicit any important information in early cases, the principal features to look for being diminished respiratory motion on one side, as compared with the other, particularly at the apices. In some instances respiratory motion may be simply retarded on one side, that is, the act of inspiration seems to be completed a little later on one side than on the other.

Retraction above one clavicle may point toward the side of the lesion, but as it is de-

pendent upon more or less fibrous deposit and contraction, it would hardly be expected in an incipient case. Flattening or bulging of one side or the other or of the intercostal spaces; also the general condition of nutrition should of course be noted, together with any deformities of the chest.

Marked curvature of the spine may change the signs in the lungs by compression. A slight furfuraceous or a dry scaly skin are frequently noted in tuberculous subjects. These are, however, not necessarily characteristic.

Palpation may show difference in expansion or respiratory motion of one side or diminished expansion on both sides. The vocal fremitus transmitted through the chest to the examiner's hand, may be increased on one side or the other. This would point toward increased density of one lung due to infiltration. It must be borne in mind, however, that the right side of the chest frequently is more dense physiologically and that slight increase in fremitus is therefore, more significant if it occurs on the left side in right handed individuals and vice versa. Similarly a slight variation in the percussion note, a slight relative dullness at the top of the right lung is commonly noted in health for the same reason, and is therefore, not necessarily a sign of pathological change.

Percussion should be practised at first very lightly and later more heavily, superficial changes in the lung being more readily elicited by light percussion and deep seated lesions by heavy percussions.

The superior border of the lung should be percussed along the anterior border of the trapezius muscle. The line of pulmonary resonance may be narrower on the side of the lesion. This phenomenon is dependent upon some contraction of the lung and is therefore not constant in truly incipient cases.

Percussion of the clavicle may be misleading if the clavicle is unduly prominent but often offers corroborative evidence. The different portions of the same side should first be percussed and the note compared, following this, the note on corresponding parts of both sides compared. In truly incipient cases the percussion note shows very little if any change and we would hardly expect to find more than a slight shortening of the note, unless there was more or less fibrous tissue deposited or marked infiltration. Slight relative dullness at the right apex may not, how-

ever, be due to pathological changes and should not be considered diagnostic unless corroborated by other signs.

Percussion should be practised particularly over areas known to be favorite sites for disseminated fibrous deposits, such as the lower border of the upper lobe in front between the mid clavicular and anterior axillary lines, also the back on either side of the vertebrae below the scapula.

Auscultation is probably the most important aid to diagnosis in early pulmonary tuberculosis. The stethoscope should be invariably used. As in percussion, different portions of the same side should first be compared and then corresponding portions of opposite sides. In order to more carefully distinguish changes, each phenomenon should be considered separately, that is, one should not attempt for instance, to note at one time the breath sounds and at the same time any adventitious sounds. In fact, it is better to practise what is called *two phased auscultation* of breath sounds, that is, noting inspiration and expiration separately and leaving out of mental consideration, any rales until both phases of respiration have been carefully studied on both sides.

As in truly incipient cases, the breath sounds are frequently the only signs elicited, their study deserves the most careful attention. The changes may be so very slight as to present no absolute deviation from the normal, and frequently it is only the *difference* in the two sides or in different portions of the lungs that points toward any pathological change.

The earliest change in the breath sounds that is of practical significance is *roughened breathing*. Instead of a smooth blowing vesicular murmur, the respiratory sound is heard as a series of rapidly succeeding puffs. The pitch may be somewhat higher than normal and it is heard at first only on inspiration, later on expiration, and in more fully developed cases expiration is distinctly prolonged. Where the intervals between the puffs are more prolonged, roughened breathing merges into *interrupted* or *cogwheel* breathing. As the process is more fully developed, the pitch becomes higher approaching that of the *broncho-vesicular* and *vesiculo bronchial* type of breathing. In other cases, however, the breath sounds are *diminished* and *feeble* and it may be difficult where there is a slight relative change to distinguish the side of the lesion, as a normal,

vesicular respiratory sound, may appear rough and harsher, by contrast with the feeble inspiration of the actually diseased side.

All these signs are dependent upon changes in the walls of the alveolar passages and vesicles and of the terminal bronchi as a result of which the passage of air is more or less obstructed, causing the breath sounds to be intensified or if they are entirely shut off and the alveoli collapsed, the sounds will be absent or feeble. It must be borne in mind, however, that over thickened pleura the breath sounds will be faint and distant without any change of pitch or character, and over pleural effusion they may, of course, be absent.

Vesiculo bronchial, broncho-vesicular and bronchial breathing are dependent upon more or less extensive infiltration, and belong to a more advanced stage of the disease than that which we are considering here.

Voice changes are not of great significance in incipient tuberculosis. Like all other signs based on transmissibility of sound, we would not expect increased voice or whisper or pectoriloquy unless there was fairly extensive consolidation, or even excavation. With beginning fibrous deposit there may of course be increased voice and whisper over the affected side. With thickened pleura the voice sounds may be either diminished or occasionally increased. Over pleural effusion there may be absence of voice transmission or aegophony.

The presence or absence of *adventitious sounds* is of the greatest diagnostic importance in estimating the degree and extent of the activity.

In order to elicit the fine rales characteristic of early tuberculosis, the greatest care and patience are required. After listening over the chest with fairly deep breathing, the patient should be instructed to give a short quick cough and to follow this with a deep inspiration. This should be repeated in each intercostal space at least twice over both sides of the chest. Following that the patient should expire fairly forcibly, give a short quick cough and then a deep, quick inspiration. Frequently this "expiratory cough" will elicit rales that were not heard at all in ordinary deep breathing or with the simple inspiratory cough.

Rales may be entirely absent in incipient tuberculosis and their presence is therefore not necessary for a diagnosis, but as a *positive finding* the adventitious sounds are the most important

features in the physical examination of the chest. They offer the most reliable and definite information as to the *extent*, the *intensity* and the *progress* of the disease, and their study requires and deserves the most careful attention and concentration of thought.

Beginning with the *isolated solitary crackle* heard perhaps only occasionally and only after expiratory cough at end of inspiration, the rales will increase in number and become coarser and more moist as the disease advances. On the other hand with a favorable outcome, the coarse moist rales heard in large numbers over the whole disease area, will become more scattered, finer and drier if repair is going on.

In the classification and description of rales it is somewhat difficult to always make a sharp distinction, to differentiate a sharp crackle from a fine crepitant rale, and to distinguish always between crepitant, subcrepitant and moist rales.

In other cases again, it is difficult to distinguish between fine crepitant rales and fine pleuritic friction sounds.

As may be gathered from a previous paragraph the fine solitary crackle is the earliest adventitious sound to look for. It may not be constant, that is, it may be heard one day and not another, and not heard with each cough or respiration. It is heard usually at the end of inspiration.

Fine moist rales are not heard until there is ulceration of the alveolar mucous membrane while medium and coarse rales indicate more extensive destruction of lung tissue. Coarse bubbling and metallic rales indicate excavation and need not be considered in connection with early pulmonary tuberculosis.

Care should be taken to exclude any sounds that might be confused with rales. Very frequently a patient swallowing at the time of coughing will produce sounds that are very similar to medium moist rales and as they are heard most distinctly in the supraspinous fossa behind they might readily lead to confusion. Crackling of hairs or of a dry skin, and muscle sounds, must of course, not be mistaken for adventitious pulmonary sounds.

The *tuberculin tests* are at times of some value, but if the above clinical examination has been thoroughly conducted their application is seldom necessary.

The subcutaneous test is undoubtedly the *most reliable*, and if given under proper precautions is *perfectly harmless*. It must not, however, be

employed in any case with an elevation of temperature of 99 or 99.2, nor in any case that is or has recently undergone extension or progression, or recurrence of the pulmonary process nor any case that has recently had a hemorrhage. It must not be employed at all unless the patient can be kept absolutely at rest and under the physician's control and careful observation. The initial dose should not exceed 0.5 mgm. of O. T. and succeeding doses should be increased very gradually, and sufficient interval allowed between doses. The maximum dose should not exceed 5 mgm. or 10 mgm.

In general a positive tuberculin reaction whether general, or local at the site of the lesion, as shown by increased number of rales, may at times offer the most valuable aid to diagnosis, but it is necessary only in a very small number of cases.

The cutaneous test is undoubtedly of some value in children but in adults has shown itself unreliable and contradictory. Its positive reaction would only indicate that the patient has at some time in his life had a tuberculous process in some portion of his body, but does not indicate necessarily an active clinical tuberculous lesion. On the other hand a negative test may be encountered in clinically active tuberculosis with bacilli in the sputum.

The conjunctival test is undoubtedly more reliable than the skin test but the occasional unpleasant and serious effect it has produced in a number of instances, has caused it to be more or less abandoned.

FRACTURE OF THE PATELLA.*

BY

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Fracture of the patella, while not a common injury, constituting only about two per cent. of all fractures, is of importance to us for the following reasons: (1) the serious injury to the largest joint in the body; (2) the prolonged period of disability necessitated by the ordinary methods of treatment; (3) the dangers of arthritis and resulting ankylosis or even suppuration in the joint; (4) the uncertainty of the ultimate result from a functional standpoint.

*Read at the Sept. meeting of the Windham County Medical Society.

We are all familiar with the fact that it most commonly occurs in young adult males. It is also well known to us that it occurs five times as often in males as in females. The manner of its production we know to be due to one of two causes, either direct violence by a fall or blow directly upon the patella producing a comminuted or irregular fracture, (this form comprising in round numbers about forty per cent. of all fractures of this bone), or by a sharp muscular contraction of the extensor muscles of the thigh with the result usually of producing a transverse clean cut fracture through the bone. We also know that fracture of the patella invariably involves the knee joint. It is not, however, so generally known that the likelihood of wide separation of fragments is greater than after simple transverse fracture due to muscular action than in the comminuted fractures produced by direct violence; due to the fact that the separation of the fragments is due directly to the size of the rent in the capsule and direct violence is not as apt to produce as much separation as is the indirect, certainly not as apt to, as is the sudden pulling apart of the fragments by strong muscular action.

When this accident has occurred, it is the most simple thing in the world to tell almost at once what the trouble is, therefore, the diagnosis of the condition need not trouble us. Care should be taken, however, to eliminate rupture of the patellar tendon or of the quadriceps extensor muscle, both of which conditions give a sulcus.

Whatever ultimate plan of treatment may be decided upon for this condition, the immediate care is the same, namely—the care of the results of the traumatism. This is accomplished by the use of the ice bag or Leiter coil, or better by compression by means of sponge compresses saturated frequently with cold water, immobilization of the limb, massage twice daily for fifteen or thirty minutes not only of the joint but of the thigh muscles as well. This care should be continued for from five to eight days, or until after the subsidence of all active inflammatory disturbance. Now, however, having reached this point, we come to the parting of the ways. To cut or not to cut, that is the question.

Each method has its advantages as well as its disadvantages; and likewise its advocates and its opponents. Charles A. Powers of Denver, in a paper read before the American Surgical Association in 1898, reported the results of ninety

communications received from the prominent surgeons in the United States relative to their favorite method of treating fractures of the patella. Nineteen did not express any opinion because of lack of experience. This left seventy-one who expressed a positive feeling; of these, nine, or 12% said that they would operate in all cases in which there were no distinct contraindications; forty-one, or 58% would operate under specified conditions, while twenty-one, or 30% would not operate in any case. More pointedly stated, 30% would not operate on any case for any reason; 12% would operate on every case except for special reasons; 58% would operate only on selected cases and for special reasons. This is probably a fair summary of the feeling ten years ago. I believe that at the present time a much larger percentage would be found favoring operation.

Let us take up for a moment some of the points at issue both for and against each method of treatment and compare them.

(1) *Safety*.—There is no question but that the non-operative treatment is by all means more nearly devoid of danger. This is, however, not entirely true as well marked arthritis followed by ankylosis has occurred. But such an accident, it is needless to say, is much less likely to occur with a joint which has never been exposed to infection from without than in one which has been freely opened and more or less manipulation carried on within it. And if sepsis occurs, as a result of arthrotomy there is imminent, a stiff knee, amputation of the thigh and possibly death from septic infection. There is no question but that the danger of infection is greater and more to be dreaded from the knee joint than from the peritoneum.

But, on the other hand, has not the fear of infection been carried to the extreme? Certainly in these days when the peritoneum is entered with impunity and practically without risk by those constantly doing surgical work, it would seem as though the danger was somewhat exaggerated, not that I desire to make light of the dangers of doing an arthrotomy of the knee joint. In the paper by Powers before alluded to, there were collected 711 cases, 474 of which were from personal communications and 327 were gathered from the literature of the two years preceding the presentation of the paper. Of the first series of 474, four died; of the second series of 237, six died. Of these ten deaths, three died from sepsis

and the remainder from other causes not related to operative technique.

Dr. Charles Phelps reported, as long ago as 1890, 116 cases of wiring of the patella with but one death and that due to delirium tremens.

(2) *Bony Union*.—This is unquestionably most likely to occur after the operative method. Bony union was formerly thought to be impossible by the non-operative plan of treatment. In fact, it is said that Malgaige offered a monetary prize to anyone who would bring to him a bony union of a fractured patella treated by the non-operative method. Since the introduction of the X-rays, however, it has been proven to exist on rare occasions. By the open method of treatment, bony union almost always occurs, it being the exception when it does not do so. The conditions which tend to cause imperfect union are, (1) separation of the fragments due to the contraction of the quadratus femoris and the retraction of the fragments; (2) tilting of the fragments. This may be present in a marked degree and unrecognizable without operation; (3) rupture of the tendinous expansion and the lateral portion of the capsule of the joint; (4) prolapse of the prepatella tissues into the breach between the fragments; (5) atrophy of the quadratus femoris due to (a) tension; (b) arthritis; (c) marked contusion and bruising of the muscle; (d) or blood exudation from the joint through the rent and upper part of the capsule; (6) arthritis of the knee joint, this probably resulting in (7) adhesions of the patella. With one or two exceptions, all of these interferences to bony union are eliminated by the open or operative method of treatment.

(3) *Period of Disability*.—Scudder, in his work on the treatment of fractures, gives the following summary of the treatment of fracture of the patella by the expectant or non-operative method. During the first four weeks, fixation of the knee, elastic compression, douching, massage, the thigh flexed slightly on the pelvis, the leg extended, retentive straps, and coaptation splints are the ordinary measures employed; at the fourth or sixth week, remove all apparatus, apply removable splint, allow walking with crutches, use daily passive motion; at the eighth week, discard crutches, use cane, permit limited, daily, active motion; at the sixth month, discard splint, apply flannel bandage and discard cane; at the eighth to the tenth month, remove all apparatus. Here is a lapse of time of complete and partial dis-

ability covering a period of eight to ten months. In contrast to this, note what he says concerning the *after-treatment* following the *operative* method. Massage or gentle motion at the end of two weeks, at the end of three weeks may go about on the knee, protected by a light stiff dressing; after about six weeks to two months, a flannel bandage and cane will be all the protection needed to the knee; at the end of three months, the knee should be functionally perfect.

This is about the feeling that most surgeons have in reference to the relative period of disability following the operative and non-operative methods of treatment. Much more time is lost in treating these cases by the non-operative method, compensated for, of course, by safety of life and limb.

(4) *Ultimate Result*.—As I have said before, bony union is not expected in fractures of the patella treated by the non-operative method. The best that can be looked for being ligamentous union—with more or less separation of the fragments, although more than one-fourth inch in separation should be looked upon as a poor result. Use, however, may cause separation of the fragments to a considerable extent, even two inches, and still the limb be a fairly useful one, functionally speaking.

With the operative or open method of treatment, bony union is the rule rather than the exception, it being only rarely that it does not occur. With the divided bone united by suture, retraction or separation of fragments is much less liable to occur as would naturally be expected, although such an accident is not impossible. On the other hand, a case has been reported in which a second fracture occurred in an entirely new place in a patella which had been wired eight months previously.

Now for a glance at the technique of caring for these fractures. I have outlined the treatment to be pursued for the first four or five days earlier in this paper. If now it seems best to continue the expectant or non-operative plan, a posterior splint may be moulded to the back of the leg extending from the buttocks to the sole of the foot and so shaped as to keep the foot at a right angle. To this the leg is bandaged both above and below the fracture. The upper fragment is pulled down as nearly in apposition with its lower fragment as possible. Adhesive strips are then applied obliquely to the limb just above the upper fragment in such a manner that the

upper edge of the upper fragment comes in contact with the lower edge of the adhesive. Adhesive is also placed in a similar way below the lower fragment to prevent its retraction, although this is not very much as a rule. The thigh should be encased in snugly applied coaptation splints in order to control the active muscular contraction of the quadriceps. The tendency of the fragments after these strips of adhesive have been applied is to tilt their fractured surfaces upward and this is especially liable to occur if any excess of fluid be present in the joint. To overcome this tilting, therefore, it is necessary to apply a third strip of adhesive, a little wider than the other strips, directly over the edges of the tilted fragments in order to bring them down to their proper level and to assist in bringing them into apposition. The greatest watchfulness and care should be exercised to see that these fragments are kept in apposition if this treatment is adopted. Massage should be given the joint and thigh muscle daily for from fifteen to thirty minutes. Flexion of the thigh upon the body should be constant. Usually, moderately firm ligamentous union is found at the end of five or six weeks. At this time, the retention adhesive strips may be permanently removed and the leg may be immobilized by a firmly applied splint or better by a plaster of Paris splint, extending from the toes to the groin. This may be split in order to allow its daily removal for massage and passive motion. After about eight weeks, the patient may be allowed to walk about with crutches, always being sure that the leg is held in a fixation splint. This fixation should be maintained while walking for a period of six months, although it may be removed and the knee be moved actively as much as possible after the tenth or twelfth week.

Within recent years a simpler method of treatment of these fractures has come into vogue with results, it is claimed, somewhat superior to those attained by any form of fixation apparatus. This consists simply in placing the limb upon an inclined plane, flexed at the hip, and giving daily massage to the knee and the quadriceps femoris muscle, letting the fragments take care of themselves. It is claimed that with this position, there is not very much retraction of the upper fragment and that a more rapid union is favored through stimulation of the tissues by daily massage. Certainly if reports are to be believed, most excellent functional results are obtained by this

method and equally as quick as when some form of mechanical fixation is resorted to.

In considering the operative treatment, we must ever bear in mind the importance of a thorough knowledge of aseptic technique, for in no place in surgery is asepsis of more importance than in the knee joint. There is an old rule concerning asepsis and antisepsis which reads, "Be sure that your hands are thoroughly clean and then act as though they were absolutely dirty." One could not do better than to repeat this rule to himself before opening the knee joint.

The following operative measures have been used in the past for fastening two fragments of a broken patella together; *first*, the subcutaneous peripheral method encircling the patella by a purse string wire suture; *second*, subcutaneous antero-posterior method encircling the two fragments by means of a silver wire, sometimes known as Barker's method; *third*, free incision and direct suture of the patella fragments by passing silver wire through drilled holes; *fourth*, free incision and suture of the periosteum and torn ligaments on either side. The first two methods or the subcutaneous methods, while they have been fairly successful in the hands of those who have used them most, have this disadvantage, that there is danger of invading the joint. They, therefore, call for the same care in technique that is necessary in the bolder method of free incision. They also have the disadvantage of not being able to clean out clots which have accumulated in the joint as a result of the traumatism and the presence of these clots to some degree favors more or less adhesion between the joint surfaces with the resulting ankylosis. It is also not possible to remove any prepatella tissues lying between the fragments and preventing bony union.

Personally, I would much rather, believing that the responsibility is the same, open the joint and be able to see what I am doing than resort to what seems to me such a blind method as the subcutaneous suture. One should not undertake the so-called open method unless he feels perfectly competent to do aseptic surgery and unless he can rely absolutely upon his assistants and technique. This practically means a hospital service. But if one *can* command all these things, I believe that we are reasonably safe in undertaking this operation.

As I said before, nothing should be done beyond elevation of the limb and massage for from four to seven days after the receipt of the

injury, or until the immediate effect of the traumatism has largely subsided. Then the limb having been properly prepared, a U shaped incision—sufficiently large to expose the whole joint—with the convexity upward should be made down to the joint, the flap turned downward, the joint washed out with normal salt solution and constant irrigation with the same solution maintained throughout the operation. The adherent blood should be scraped off from the broken surfaces of the fragments; the periosteum and ligamentous tissue should be cut off flush with the fractured surface of the bone, so that no fibrous tissue intervenes between the two opposed surfaces. After this, holes may be drilled obliquely through the fragments and the divided bone brought together by means of silver wire, the ends of which are twisted and pounded down into the patella, later closing the rent in the capsule with catgut or silk; the tendency at the present day is to use absorbable sutures in place of wire or silk. In the past, it was thought that heavy strong suture material was needed to hold the fragments in apposition but this has been found to be unnecessary and sutures of No. three or four chromocized catgut have been found to answer equally well in place of the old silver wire. Within the last two or three years, this method has been modified still further by doing away entirely with any drilling of the patella and simply bringing the parts in apposition and stitching the periosteum and capsule with No. two chromocized catgut. After the fragments have been fastened in apposition, the skin flap is closed with silk worm gut or horse hair sutures; a ham splint is applied; the leg is kept elevated; the skin sutures are removed in eight or ten days; a plaster cast is applied, which is opened in the fourth week and passive motion of the patella is begun together with massage of the knee and muscles of the thigh. After six weeks, when union should be firm, passive motion of the joint is begun. After eight weeks, all retention apparatus should be dispensed with and the patient directed to use his joint actively.

This method of treatment, to my mind, is simple, reasonably safe and carries with it the minimum period of disability. When patients have the means and time at their disposal and the separation of the fragments is not great, the non-operative treatment may be resorted to, but in those who belong to the laboring class, who are dependent upon their weekly wages, who have

rent to pay and children to clothe and feed, all efforts should be made to render the period of disability of the shortest possible extent and it is in this class of cases that I believe we are justified in immediate closing up of the rent by the open method.

The suggestion may be made that we try the non-operative method first and if, after two or three months, results do not seem to justify our expectations, we can then resort to more radical methods. In answer to this I would say that, at that time it is going to be much more difficult to pull down the upper fragment and that it may be necessary to do some sort of plastic operation upon the extensor quadriceps muscle itself in order to obtain close apposition of the fragments. Statistics have proven that where this has been necessary, operative treatment has not yielded as good results as has been obtained by the immediate repair of the recent fracture. It is, of course, understood that this operation should not be performed upon a poor surgical risk. Victims of any chronic diathesis or of specific disease or those over fifty years of age would not be considered suitable risks for this treatment, unless the demands for offering it are great. It has been my fortune to see and operate upon four cases of transverse fracture of the patella due to muscular action, all of which I have treated by operation by the open method.

Mrs. G. C., 44, seen March 18, 1904, slipped on the sidewalk and lost her footing; in attempting to save herself, something gave way in the right knee. Examination showed a transverse fracture of the patella, fragments separated about two inches; only a moderate amount of swelling. On March 22nd, four days after the injury, the knee joint was opened, thoroughly cleaned, edges of patella freshened, the rent in the capsule trimmed, and the periosteum and capsule sutured with chromocized catgut. Patient had considerable pain for a few hours following operation but practically none after that; convalescence uneventful. Leg was put in plaster cast on April 5th and the 17th of April, she returned to her home. The cast was removed by her family physician about April 25th and passive motion and massage begun. About May 5th, all restraint was removed from the limb and she was allowed to walk. August 1st, her physician reports that she was doing her own housework.

J. L., seen September 10, 1910. In playing ball, he tripped and is supposed to have fractured

his patella in an effort to save himself from falling; he himself doesn't know how the accident happened. Examination showed a transverse fracture of the patella with a separation of the fragments of about three-fourths of an inch. Six days afterward, the joint was opened by a U shaped flap, with the convexity upward, the joint cleaned out, the edges of the patella freshened, the edges of the rent in the capsule and of the periosteum trimmed off; the fragments sutured together with silk; convalescence uneventful; plaster cast applied thirteen days after operation; patient discharged from hospital October 6th, and referred to his physician for further treatment. How soon functional use of this limb was obtained, I do not know as I have never been able to hear from him since.

Mrs. G. C., seen September 20th, 1905. This is the same patient who fractured her right patella in March, 1904. This time in walking down a muddy bank, her foot slipped and in trying to save herself from falling, she fractured her left patella. Examination showed separation of the fragments about one and one-fourth inches. The joint was opened by a crescent shaped incision September 25th, five days after the injury, joint cleaned out, bone freshened, capsule and periosteum stitched with silk; convalescence uneventful; plaster cast applied to leg October 8th. Patient discharged from hospital October 12th. This patient made a rapid recovery and at the end of three months was doing her own work.

J. A. P., express messenger, seen February 18, 1906. In stepping from a moving car to the ground, in some way he doesn't know how, he hurt his knee. Examination showed fracture of the patella, separation of fragments one-half inch. February 24th, six days after the injury, the joint was opened by U shaped incision, blood cleaned out of the joint; fractured surfaces of the bone cleaned up, capsule and periosteum united with No. 2 Pagenstacher sutures. March 10th, plaster cast applied to leg; March 22nd, patient discharged from hospital and referred to the family physician for further treatment. In this case, the cast was not taken off by his physician until May 11th—one month later than it should have been. On June 28th, he had flexion of about 35 or 40 degrees; passive and active motion had not been persisted in as thoroughly as it should have been. Early in August, this patient had 90 degrees of flexion and seemed to be all

right, when suddenly an inflammatory disturbance developed on the front of the knee. This was ultimately opened and the patient had considerable pus discharge, after which the wound soon healed up. The family physician believes that it came from the knee joint, although when I saw him last, within a month later, he had flexion nearly to a right angle despite all his trouble. He returned to his former occupation of baggage man on one of the fast express trains, running between Boston and the west and has continued in the same employment ever since.

ETIOLOGY AND PATHOLOGY OF APPENDICITIS.

—Dr. G. R. Holden believes that abscess in appendicitis untreated by operation may terminate in one of several ways. It may rupture into the abdominal cavity and thus start a general peritonitis. It may become adherent to the anterior abdominal wall and rupture externally, or else set up a widespread phlegmon of the wall. A retrocaecal abscess may point along the line of the psoas muscle, or work its way along the muscular planes of the abdominal wall. Rupture inside the abdominal cavity may take place into the caecum, rectum, bladder, gall-bladder or pleural cavity. Recovery of course is possible whenever by rupture, the abscess manages to drain itself sufficiently well to the outside of the body, be it by direct rupture through the abdominal wall or indirectly by rupture into some hollow viscus connecting with the outside of the body. When rupture of the untreated abscess does not take place, septicaemia or pyaemia will almost certainly ensue later and terminate the scene. It must be conceded, however, that in some very exceptional cases pus from an abscess can be absorbed and a cure take place spontaneously without rupture of the abscess. In such cases the amount of pus is very small, the bacteria not very virulent. The organisms first die, the pus becoming sterile, and then is reabsorbed. Such terminations are very rare.

SCHOOLS FOR STUTTERERS exist in Vienna, states Dr. Leopold Senner. The length of the courses is five weeks; and instruction is given during two hours each day. There are eight

children to a class; a greater number cannot be successfully managed. The children withdraw from other school attendance, and have to present medical certificates that they are free from any organic disease that would interfere with the purpose of the instruction. The parents' co-operation is especially important. The children are to have a separate room at home where they can practice the exercises undisturbed. The parents must have the children practice thus four hours each day; and during the first fortnight not to allow them to speak at all except to practice the exercises prescribed.

Keeping silent is of much importance to the success of the course; and parents are particularly advised never to cast any doubt upon the effectiveness of the courses or the teachers. It must be taken into account in the treatment that stutters lack self-confidence. At the end of the five weeks' course the instructor brings each pupil back to his regular school and indicates to his teacher what has been accomplished, besides giving advice concerning future instruction. The teacher is requested to encourage and to make permanent the new habits acquired; and each month these children are examined in order to determine what permanent results have been obtained.—*N. Y. Medical Times.*

SPINAL ANALGESIA.—A feature of spinal analgesia which does not seem to have received due consideration is its stimulating effect on the patient's sociability. It is reported from Hartford, for example, that a young man who had four toes amputated, "talked and laughed throughout the operation." Almost all the patients operated on during Jonnesco's recent visit by his method, were described as engaging in cheerful conversation with the bystanders while the surgeons were removing their appendices and "fussing with other of their internal arrangements." "Electrical anaesthesia" has also a halcyon psychic effect, it would seem. By this means it may be possible, regardless of any operative procedure, to bring a smile to the lips of a broken-hearted victim of a love affair; it might also stimulate to a proper activity the man who has for many years had nothing to say to his wife across the breakfast table.—*New York Med. Times.*

Vermont Medical Monthly.

*A Journal of Review, Reform and Progress in the
Medical Sciences.*

H. C. TINKHAM, M. D., }
B. H. STONE, M. D., } *Editors.*

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EDITORIAL.

The number of extensive and widely separated epidemics of anterior poliomyelitis in this country during the last two years has drawn the attention of the medical world to the disease with the results that a large amount of new information has been accumulated regarding its reasonable distribution; its cause and symptomology, but farther than this in the last two years, tremendous strides have been made in the knowledge of its etiology, minute pathology and method of spread. The disease has been epidemic in eastern Massachusetts, Nebraska, Pennsylvania, Washington, D. C., Iowa, Virginia and Minnesota, and has reached its maximum in all of these localities during an unusually dry August.

Poliomyelitis long prevalent in Europe was first noted in this country to an alarming extent in 1893, when quite a number of cases occurred in the vicinity of Boston. The earliest American epidemic of any extent was reported by Caverly in 1894. In 1896 a severe epidemic occurred in New York City and from that time until

last year, the cases occurring in this country had been mostly sporadic.

While the disease does not have the mortality rate of many of the other epidemic diseases (an average of eight per cent. in American cases) yet it is of importance out of proportion to these figures, from the fact that it leaves so many cripples in its wake. Its onset is sudden and early diagnosis difficult. After paralysis appears, which is usually early, there is little difficulty in determining the nature of the malady. McIntyre gives the cardinal symptoms as follows:

"1. Headache is ordinarily the first symptom complained of. It is probably not as severe as the headache of meningitis and I have never seen it accompanied by delirium in an early state.

"2. Vomiting is an early symptom and may be so persistent as to cause much discomfort. It is not 'projectile' as in some diseases of the brain or its meninges.

"3. Spinal rigidity, in some degree, without retraction of the head, accompanied by more or less pain in the cervical or lumbar regions, aggravated by lateral rotation of the head or by anterior flexion of the spine.

"4. A feeling of extreme weakness wholly out of proportion to any of the ordinary causes of fatigue to which the patient has been subjected, and which persists in some degree, for two or three weeks, disappearing gradually.

"5. A rapid and weak pulse with a peculiar feeling of lack of tension, the latter peculiarly increasing as paralysis approaches or develops.

"6. An elevation of temperature, ranging from normal to 102.5 degrees, rarely to 103 degrees, and subsiding without treatment, usually in from three to five days.

"Of all the symptoms just mentioned, spinal rigidity and pain are the most important."

Although a large proportion of the cases have appeared in epidemics, yet the occurrence of many sporadic cases, the difficulty of tracing the in-

fection in these cases, and the failure to get infection in many instances of exposure, has long left the true infectious character of anterior poliomyelitis in doubt. This fact has at last been settled beyond peradventure through the researches of Lewis, Landsteiner, Levaditi and Flexner. It has been shown by these workers that the emulsified spinal cord of patients dying in the acute stage, would convey the disease to monkeys inoculated with it and that the virus can be carried from animal to animal in this way—Flexner has already carried it through a succession of twenty-seven monkeys. It has been further shown by irrefutable experiments, that the virus rubbed into the mucous membrane of the nasal pharynx will produce the disease and furthermore that the ground-up nasal pharyngeal membrane from cases of the disease, carried the virus and can be made to transmit it to others. Thus there can be little doubt that the disease can at least be spread by secretions from the nasal pharynx. The infecting organism itself has not been isolated but much has been learned concerning it. The virus is present in the incipient stage of the disease in the spinal fluid. Later after paralysis has become marked, the fluid loses its virulence but emulsions of the cord are still virulent. The organism is ultra microscopic, passing through the interstices of a Berkfeldt or Pasteur filter. In this virulent filtrate, small shining points have been made out but as similar appearances have been discovered in similar filtrate from a normal cord, little dependence can be placed on the bodies. This virus attacks the leptomeninges first and finally the grey matter of the anterior horn. The infection occurs through the perivascular lymph spaces of the anterior horn, causing an accumulation of round cells between the adventitia and muscular coats of the arterioles, and causing by pressure, the constriction of the vessels. This leads to focal

necrosis, softening, and occasionally hemorrhagic extravasations with local oedema. The immediate regions of the cord involved are indicated by the group of muscles affected. The regions supplying the larger muscle groups are more often attacked, apparently by reason of their greater supply of blood vessels. Once attacked, confers an immunity, absolutely, so far as it known or can be demonstrated experimentally. This immunity can be strengthened by inoculation with virus subsequent to an attack of the disease. Serum from such a case mixed with virus destroys its virulence in some measure. If some means can be devised for making a pre-paralytic diagnosis, the eventual prospect of serum therapy seems to be good.

From the facts already known, there can be no doubt that even though mildly infectious, anterior poliomyelitis is a communicable disease, and should, as such, be reported to the health authorities. Most of those conversant with its epidemiology are of the opinion that the reported cases should be quarantined for two weeks following the symptoms of paralysis. Vermont has been comparatively free from the disease this year, but from our close proximity to the infectious area in Massachusetts (around Springfield), we should be on the lookout for it. Twenty-seven scattered cases have been reported thus far, and a few more are to be expected this season, but more cases may be anticipated another fall. Physicians should be on the lookout for the disease and should promptly report any cases when found.

The great event of the year to many an over-worked medical man is the annual meeting of his state medical society. This is as it should be and would that it were so to an even greater number. The necessary isolation of a doctor practicing in a rural district keeps him apart from other men of his profession and if he is at all

inclined to be slothful in his business the temptation to retrograde may prove too strong to be resisted. On the other hand, the many duties and the appointments which cannot be neglected, prevent him from taking any extended time for postgraduate work or even for a vacation. He often feels that he is in a vicious circle, bound to do the same old thing, in the same old way, feeling that there must be a better way and yet lacking the opportunity to learn. To such men, the state society meeting serves a double purpose of a post-graduate course and a relaxation. Covering a period of only two days, into those days are crowded papers and discussions on timely subjects, presented in a way which renders them much more understandable than text-book reading. Between the sessions there is the personal contact with other medical men most of whom are taking this time as their only reprieve from professional work and all ready to give advice or accept suggestions for the better performance of their duties. It is an interesting study in human nature, to walk from group to group at the hotels or in the halls and observe the trend of the conversation. One hears over and over again "I had a case" of so and so, and then follows a case history and method of treatment from which any one can gather some points. This is the sort of atmosphere and environment which makes the state society meeting worth attending. It is all medicine, but it is medicine in a new guise and one has the pleasing sensation of being enlightened and refreshed at the same time. If this description seems overdrawn, attend the next meeting of your state medical society, or of your county society, if it comes earlier, and ask the first medical man you meet whether or not he enjoys these annual meetings. If he has ever been to a state society meeting the chances are that he will very likely express himself in a way very similar to the foregoing.

NEWS ITEMS.

Dr. Ernest Weinert has located in Barre, Vt. He retired from the Italian Navy with the rank of Lieutenant Colonel.

Dr. C. B. Abbott has sold his private sanatorium in Suncook, N. H., and gone to Hillsborough Bridge to practice with his brother Walter H. Abbott, M. D.

Dr. Sam Sparhawk has closed his sanatorium at Burlington. He will continue to devote his time to private practice. The sanatorium is to be turned into a family hotel.

Dr. Donly C. Hawley met with a painful accident recently. He was in the country with his automobile and while trying to crank the machine, the crank handle flew back and the result was a sprained wrist.

A daughter was born to Dr. and Mrs. J. J. Ross of Richmond recently.

A daughter was born on August 25th to Dr. and Mrs. William M. Higgins. Dr. and Mrs. Higgins are located in St. Johnsbury, Vermont.

Dr. P. W. Wing has closed his practice for good in Canaan, N. H. and gone to Boston, Mass.

Dr. John H. Gleason of Manchester, N. H., had his automobile stolen recently. The machine was recovered by the Boston police within twelve hours.

Dr. Willard Clough has sold his business in Bethel, Vt. to Dr. F. A. Edmunds of Pittsfield, Vt. and has gone to Enosburg Falls.

The New Hampshire Surgical Club held its fifteenth annual meeting at Dartmouth Medical College, Hanover, N. H., October 5th and 6th with the following program:

1. President's address, "Certain subjects of interest in surgery,"

John H. Gleason, M. D., Manchester, N. H.

2. Stone in the ureter, its diagnosis and surgical treatment,

A. E. Garrow, M. D., Montreal, Ca.

Discussion by

Dr. Henry C. Tinkham, Burlington, Vt.

3. Acute mastoiditis,

Elmer H. Carlton, M. D., Hanover, N. H.

Discussion by

Dr. Arthur F. Sumner, Manchester, N. H.

4. Brain abscess,
Frank E. Kittredge, M. D., Nashua, N. H.
Discussion by
Dr. A. W. Shea, Nashua, N. H.
5. Brain tumors and their surgical treatment,
Harvey Cushing, M. D., Baltimore, Md.
Discussion by
Dr. John M. Gile, Hanover, N. H.

Dr. John M. Wheeler of New York City announces his removal to Bryant Park Studios, 80 West 40th Street, where he will be associated with Dr. Dwight W. Hunter.

Dr. K. L. McKleary has returned from Calgary, and opened an office in the Bean Block in Newport, Vt.

Dr. Lewis E. Hemenway of Manchester and Laura M. Merrill were married September 21st at Middlebury, Vt. Dr. and Mrs. Hemenway will reside in Manchester, where Dr. Hemenway is engaged in practice.

The second annual meeting of the American Association of Clinical Research was held in Boston, September 28th and 29th. Some very valuable contributions on Researches in Medicine and Surgery, in Prophylactic and Anaphylactic Medicine, in Mental Medicine, in Radiotherapeutics, in Metabolism, were given. There was also a public meeting. The cause of the Association to secure the true facts and principles of medicine and to advance medicine on the basis of truth and not of whim is the cause of every true physician. Every physician is most cordially invited to become a member of this association and your support and that of your friends will be highly appreciated.

Professor Gaffky of Berlin has been appointed director of the institution for infectious diseases, as successor to Robert Koch.

Collier's for August 27th reports that women graduates of the Colorado State Agricultural College must be able to make a complete infant's layette before receiving the diploma in household economics. Some day our children will be clothed till the fifth year or later in a simple loin cloth. This garment will be required to carry pockets, without which no boy could be happy. Parents who overdress children, being sometimes insensible to appeals based on hygiene and com-

mon sense, should be brutally told that the practice is vulgar and not indulged in by the "best people."

The death rate in the registration area of the United States for 1902 is lower than that for any previous year. The U. S. Census bulletin on mortality statistics gives the death rate, based on the provisionally estimated population for that year as 15 per thousand as against 15.4 for 1908. The bulletin states that it is evident that an era of low mortality has begun and cites the fact that the death rate in England and Wales for the same year was 14.5 and for London was 14. This latter fact demonstrates the fallacy of the idea that high death rates are necessarily found in large cities. The largest number of deaths returned for any month of 1909 was 70,009 for March and the month having fewest deaths was June. The registration area comprised 55.3 per cent. of the estimated population for that year.

The Washington County Medical Association at its annual meeting on Sept. 13 elected the following officers for the ensuing year: President, Dr. L. W. Burbank of Cabot; Vice-President, Dr. C. E. Chandler of Montpelier; Secretary, Dr. E. A. Colton of Montpelier; Treasurer Dr. L. A. Russlow of Randolph.

An epidemic of diphtheria in Westfield, Mass., has become so serious that the health authorities and school committee decided that four of the largest schools should be closed, giving an enforced vacation to fifteen hundred pupils. Thirty-five cases of the disease have been discovered thus far, from which five deaths occurred within a week. The epidemic has been confined to the Polish district where the health authorities have found it difficult to enforce sanitary precautions.

The public schools of Middletown, Conn., have been ordered closed for an indefinite period by the Board of Education owing to the presence of an epidemic of infantile paralysis which developed during the past week. Fourteen cases were reported up to September 29th with three deaths.

Boston's open air school is to be discontinued on November 1st. The trustees state that while they are satisfied with the manner in which the school has been conducted they do not deem it wise in the interests of the city to continue it further until other things are done.

No fear of cholera entering the port of Boston by means of steamships arriving from southern Italian ports is expressed by local steamship agents and health officials. Dr. Samuel H. Durgin, chairman of the Boston Board of Health, points out that arrangements already have been made whereby persons embarking at southern Italian ports for Boston are to be held under medical observation for five days which is considered to be about the limit for the incubation of cholera germs in a person who has been exposed to the disease. The voyage from the Mediterranean to Boston requires at least ten days and all passengers arriving at this port are subjected to close inspection by the port physician.

Dr. Ira Norman Gates of Panama was married August 30th, 1910, to Miss Bessie Amis of Washington. Dr. Gates graduated from the Medical Department, University of Vermont, 1906, and has been in the Government service since 1907.

The Orleans County Medical Society met at Orleans, Vt., Friday, September 23rd, where the following program was carried out:

PROGRAM.

Infantile Paralysis, C. K. Russell, Montreal
 Seventy Cases of Infantile Paralysis,
 Dr. Edgar, North Hatley, P. Q.
 Observations in our recent epidemic,
 Drs. E. M. Nichols, F. R. Hastings, Barton.
 Dr. P. C. W. Templeton, Irasburg.
 Drs. E. M. Cleasby, R. M. Wells, Orleans.

OBITUARIES.

Dr. Emory M. Lyon, University of Vermont, 1862, member of the Medical Society of the State of New York and formerly president, secretary and treasurer of the Clinton County Medical Society, died at his home in Plattsburg, N. Y., Sept. 7th, aged 74 years.

Dr. William B. Stewart of Unadilla, N. Y., a graduate of the Vermont Medical College, a member of the Vermont State and Bennington County Medical Societies, and until recently a practitioner in Bennington, died at his home on August 21st, from nephritis, aged 32 years.

Dr. Fred A. Brennan was born in St. Albans, Vt., August 15th, 1874. He attended the public

schools, and was in the High School, class of 1893 as a special student, but did not complete the course.

In 1894 he matriculated at McGill University, entering the Veterinary Department where he remained one year. The following three years he attended the Medical Department, then owing to his father's death he was absent from college three years. The most of that time he was employed in South Amboy, N. J. In 1901 he returned to the University, graduating in medicine in 1902.

After graduation he practiced one year in Fairfield, Vt., then removed to Georgia, where he remained until his death. During this time he had a large and exacting practice, more exacting than the average, by reason of his being the only doctor in town; but he was always found resourceful and skillful and enjoyed the confidence of his patients to an unusual degree.

In addition to his skill and ability they found him honest and unselfish, always ready to give them the best there was in him, never sparing himself when he could help others, this latter fact probably having much to do towards shortening his life.

In 1907 he married Miss Effie L. Saunders of Medford, Mass., who survives him.

As a student he was very brilliant, grasping a subject quickly and retaining it, so that he acquired with little effort what might cost others hours of study. His mind being clear and logical he arrived at conclusions quickly and accurately, and, having formed an opinion was tenacious in its defense.

As a man he was without fear, strong in his likes and dislikes, frank and outspoken in his opinions. Such a man is bound to make strong friends and some enemies, yet Dr. Brennan had the friendship and confidence of a larger portion of the community, than is often obtained.

In the fall of 1908 Dr. Brennan was ill for some time with rheumatism and complications, and although he improved somewhat, the last year was one of great suffering. Notwithstanding this, he persisted in attending to his practice, and did so until the 26th of March, when he died just after he had returned home from making a professional call.

Stricken down in the prime of his life, his work unfinished, with half the allotted time before him, his death came with greater moment to us all, and although we bow to the will of our all

wise Creator, we cannot but feel that Dr. Brennan's life was all too short; yet short as it was, his place in the affections of his associates is secure, and our regrets are "deep, strong and unfeigned."

The loss of such a man cannot but create a gap in any community, "not independence but interdependence is the law of our life."

In the early, and, to us, untimely death of Dr. Brennan we realize that

"The Moving Finger writes; and having writ,
Moves on: nor all your Piety nor Wit
Shall lure it back to cancel half a Line,
Nor all your Tears wash out a Word of it."

Dr. Arthur J. Darrah, the son of Robert and Mary E. Darrah was born in Brome, P. Q., June 17th, 1844. He was educated at the Knowlton Academy, at St. Mary's College, Marieville, Que., and at the Eastman Business College, Poughkeepsie, N. Y. He studied medicine and graduated from the Medical Department of the University of Vermont at Burlington in 1867. The first year of Dr. Darrah's practice was in Jeffersonville, Vermont, he then went to Enosburg Falls where he has practiced medicine for more than forty years. For twenty-five years or more Dr. Darrah did a large business, his ride extending into all the adjoining towns. He acquired quite a reputation as a surgeon and did his full share of the work in that line for some years. Dr. Darrah's health failed some twelve or fifteen years ago and he has done but little professional work since. He was the owner of quite a number of tenement houses in the village, the care of which with some office work was all he could do. Few realized how feeble the doctor was getting and he was not able to withstand an attack of lagrippe, from which he died on Sunday, April 3rd, 1910, aged 65 years, 9 months and 16 days. The funeral was held at the house, Tuesday afternoon, the Rev. W. T. Forsyth, pastor of St. Matthew's Church (of which Dr. Darrah was a member and vestryman) officiating. Burial was in Missisquoi Cemetery, where the Masonic service was conducted by Lincoln Lodge. He is survived by his wife, and by a brother and sister of Waterville, Vt.

BOOK REVIEWS.

DISLOCATIONS AND JOINT-FRACTURES.—By Frederick Jay Cotton, A. M., M. D., First Assistant Surgeon, Boston City Hospital. Octavo of 654 pages, 1,201

original illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

This book is a very careful discussion of injuries about joints, both dislocations and fractures. It is very largely the expression of the author's personal experience for ten years and is intended to discuss these injuries from the standpoint of modern methods, freed from the obsolete ideas of the surgery of joint injuries.

The author has succeeded most admirably in giving a clear-cut and comprehensive description without tiresome length. The book is profusely illustrated with photographs, radiographs and drawings, so placed as to be a part of the description. It is a treatise based upon careful investigation and logical deductions and cannot fail to be appreciated by physicians who desire a work on this subject.

A MANUAL OF OBSTETRICS.—By A. F. A. King, M. D. Professor of Obstetrics and Diseases of Women in the Medical Department of the George Washington University, Washington, D. C., and in the Medical Department of the University of Vermont, etc. Eleventh edition, enlarged and thoroughly revised. 12 mo., 713 pages, with 341 illustrations and three colored plates. Cloth, \$2.75, net. Lea & Febiger, Philadelphia and New York, 1910.

The former editions of this book have been so generally and so favorably known that it is not surprising that it has come to the Eleventh Edition in so short a time. We feel that a general review of the book is entirely unnecessary as this edition is along the same general line as previous editions.

The book has been thoroughly revised, some parts have been rewritten and considerable new subject matter added.

Two important subjects added are spontaneous version by posture and thigh pressure upon the abdomen as a factor in labor. There are also thirty-seven new illustrations.

This book must appeal to the student and busy practitioner on account of its clear descriptions together with its brevity.

GYNECOLOGICAL DIAGNOSIS.—By Walter L. Burrage, A. M., M. D. (Harv.) Fellow of the American Gynecological Society; Member of the Obstetrical Society of Boston; Consulting Gynecologist to St. Elizabeth's Hospital; Electro-Therapeutist and Surgeon to Out-Patients, Free Hospital for Women; Clinical Instructor in Gynecology, Harvard University, and Instructor in Operative Gynecology in the Boston

Polyclinic. With two hundred and seven text illustrations. New York and London: D. Appleton and Company, 1910. Cloth, \$6.00, and half leather, \$7.00.

This book is a unique addition to the literature of this subject in that it is confined to the discussion of the diagnosis of gynecological diseases. The subject is treated in a most thorough and scientific way. The symptoms and the pathological conditions causing them are carefully analysed, the importance of the history of cases is emphasized. The gynecological affections of infancy and childhood are carefully considered, the chapter on the menopause and the gynecological affections of this period are freely discussed in fact, the entire subject is thoroughly considered and the diagnosis of gynecological disease is made very clear.

It is safe to say that there is no subject in medicine or surgery where explicit instruction is more needed for diagnosis than in gynecology, and this book meets the need admirably and must be appreciated by the general practitioner.

THE NINETY-SEVENTH ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY WAS HELD IN PAIGE'S HALL, ST. ALBANS, VT., OCTOBER 13-14, 1910.

OFFICERS.

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G. H. Gorham, L. Allen, A. B. Bisbee.

Necrology.

A. E. Houle, J. W. Jackson, H. H. Lee.

Medical Education.

H. H. Swift, term expires 1912,
 W. N. Bryant, term expires 1911,
 D. D. Grout, term expires 1910.

Anniversary Chairman.

F. E. Clark, Burlington.

Local Committee of Arrangements.

G. C. Berkley, W. J. Upton, E. A. Hyatt.

Ladies Reception Committee.

Dr. Grace Sherwood, Mrs. W. J. Upton,
 Mrs. E. A. Hyatt, Mrs. Alan Davidson,
 Mrs. G. C. Berkley.

Officers of House of Delegates for 1910 Meeting.

President A. J. Valteau
 1st Vice-President Wm. Lindsay
 2nd Vice-President M. R. Crain
 Secretary A. O. Morton

PROGRAM.

THURSDAY AFTERNOON, 2 O'CLOCK.

1. Called to order by the President, W. L. Havens.
2. Prayer, Chaplain, Rev. Ralph F. Lowe.
3. Address of Welcome, Hon. S. C. Greene.
4. Reading of Records by Secretary.
5. Report of Committee on Arrangements.
6. Reports of Officers, Committees and Delegates.
 - (a) Secretary C. H. Beecher
 - (b) Treasurer B. H. Stone
 - (c) Auditor A. M. Norton
 - (d) Executive Committee W. L. Havens
 - (e) Publication Committee C. H. Beecher
 - (f) Legislation Committee G. H. Gorham
 - (g) Medical Education Committee,
 W. N. Bryant
 - (h) Necrology Committee A. E. Houle
 - (i) Delegates.
7. Introduction of Delegates from Other Societies.
8. The Vice-President's Annual Address:
 "Extra-uterine Pregnancy,"
 E. H. Ross, St. Johnsbury.

Outline:

Reference to theories of causation.
 Varieties of.
 Course of most common form—tubal pregnancy.
 Symptoms.
 Treatment.

Discussion opened by P. E. McSweeney and G. M. Sabin.

9. "General Principles of Serum Therapy,"
 David Marvin, Essex Junction, Vt.

Outline:

Infectious Diseases—Cause, incubation period, location of lesion, symptoms.

Immunity. 1. Natural—Man immune by reason of intact epithelium. Animals immune to certain diseases.

2. Acquired—(a) Active by having survived natural course of disease; by vaccination. (b) Passive by injection of immunized substances into circulation.

Theories regarding immunity.
 History of various discoveries which have made serum therapy possible.

Antitoxic Sera; Diphtheria, Tetanus. Antibacterial Sera; Antistreptococcic, Antimeningococcic, Antigonococcic, Antipneumococcic.

Diseases available to treatment by serum therapy.
 Serum disease—untoward effects of serum injections.

Discussion to be opened by H. D. Bone and J. H. Hamilton.

10. "X-Ray in Medicine and Surgery," illustrated with lantern slides,
W. J. Dodd, Boston, Mass.

Outline:

Fractures: demonstrating the result of poor technique. An appeal for more extended use of X-Ray in such cases.

Bone diseases.

Chest lesions.

Renal and Ureteral calculi.

Stomach and Intestinal examination by means of Bismuth.

Discussion opened by W. J. Tindall and L. B. Morrison.

Regular meeting of House of Delegates at 5 o'clock, in rooms underneath Paige's Hall.

THURSDAY EVENING, 8 O'CLOCK.

1. Report of Secretary of House of Delegates.
2. The President's Annual Address, "A Decade in Medicine,"
Walter L. Havens, Chester Depot.

Outline:

A few of the achievements of the decade in legislation, sanitation, education and medication.

Discussion opened by H. D. Holton, G. S. Bidwell, S. S. Eddy.

The annual banquet will be held at the Owl Club, immediately after the evening session.

F. E. Clark, Anniversary Chairman.

FRIDAY MORNING, 9 O'CLOCK.

1. Report of Secretary of House of Delegates.
2. "Autointoxication," E. M. Crane, Hardwick.

Outline:

In its broader sense, including the absorption of poisons formed in the alimentary canal, as well as absorption of products of waste.

Complicating acute and chronic diseases.

As a forerunner of permanent organic changes and obscuring the earlier symptoms. Class of people in which these changes are found. Their effect upon longevity. The course of a neglected case. Difficulty in, and the necessity of controlling patient. Symptoms, relief of, and stay of tissue changes by constant watch and persistent treatment. A plea for the education of this class of people along the line of prevention.

Discussion opened by J. C. Colby and John Gibson.

3. "Lung Surgery without Complicating Apparatus,"
Samuel Lloyd, New York.

Outline:

1. (a) Aspiration.
(b) Incision between the ribs.
(c) Simple excision of the ribs and drainage.
(d) Excision of the ribs with exploration of the lungs.
2. The Surgical Treatment of Unresolved Pneumonia (Abscess of the Lung).
3. Pulmonary Carcinoma; its surgical treatment.

Discussion to be opened by M. R. Crain and J. B. Wheeler.

4. "The Use of Bismuth Vaseline Paste in Suppurating Tracts,"
Lyman Allen, Burlington.

Outline:

The curative power of this paste discovered accidentally in 1908 by Dr. Emil G. Beck of Chicago.

Composition of the paste.

Cases applicable for its use.

Danger of Bismuth poisoning.

Method of use of paste.

Theory of its curative powers.

Why watery solutions in sinuses are harmful.

Report of 39 cases.

Conclusions.

Discussion opened by J. F. McGinity and W. G. Ricker.

FRIDAY AFTERNOON, 2 O'CLOCK.

1. "Some Practical Points in the Diagnosis and Treatment of Diseases in the Upper Abdomen,"
S. E. Maynard, Burlington.

Outline:

The paper will endeavor by citing anatomical relations, reflex centers, and physiological functions to explain the few reliable symptoms in diseases of the gall bladder, ulcer of the stomach, and of the duodenum; also mentioning, for purposes of elimination, diseases of lower abdomen giving pain in epigastrium.

Discussion opened by C. J. Rumrill and A. L. Miner.

2. "Poliomyelitis," M. B. Hodskins, Palmer, Mass.

Outline:

History, Experimental Production, Nature of the Infection, Frequency of occurrence. Is there a similar disease in Animals? Methods of Transmission, Pathology, Classification of Types of the Disease. Symptoms, Diagnosis, Treatment.

Discussion opened by E. J. Melville and M. F. McGuire.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

THE OCCURRENCE OF INFANTILE PARALYSIS IN MASSACHUSETTS IN 1909.

In the *Boston Medical and Surgical Journal*, (July 14, 1910) ROBERT W. LOVETT, M. D., of Boston, reviews the progress made in the study of infantile paralysis and describes the work done in Massachusetts, under direction of the State Board of Health, in studying this disease. It has been found that monkeys are susceptible to it, though other laboratory animals do not appear to be, and experiments have been carried on by several investigators. It has apparently been proven that the disease is infectious, caused by an organism which cannot be seen under the microscope, and which passes through the finest filters, also that the virus is contained in brain, spinal cord, mucous membrane of the naso-pharynx, infected lymphatic glands, salivary glands, and during acute stage, in the blood and cerebro-spinal fluid. The disease may be produced through respiratory or digestive tracts. In monkeys the period of incubation varies from 6 to 30 days, or even longer. One attack of the

VILLOUS TUMOR OF THE RECTUM.

disease appears to produce immunity, and experiments have been made along the line of serum therapy, without very definite results. A great objection to this method of treatment is found in the fact that the diagnosis is usually not made till there has been destruction in the cord. There are, however, some early symptoms that appear more or less characteristic, such as profuse sweating, hyperaesthesia, leucopenia and digestive disturbances. It also seems possible that the blood and cerebro-spinal fluid may present appearances that will aid in the early diagnosis.

The first recognition of this disease seems to have been about 1881, since when the number of cases has steadily increased, with a much greater increase during the last five years. Cold countries appear more affected than warm ones, while the northern part of the United States seems to have suffered most. It has been asserted that infantile paralysis is a form of influenza, but the writer regards this as improbable. The facts as to transmission are unknown, but the disease seems infectious, frequently transmitted directly from one to another, and sometimes by a healthy carrier. During 1909 the Massachusetts Board of Health conducted a careful investigation of the disease in that state, considering age, sex and location of the patients, the extent and results of the malady, as well as possible etiological factors such as rainfall, temperature, density of population, surroundings of patients, relation to dust, vermin, domestic animals, etc. While there are some suggestive points, nothing at all definite appears regarding the cause, and the investigations will be continued. Out of the whole group of 628 cases, about ten percent were reported as recovering entirely, while about the same percentage died.

ATONY OF THE RECTUM.

By WILLIAM M. BEACH, M. D., of Pittsburg, Pa. Dr. Beach stated that atony or sluggishness of the rectum signifies the inability to expel its contents by reason of impaired musculature, ligation or innervation, and further that the musculature in the rectum proper, or that portion about the plane of the levator ani is entirely involuntary whose inertia must therefore be due to some inherent factor.

On the contrary, the anal canal, which is made up for the most part of the voluntary fiber has most to do with the expulsive act, the normal function of which depends chiefly upon the muscular automaton that is intact, proper innervation and psychic influence.

The physiologic rectum depends upon (1) an unobstructed canal, (2) firm ligaments, and (3) a well-developed rectal sense residing in the anal canal. Factors contributing to atony are (a) traumatism to the perineal body, (b) disease in the anal canal, (c) enteroptosis secondary to general systemic conditions or local anatomic anomalies, (d) the abuse of injections and drastic catharsis, (e) disease in adjacent organs, as prolapsed uterus, adhesions, neoplasms, appendicitis, prostatitis, circulatory disturbance as engorged portal vessels and primary gastric diseases, (f) atony may be the sequel to luesis or sensility. The treatment is that of constipation being guided by the cause. Alterative, dietetic and mechanical agencies are to be invoked.

Read before the American Proctologic Society by T. CHITTENDEN HILL, M. D., of Boston, Mass.

The author stated that a villous tumor of the rectum is very uncommon and but few cases have been recorded in current literature. B. Merrill Ricketts reported a case before this society in 1907 and states that but "Sixty-two cases have been reported, nine of which have been by six American authors." Since then I have been able to find but one case reported by Vautrin, (*L'Review de la Gynecologia*). His article is the most accurate and painstaking observation to be found on the subject.

It is rather difficult to arrive at any conclusion as to their relative frequency by studying the reported cases or by searching hospital reports, as these border-line tumors are generally very loosely classified. Probably the most accurate data at our disposal may be had from St. Marks Rectal Hospital, London, in which twenty-five villous tumors are tabulated among 42,343 patients with rectal ailments.

The chief point of interest about these tumors is that a certain percentage of them show a marked tendency to undergo malignant degeneration. From the histories of the 13 cases cited by Ricketts, including one of his own, we learn that three recurred and three did not. Those with a broad base, later became malignant, while those with a pedicle did not. Of the other seven cases no mention was made as to the final outcome.

Goodsall and Miles have had 12 cases—8 in men and 4 in women, of which number two ultimately became carcinomatous.

From careful study of these cases and several others the author believes that if there is a distinct pedicle without infiltration of the adjacent mucous membrane, tumors of this type are generally benign and if completely removed by ligation, or otherwise, there is but little likelihood of their recurring. On the other hand, if the base is broad, whether there be induration or not, a total extirpation of the rectum should be advised.

Another point of some interest borne out by a study of these cases is that the longer the condition has existed the less likely is it that the growth will prove malignant. The case now reported seems to bear out this statement.

Mrs. M., forty years of age, was referred by Doctor J. H. Vaughn of Everett, Mass., Jan. 5, 1907. She was well-nourished, weight about normal, but anemic, with sallow complexion. Had had indigestion for years but in other respects was in good health. For the past six years had noticed small rectal hemorrhages. During the year previous the hemorrhages had become more profuse and the mass was always protruded at the anus during defecation and even after slight exertion when walking.

She had to go to the toilet several times during the day and to get up two or three times at night, when she would pass one-half cupful of blood-stained mucus; also considerable mucus would at times escape with flatus. For two months, tenesmus had been present nearly all the time. She did not complain of anal or sacral pain.

Rectal examination. Sphincters, peri-anal skin and anal canal, were perfectly normal. In the rectum was felt a slippery growth with a band-like pedicle one inch wide by one-half inch thick, attached obliquely with the long axis of the rectum. By care-

ful manipulation the writer was able to bring outside the anal orifice, a lobulated cauliflower like mass, the size and shape of a large English walnut, from which there was a gentle oozing of blood while it was held outside by the sphincters.

Operation January 8th, 1907. The sphincters were stretched after infiltration with one-quarter of 1% cocaine solution and the mass drawn down with the finger and the pedicle infiltrated and clamped about half an inch from the margin of the tumor.

The pedicle was then transfixed on the proximal side of the clamp and ligated with pagensteche No. 5 in three sections and the pedicle cut away on the distal side. An ounce of bloody mucus escaped from the anus during the dilation.

The operation was easily performed and with but little discomfort to the patient under local anesthesia.

Over three years have now elapsed since the case was operated upon and as yet there is no sign of recurrence.

The report of Dr. Louis Hoag upon specimen, Jan. 8, 1907, was as follows: "Pedunculated cauliflower tumor of flattened spheroidal form of pale brownish red color and 4 x 3½ cm. in size.

"Surface quite regularly broken by deep narrow pits and furrows between and among hundreds of small hemispherical ovoid and spindle-shaped lobules ranging from 1 to 3 mm. in diameter. Such are soft, juicy but not necrotic and of uniform pale brownish red color. Surface always smooth and glistening. Irregularly distributed are deeper clefts outlining pyramidal divisions of the tumor, each bearing upon its base, which is directed outward, a number of the lobules just described.

"Toward the periphery of the cross section of the tumor lobules are of uniform consistency and of uniform pale-brown red color. Centrally the pale pedicles, which are about 4 mm. in diameter, enter the tumor at a sort of hilus and its white fibrous tissue bearing numerous small blood-vessels spreads out to be finally lost in the similar tissue of the apices of the various pyramidal divisions of the tumor."

SIGNIFICANCE OF RECTAL HEMORRHAGE.

Read before the American Proctologic Society by LOUIS J. KROUSE, M. D., of Cincinnati, Ohio.

Dr. Krouse called the attention of the profession to the importance of making a more careful examination of every case where there is bleeding from the rectum. He stated that rectal hemorrhage must not be considered conclusive of the existence of piles. Many other diseases besides piles are accompanied with bleeding. He laid great stress on the importance of diagnosing malignancy in its early stage so as to give the patient a better chance of recovery. Many cases of malignant disease of the rectum, whose only symptom is hemorrhage have been overlooked and the patient sacrificed which would not have occurred had the family physician insisted upon a local examination thereby diagnosing the disease in its incipiency before it had gone beyond the operable stage. He further stated that every patient is entitled to a thorough examination; and physicians are in duty bound to use all the means at their command to accomplish it. As Murray very aptly expressed himself "Thus a case that today would be operable and a cure result, if diagnosed, would be inoperable in six months or a year and death result." The author reported

numerous cases where a correct diagnosis had not been made on account of the negligence of the family physician. Some had been operated upon for bleeding piles which subsequently turned out to be cancer. He concluded his article with the statement "that earlier recognition of malignancy would add materially to the future welfare of the patient which can be obtained by surgical measures, and it therefore behooves the general practitioner to be on his guard and examine carefully every case of bleeding so as to detect malignancy in its incipient stage."

ANO-RECTAL AFFECTIONS OF INFANCY AND CHILDHOOD.

Read before the American Protologic Society by A. J. ZOBEL, M. D., San Francisco, Cal.

This paper briefly described those ano-rectal affections of infancy and childhood which may appear in one's daily work or in consultation practice.

From the first hour after birth the ano-rectal region is of vast importance. At that time malformations may be determined and proper relief promptly afforded.

The various malformations were enumerated and briefly described. Some of these abnormalities pass unnoticed throughout a long life but others are the source of great discomfort and distress.

Mention was made that while hemorrhoids are common in adults the possibility of their presence in the young is rarely considered. Yet they may appear in children of tender years. The various causes for hemorrhoids in the young were reviewed in this paper.

Malignant growths of the rectum while rare are occasionally met with. Cases were quoted where the disease was found in children as young as five years of age.

Benign growths are more common. Adenoma is the most frequent of these. They are often diagnosed as internal hemorrhoids, and like them, may become strangulated. They may exist for some time and attain quite a size without producing any symptoms until strangulation occurs.

Fissure of the anus is believed by the writer to be present more often than it is usually diagnosed. It may cause severe crying in nurslings. May cause reflex symptoms to appear which for a time may baffle the diagnostician. Some of these may resemble coxalgia. The incautious and improper introduction of syringe nozzles and thermometers into the anal canal frequently cause fissures. Other causes were also mentioned.

Especial stress was laid on the subject of pruritus ani in children, the writer believing it to be a very frequent source of great discomfort and torment to the little ones. It is very rarely suspected or diagnosed and he believes that it accounts for much of that peevishness in these little ones for which no cause can usually be assigned. The child is seen to rub his anal region saying, "it hurts." Does not complain of itching. Seems to misinterpret the sensation. He has found superficial lesions of the anal mucous membrane in these cases, and as the symptoms disappeared when local treatment was instituted he feels assured that these were the cause of the trouble.

Fistula-in-ano is met with occasionally in children and even in nurslings. While it may be tubercular it may also be of a congenital nature.

Ischio-rectal abscesses are met with even in early infancy. When incised they rarely end in fistulae.

Prolapse of the mucous membrane of the anus and rectum is a common condition during the second and third years of life. Long continued tight binding in babyhood may be the starting point. Diarrhea is the most common antecedent. Anything that induces prolonged and severe straining at stool may be a cause. Some of these causes were mentioned.

The varieties and causes of proctitis were also dwelt upon. Proctitis is often taken for ordinary catarrhal diarrhea due to improper feeding. It is advised that when a gonorrhea of the genital tract exists in children that a secondary infection of the ano-rectal region should always be considered.

It is hoped that this reminder that infants and children have ano-rectal troubles, as well as adults, will lead to more thought being given in this direction, and that it will bear fruit in bringing relief to some of these little sufferers.

THE TREATMENT OF RECTAL FISTULA.

Read before the American Proctologic Society by J. Rawson Pennington, M. D., of Chicago, Ill.

Dr. Pennington referred to three methods, viz.: simple incision; the injection of bismuth paste; the incision or excision with immediate suture, (proctorrhaphy).

Of the *simple incision* he said: Those of us who are operating quite frequently for this malady know its disadvantage, drawbacks, and frequent failures to cure. That this operation has done more than any other, unless it be that of the ligature or clamp and cautery operation for hemorrhoids, to bring disrepute upon rectal surgery. That the laity dread a rectal operation more than any other surgical procedure because of the fear of pain, the fear of recovery and the fear of loss of control over the bowels. Yet, we know that each of the above operations in the hands of experts give good results. Concerning the injection of bismuth paste, he said: To treat a rectal fistula, the paste is liquefied by heating in a water-bath and injected into one of the openings with a metal or glass syringe. The other opening or openings are kept closed by an assistant while the injection is being made. Enough force is used until one feels reasonably sure that all tracts and diverticuli have been filled. The paste may be forced into some line of cleavage if too much tension is used and carried along this line to some distant organ or healthy tissue and deposited there with deleterious results.

Of excision or incision with immediate suture, (proctorrhaphy) he said: This method is the most rational of all surgical procedures, that he dissects and removes the entire tract when a probe or director can be passed through the fistulous channel and into the rectum. That he then searches out and removes any diverticuli or tracts connected with the main tract. If this can not be, or should not be done he then incises the fistula and dissects out all granulation tissue. If needs be the wound is disinfected with carbolic acid and alcohol.

Suturing the wound may be done by lembertizing the line of incision from its termination in the rectum to the anus. The ends of the severed sphincters as well as the deeper portions of the incision are next brought together with interrupted catgut sutures. The skin and fascia are sutured with interrupted silk-worm gut. He dresses the wound with iodoform or plain gauze and applies a T bandage. He maintains

that proctorrhaphy, or the paste, or a combination of the two, offers the nearest approach we have to the ideal method of treating extensive rectal fistula.

THE TUBERCULIN REACTION IN CASES OF PERIRECTAL INFECTION.

By COLLIER F. MARTIN, M. D., of Philadelphia, Pa. The author was so impressed with the frequent coincidence of pulmonary tuberculosis and perirectal infections that he began a series of tests and examinations to determine their relation.

He uses the Moro tuberculin reaction, combined with physical and bacteriologic examination.

In his preliminary report of 36 cases, which he divides into two groups, he got the following results:

Group I.—Rectal pyogenic infections, including here fistulae, abscesses, and deep rectal ulcerations. There were 20 positive reactions out of 21 cases. The negative case was one profoundly tuberculous.

Group II.—Non-pyogenic rectal cases. There were 11 cases, including hemorrhoids, fissure, and catarrhal proctitis, with three positive tuberculin reactions. This he holds, is probably the ratio of tuberculosis in this class of cases. One negative case in this group was intensely tubercular, with extensive lung lesions evident, and with abundant tubercle bacilli in the sputum.

Accepting the tuberculin test as a specific one, he got 100% positive in Group I, and about 36% in Group II. The four cases giving negative reactions, yet being proved tuberculous, by sputum examination, proved to be of very low resistance, two dying in a few months and two, at present, in a precarious condition.

He emphasizes "continued history taking" as being extremely valuable to the proper appreciation of the case.

The author places particular stress on the prognostic value of the tuberculin test.

Accepting the positive reaction to tuberculin as indicative of a tuberculous lesion somewhere in the body, his conclusions are as follows:

1. Two consecutive, negative reactions, with no physical signs in evidence, is conclusive proof of the absence of such lesions.
2. Two consecutive, negative or feeble reactions, with physical signs of a lesion somewhere, is indicative of a very grave prognosis.
3. The degree of the reaction is directly proportionate to the degree of the resistance of that individual.
4. That the tubercle bacillus, like no other, reduces the bodily defences to pyogenic invasion.
5. That in practically all rectal pyogenic infections, there is a tuberculous lesion somewhere in the body.
6. That the classification of perirectal infections into tuberculous and non-tuberculous is untenable.

His investigations have caused the author to raise the following questions:

1. Is the primary tuberculous lesion pulmonary?
2. Is the local infection tuberculous?
3. Do the tubercle bacilli gain entrance into the body through the respiratory or the alimentary tract?
4. Is such infection carried to the rectal and perirectal tissues by the blood current, the lymphatics, or directly, by the fecal current?
5. How does the tubercle bacillus influence the pyogenic infections—locally, as in mixed infection, or by lowering the body-resistance to the invasion by pyogenic bacteria?

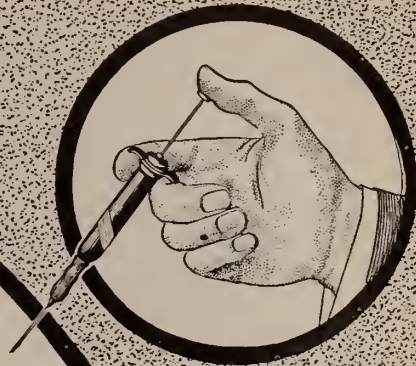
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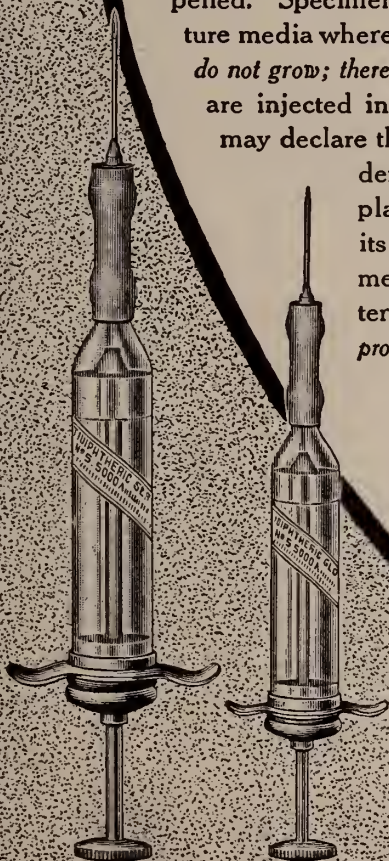
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THERAPEUTIC NOTES.

MOIST HEAT.—Thermotherapy in inflammatory conditions seems to prove most effective when applied in the form of moist heat.

The relaxation of pressure by infiltrated and swollen tissues upon nerve endings, as experienced by the relief of pain, specifically proves this.

The advantages of moist heat where indicated is generally acknowledged. The method of its application from professional preferment seems to be in the form of Antiphlogistine. By this method, a high temperature can be maintained in contact with the affected part for hours without exposure to the patient for redressing.

The superior advantages of Antiphlogistine over other forms of moist dressings, such as poultices, hot packs, etc., are that it is easily applied, retains its heat for hours, is antiseptic in action, and above all produces satisfactory therapeutic results.

HOME TREATMENT OF TUBERCULOSIS.—Not every tubercular patient is able to seek the climate best suited to his condition, and it becomes necessary for him to make the best of those curative means at his command. After the physician has outlined to him a well ordered mode of living, there then arises the question of an agent that will aid in tissue reconstruction and resistance to the disease process. In choosing his therapeutic means of combatting tuberculosis, the physician takes into consideration two features—the value of the remedy chosen for the purpose and the patient's ability to continue it for a sufficient period to derive results. Quite naturally, he thinks of cod liver oil. But generally cod liver oil products quickly prove distressing to the gastric apparatus. A striking exception is the *Cord. Ext. Ol. Morrhuæ Comp. (Hagee)*. Although it is just as potent a tissue builder as the crude product, it possesses added advantages in that it is palatable and this is a most important feature. It agrees with weak stomachs in a surprising manner and may be continued indefinitely without giving rise to gastric unrest.

THE ANTITOXIN TREATMENT OF DIPHThERIA.—Again are we nearing the season when the problem of diphtheria and its treatment must be met and solved. The writer of this paragraph is forcibly reminded of the fact by the receipt of a modest but important brochure of sixteen pages bearing the title "Antidiphtheric Serum and Antidiphtheric Globulins." A second thought is that here is a little work that every general practitioner ought to send for and read. Not that the booklet is in any sense an argument for serum therapy. It is nothing of the kind. Indeed, the efficacy of the antitoxin treatment of diphtheria is no longer a debatable question, that method of procedure having long since attained the position of an established therapeutic measure. The pamphlet is noteworthy because of the timeliness of its appearance, the mass of useful information which it presents in comparatively limited compass, and the interest and freshness with which its author has been able to invest a subject that has been much written about in the past dozen or fifteen years. Its tendency, one may

as well admit, is to foster a preference for a particular brand of serum, but that fact lessens not one whit its value and authoritativeness.

Here is a specimen paragraph, reprinted in this space not so much to show the scope and character of the offering as to emphasize its helpful tone and to point out the fact that its author was not actuated wholly by motives of commercialism:

"Medical practitioners have learned that, inasmuch as the main problem presented in the treatment of a case of diphtheria is the neutralization of a specific toxin, the true antitoxin cannot too soon be administered; moreover, that, antitoxin being a product of definite strength, a little too little of it may fail when a little more would have succeeded—hence larger or more frequently repeated doses are becoming more and more the rule. One more point: if the medical attendant is prompt, as he must be, and fearless, as he has a right to be, the full justification of his course will hinge upon the choice of the best and most reliable antidiphtheric serum to be had; for while there is little or no danger of harm ensuing from the use of any brand issued by a reputable house, the best results—which may mean recovery as the alternative of death—can only be hoped for from the use of the best serum."

The brochure is from the press of Parke, Davis & Co., who will doubtless be pleased to send a copy to any physician upon receipt of a request addressed to them at their main offices, Detroit, Mich.

THE MANUFACTURE OF ANTITOXIN.—In the treatment of diphtheria the physician of today uses antitoxin as a matter of course. It is his first expedient and his last resort. He believes implicitly in its efficacy. But does he understand and appreciate all that is involved in the production of that antitoxin—the scientific knowledge, the skill, the caution, the minutiae of detail? This thought is forced upon the writer through the perusal of a recent publication of Parke, Davis & Co. which deals in part with the subject of antitoxin manufacture. Here is a specimen chapter:

"In the selection of the horses which are to act as the living laboratories for the production of the antitoxin, we apply not commercial or academic knowledge merely, but, what is more to the point, veterinary skill. The animals must be vigorous and healthy. They are carefully examined, their temperature noted for several days, and the presence of glanders excluded by the delicate mallein test. It is the blood-serum of these animals that is to be injected into the patient later on, and no precaution can be regarded as extreme which contributes the slightest positive assurance of its purity.

"Not only must the horses be in good general condition when inoculated; they must be kept so. They are fed, stalled, groomed and exercised for no other purpose than to maintain to the full their self-protective, antitoxin-producing powers. Thirty miles removed from the noise, smoke and dust of the city is our stock farm, equipped with model stables and supervised by expert veterinarians. Here, at Parke-dale, on more than three hundred acres of sunny slopes, at an altitude of six hundred feet above the level of the Great Lakes, live the horses which we employ in serum-production. Amid these favorable surroundings they maintain the physical condition so essential to satisfactory service as serum-producers.

"These are preliminary considerations. Young, healthy, well-kept horses, indispensable as they are, would be of little use in the elaboration of a reliable antitoxin unless the work of injecting them with toxin were conducted accurately, aseptically, systematically, and throughout a period long enough to allow physiological reaction up to the limit of attainable immunization. We have horses enough, so that there is no occasion to be in a hurry with any of them; the exact length of time required for complete reaction is determined in each individual instance by carefully scheduled observations.

"It goes without saying that in the preparation of the toxin and its injection into the horses, as well as in obtaining the blood serum, the most rigid bacteriological technique is maintained. The methods we employ agree substantially with those of Roux, Aronson, and Behring, and are from first to last in charge of experts. The varying susceptibility of different animals, whether guinea-pigs or horses, to the diphtheria poison; the more or less rapid physiological reaction; the variation in strength of the antitoxic serum from different horses; the absolute purity of the finished product—these are all important and delicate questions demanding for their determination a high degree of skill and scientific accuracy of observation. These qualifications, in our judgment, outrank all other considerations in the work of producing a reliable antidiphtheric serum."


The foregoing has reference to but a single step in the process of serum production, and affords but a hint of the safeguards with which Antidiphtheric Serum (P. D. & Co.) is hedged about at every stage of its manufacture—conditions which enable the company to guarantee the purity and potency of its antitoxin.

WHITE PLAGUE'S DEATH RATE DECREASES.

Mortality from Consumption, Cancer, Typhoid, etc., in 1909 shown in Census Bureau's Bulletin.

Washington, D. C., Sept. 26, 1910.—While the total number, 81,720, of deaths from tuberculosis in 1909 was greater than for any preceding year and exceeded by 3,431 the number, 78,289, compiled for 1908, the death rate, in the Census Bureau's death registration states and cities, showed a decline from 173.9 in 1908 to 167.5 per 100,000 estimated population in 1909, as reported in the forthcoming Census Bureau bulletin on mortality statistics prepared by Dr. Cressy L. Wilbur, chief statistician for vital statistics, and submitted to Director Durand.

The 1909 rate is the lowest on record for the census registration area, although it should be remembered that the rates for this area, to which large additions were made in 1906, 1908, and 1909, may not be strictly comparable throughout



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the period covered with respect to constitution of population. The addition of the new registration state of Ohio for 1909, for example, by bringing in a considerable rural population with a normally low death rate from tuberculosis, would tend to depress the death rate from this cause for the registration area as a whole.

It is remarkable, the bulletin states, that the aggregate of registration cities, which is not affected by the transfer of cities from the group of cities in nonregistration states to the group of cities in registration states, shows practically the same number, 54,461, of deaths for 1909 as for 1908, which was 54,466, or a decrease of only 5 deaths.

DEATHS FROM TUBERCULOSIS DECREASING.

Excluding Ohio, which is shown only for 1909, 11 of the 17 registration states for which data are given presented numerical decreases in deaths from tuberculosis for 1909 as compared with 1908, the largest being for New York (415) and Rhode Island (107). Deaths from tuberculosis increased in Washington (91) and California (78) among the 6 states showing more deaths from this cause. Among the larger cities the chief fluctuations were increases of 85 for St. Louis, Mo., 61 for Minneapolis, Minn., 58 for Toledo, Ohio, and 56 for New Haven, Conn.; significant from their small amount; while decreases of 222 occurred for New York, N. Y., 194 for Philadelphia, Pa., and 149 for New Orleans, La.

Cancer showed a much greater proportional increase in the number of deaths than tuberculosis, rising from 33,465 for 1908 to 37,562 for 1909. The death rate increased from 74.3 to 77, the latter being the highest crude death rate from cancer thus far recorded for the registration area of the United States.

It should be remembered, the bulletin points out, that cancer is one of the diseases having a peculiar age distribution for which the study of crude death rates is apt to be especially misleading, and until a careful analysis can be made of the data, with reference to the population details available after the compilation of the census of the present year, it will be wise to limit inferences to the fact that the number of deaths so reported and the crude rate from this cause show a constant tendency to increase from year to year. The probability of more accurate statement of this disease as a cause of death by

attending physicians must be taken into consideration, and the fact that the saving of lives from tuberculosis and other preventable diseases of early or middle life would leave more persons subject to cancer at the cancer ages, and thus increase the total number of deaths from this cause and the crude cancer rate, although the actual incidence of the disease at the various periods of life may not have been altered materially.

The distribution of cancer according to location on the body shows little change except a diminution of the residual group due to more accurate statements of physicians. All certificates of death by cancer should state, whenever ascertainable, the site of origin of the disease.

DEATHS FROM CANCER INCREASE.

The uniform tendency to increase in the number of deaths reported from cancer is shown in the totals reported for the registration states and cities for 1908 and 1909. All the 17 states for which data are given for the two years showed more deaths from this cause in the latter year, except Maryland and South Dakota, for which slightly diminished numbers were returned. Of the 36 large cities only 5 showed more deaths from cancer in 1908 than in 1909, and the amounts of decrease were very small in each case. The numerical increase in the deaths registered from cancer was not large for any particular state or city, but the most impressive feature is the widespread increase shared by all states and cities with but few exceptions.

The total number of deaths caused by typhoid fever in the registration area for the year 1909 was 10,722, a reduction of 653 from the number, 11,375, recorded for the somewhat smaller registration area of 1908. The death rate fell from 25.3 to 22 per 100,000 estimated population, these rates being based on the populations as estimated upon the average annual increase between the last two censuses.

The typhoid fever death rate for 1908 was the lowest recorded since the series of census annual reports was instituted, and the rate for 1909 shows a marked reduction from that of the previous year. It is nearly one-third less than the rate shown for the five year period 1901-1905 (32.2), although still more than twice as large as that of England and Wales. The success already obtained in its reduction should encourage further progress in this direction until residence

and travel in this country shall be as safe in this respect as in the best regulated countries of Europe, where the disease is becoming practically negligible as a menace to public health.

A DECREASE IN TYPHOID.

Each of the registration states for which data are available for the two years, except Washington and Wisconsin, shows a smaller number of deaths from typhoid fever for 1909 than for 1908, and as their population has increased during that time it is evident that the typhoid death rate has likewise decreased for each. Ohio, which was admitted into the group of registration states for the first time for 1909, is, of course, not included in this comparison. If the 1,276 deaths from typhoid fever in Ohio were not included for 1909, the group of registration states as constituted for the years 1908 to 1909 would show a reduction of 1,406 deaths from this cause. The largest numerical reduction is that of Pennsylvania (738), then Massachusetts (132), California (88), Maryland (87), and New York (73). The increased numbers in Washington (20) and Wisconsin (15), were but small and probably less than the relative increase of population.

A considerable part of the reduction in the number of deaths from typhoid fever that occurred in Pennsylvania was due to the decreased number registered in Philadelphia (188) and Pittsburg (125). Of the 36 larger cities, 19 showed fewer deaths from typhoid fever for 1909 than for 1908, and in no city of this group was there any marked increase in mortality from this cause. The largest amounts of numerical decrease occurred in Philadelphia, Pa. (188), Columbus, Ohio (135), Pittsburg, Pa. (125), Boston, Mass. (68), and Chicago, Ill. (61). The greatest relative decrease was that of Columbus, Ohio, from the epidemic prevalence shown for 1908.

A SHREWD PATIENT.

A country lad had his leg injured, and was treated for some time, by the local doctor, without much favorable result. His mother had great faith in a certain "quack" bone-setter, and wanted her son to go to him; but the boy objected, preferring, as he said, the "reg'lar faculty."

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Finally, however, he yielded to his mother's persuasions, and was taken to town, where the famous bone-setter resided.

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"Yes, he did, mother," said the lad. "He pulled it well; but I was na sic a fool as to gie him the sair leg!"

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SCIENTIFIC EXPLANATIONS OF MIRACLES.—

The story of the miraculous changing of water into wine has been challenged as an impossibility, because in water we have only particles of hydrogen and particles of oxygen. Now in wine there are carbon values.

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But while this miracle could have occurred so, did it, as a matter of fact?

The real issue lies in the explanation of miracles, whereby they cease to be miraculous.—*Exchange.*

PROTECTING THE BABY.

His Wife—She's the baby's new nurse.

Husband—I suppose she understands her business?

His Wife—Yes, she's a graduate, and she'll take good care of the baby; she says no one shall kiss the baby while she is around.

Husband—I guess she's right; I wouldn't want to kiss the baby while she was around.

Fired.—*Exchange.*

THE GROWTH OF THE AUTOMOBILE INDUSTRY.

So rapid is the growth of the automobile industry that it is impossible to put an exact estimate on the valuation of the capital invested, but a conservative estimate places it at \$500,000,000. In this vast total not less than half represents moderate and low-priced machines, whose enormous sales—a ratio of six to one—are not trumpeted like those of the high-priced autos. About 200,000 persons are employed in the manufacture of automobiles and accessories. Between \$25,000,000 and \$30,000,000 is paid for freight to the railroads by the automobile companies annually. The annual consumption of steel, iron, aluminum and rubber is valued at over \$60,000,000.


Automobile manufacturers affirm that the auto has dispensed with the services of 500,000 horses and wagons up to date. They also give the broad general estimate that the average upkeep of a horse and wagon is sixty-five cents a day, while that of the average motor car is only thirty cents per day.—*The Christian Herald.*

There are two things in this life, for which we are never fully prepared, and they are twins.

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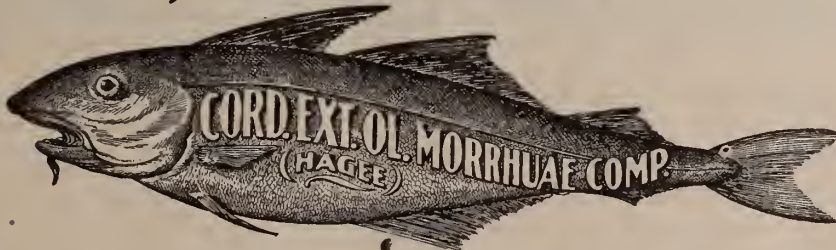
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ACCORDING TO A RECENT RULING of the Oklahoma Board of Health, which became effective September 1st, bad eggs are to be eliminated from the market.

Placards mailed to all egg dealers throughout the state warn them to hereafter buy eggs on the "loss off basis." Interested in the handling of eggs are the consumer, first the farmer, egg wholesaler, merchants, hotel and restaurant dealers. Heretofore eggs have been purchased on the bulk plan, that is, the dealer buying the eggs from the farmer just as they come, good, bad or indifferent, selling them to the merchant, he to the hotels and restaurants and to the consumers. The farmer insists on selling the bad eggs and the other dealers do not care to stand the loss, and the consumer suffers. The Oklahoma State Board of Health is following the example of Kansas and many other states in the steps they have taken along this line. Medical experts claim there is in the white of eggs tuberculosis germs and unless the eggs are thoroughly cooked, people should not eat eggs laid during the summer months. It has long been certain that bad eggs contain poisonous germs. The State Board of Health intends to prosecute all violators of the law. The crime is a misdemeanor and comes under the head of selling impure or adulterated foods. In addition to the placards, letters are being sent to all the egg dealers and merchants explaining Rule 11 regulating the selling of eggs.

PURE RADIUM DISCOVERED.—Mme. Sklodowska Curie, chief professor in the faculty of sciences in the Paris University, who with her husband is credited with the discovery of radium, has just announced to the Paris Academy of Sciences that she has succeeded in obtaining pure radium. Hitherto radium had only existed in the form of salts. Mme. Curie, in conjunction with Professor De Biene, treated a decigramme of bromide of radium by an electrolytic process, obtaining an amalgam from which was extracted the metallic radium by distillation. It has the appearance of a white metal, and is capable of adhering strongly to iron. It turns to black on exposure to air, burns paper and oxidizes in water.—*Ferdinand C. Iglehart, D. D., in The Christian Herald.*

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WITH the opening of the fall term, women will be admitted to the classes of the Maryland Medical College on the same terms as men.

THE QUESTION OF THE INFECTIOUSNESS OF APPENDICITIS is the subject of renewed discussion occasioned by the experience of the Rogers family of Warren, Texas, recently, eleven members of which had their appendices removed. The operations were all performed at a Temple hospital, and each proved successful. At one time four members of the family were patients at the same time. A hired man of the family also contracted the disease and submitted to the operation. The circumstance is considered worthy of more than ordinary notice.—*Houston Post. (Texas State Journal).*

CHEESY.—A St. Louis boy had his cow roughshod so she wouldn't slip and strain her milk.—*Medical Brief.*

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GENERAL PRINCIPLES OF SERUM THERAPY.

BY

DR. DAVID MARVIN,
Essex Junction, Vt.

The rapid advance of medical knowledge of today dates back to the time when the microscope made possible the discovery of germ life, and that germ life was the cause of infectious diseases. Prior to this discovery, medical knowledge had been at a standstill and empiricism in medical therapeutics had been the rule. The discovery of germ life gave new impetus to investigators and soon reward came to them in discovering the germs of tuberculosis, typhoid fever, tetanus, Asiatic cholera, glanders, pneumonia, diphtheria, cerebro-spinal meningitis, syphilis and many others.

Infection.—By the term infection, we mean the entrance in the body of living micro-organisms, their growth and multiplication there, causing symptoms of disease as a result. Not all infections produce symptoms of disease, for the invading organism may be one unable to grow rapidly and produce sufficient poison or toxin, which is harmful to some organ of the body, in order to produce disease. Or that a germ may not cause disease at one time by being non-virulent, while the same species of germ at some other time would produce disease due to its virulence. By virulence of a germ, we mean the presence within the micro-organism of certain substances which reduce the resistance of the tissues of the body invaded. These substances are called lysins and aggressins. The mode of infection is of importance in developing disease. The spirillum of cholera produces disease by invasion of the small intestine only, tetanus through a break in continuity of the skin, diphtheria usually through the passages of the nose or mouth, cerebro spinal meningitis through the various passages of the cranial vault, etc., tuberculosis, glanders and syphilis through an abrasion of the skin or mucous membranes.

After infection occurs, a certain time elapses known as the incubation period, which varies

according to the invading germ. During this time the micro-organisms are multiplying rapidly and should they be those of diphtheria or tetanus, they are liberating their toxins, while the known organisms of other diseases do not liberate their toxins until they die and disintegrate. Some organisms act locally at portal of entry, while others invade all the tissues of the body and produce general symptoms. Once micro-organisms have entered the body, their manifestations depend upon the species present. Staphylococci make their presence known by the production of boils and pustules. Streptococci in erysipelas, tonsillitis, rheumatic fever, endocarditis, septicaemia and pyemia.

The general reactions produced are fever, leucocytosis, digestive and nervous disturbances. All infectious diseases are either self-limited or run a protracted course.

Immunity.—Immunity is the ability of the body to resist the action of the causes of disease, there being two sub-divisions, natural and acquired immunity. *Natural immunity* is the power nature has given some particular species of animals to resist some specific disease.

It is a well established fact that the bovine, the dog, the white rat and pigeons are immune to anthrax, the hen to tetanus, and man, by reason of several layers of specialized epithelial cells covering the external surface and lining the internal mucous membranes of the body, has a natural barrier to infecting micro-organisms, which produces a natural immunity. It is a common occurrence to see families who have the power of resisting the infecting organism of tuberculosis. We are equally surprised to see the susceptibility of a family to the same organism when under like conditions of infection. Some families are resistant to cancer, others to rheumatism, etc.

This would tend to show that some families have inherited a resistance to disease in question, as measles, or having been inoculated with an attenuated virus as from cow pox. The immunity in either case is active and is produced, *first* by the invasion of a micro-organism or an attenuated virus, and *second* by the elaboration within the body of protective bodies. Immunity is also acquired by the injection of tox-

ins as in the production of diphtheria anti-toxin, or by the injection of the germs themselves as in the production of anti-bacterial sera.

Passive acquired immunity, that immunity which interests us most from a therapeutic standpoint, is a state in which the body has done nothing to produce immunity, immunity being wholly produced by the injection of anti-toxic or anti-bacterial sera.

Of all the theories thus far advanced the theory of Ehrlich or the side chain theory, which was advanced in 1897, is now accepted by the best minds of today as being all sufficient.

His conception is that there is a chemical affinity between toxin and the body cell whereby one portion of the toxin enters into chemical union with the cell and the other portion of the toxin is the one which produces the toxic action. This double action forms the basis of his theory. In discussing the subject of anti-bacterial immunity, it is an accepted fact that both serum and leucocytes contain substances which are able to dissolve bacteria.

Early history.—Let us depart for a time from the theoretical side of immunity and devote a few moments to the history of the discoveries which have made serum therapy possible. The theory of evolution applies here as well as elsewhere in the material world and we cannot bestow too great an honor on the men who gave up their time, and some, their lives, in the furtherance of this cause.

In 1768, Edward Jenner, then a young man in England, accidentally noticed that the farm laborers who milked cows that had cowpox, were frequently seen with the same pustules on their hands and when a severe epidemic of smallpox swept over the country, these men were immune.

This accidental discovery was the starting point of serum therapy. Pasteur in 1861 demonstrated that soil, water and even the air were filled with micro-organisms and that these were propagated by others before them and that putrefaction and fermentation were caused by germ life. In 1880 he discovered the cause of chicken cholera and that injection of cultures in normal fowls would produce the disease and cause death, a method made use of today in nearly every experiment in the biologic laboratory. Shortly after, Savant succeeded in protecting fowls from virulent injections of chicken cholera by inoculating with old cultures of the germs,

and that fowls first treated with old cultures would not later become infected by injections of fresh cultures.

Salmon and Smith of Washington in 1886 discovered that pigeons could be protected from the fatal effects of the hog cholera bacillus by being inoculated with sterile cultures of those germs, which demonstrated that there was something present in the liquid beside germs, a soluble product which conferred immunity. Roux and Yersin in 1888 discovered the toxin of the Klebs-Loeffler bacillus, and that this filtered toxin was equally as fatal as if the germs were present.

The next advance was of the greatest importance and was made by Foa and Bonome of Turin when they demonstrated that the blood of a rabbit recently dead of proteus vulgaris, when injected into another rabbit, protected the rabbit from the injection of a virulent culture of the germ, while other rabbits, not protected, died from the injections.

They also produced immunity in rabbits by repeated injections of the filtered cultures of the diplococcus of pneumonia. These rabbits, thus rendered immune, did not die when treated later with virulent cultures of the germ. Ogata and Jasuhara of Japan, in 1890, discovered that the blood of the dog, which is naturally immune to anthrax, contained an anti-body which, when injected into mice, protected them from death from anthrax, thus proving that natural immunity was due to an anti-body or an anti-toxin present in the blood of the animal.

Behring, in 1890, found that the blood of immunized animals when added to cultures of the germs of tetanus or diphtheria so neutralized the culture that it failed to kill animals when subsequently injected.

Tizzoni and Cautani in 1891 immunized dogs by repeated injections of tetanus anti-toxin. The finishing touches of these great discoveries were made by Behring when he demonstrated the possibility of using the larger animals in producing anti-toxin for the human race, and in 1893 he first treated a child for diphtheria. *Behring formulated a law* which was based upon these observations.

First.—"That the blood serum from an animal, possessing acquired immunity, is able to transmit this immunity to a susceptible individual or animal when this blood or blood serum is injected in the right amounts into the susceptible animal or individual.

Second.—That individuals, naturally immune to a particular infectious organism, do not possess in their blood or blood serum, immunizing substances which can be transmitted to another individual. Immune substances which can be transmitted are not present naturally but must be produced by a process of immunization which consists either of undergoing the natural course of the disease or submitting to some method of artificial immunization.”

As a result of these investigations, there has arisen the method known as serum therapy. Sera are divided into two classes, *anti-toxic sera* and *anti-bacterial sera*. Anti-toxic sera are those which produce immunity by neutralizing a toxin by some specific anti-toxin such as diphtheria and tetanus anti-toxin. Anti-bacterial sera are those which produce immunity by the rapid destruction of bacteria, such as anti-meningococcic, anti-streptococcic, anti-gonococcic, anti-pneumococcic sera, and others which are of minor importance.

SERUM THERAPY.

It is my intention in treating this subject to give only those sera which have proved by clinical reports from all sections of the country to be of most value in treating disease. It is impossible in the time allotted me to give in detail the process of manufacture or the methods of administration except in a very general way. I have arranged them according to their value, beginning with that one of greatest value.

Diphtheria.—The therapeutic application of anti-toxin in the treatment has changed the mortality from over 50% before the day of serum therapy to about 6% when treated before the fourth day. If treated on the first day, only 1.5% die.

The toxin produced by the Klebs-Loeffler bacillus is liberated rapidly and on reaching the circulation, is carried to every organ and tissue of the body where it produces injury to their cells. When our patient receives an early curative dose of anti-toxin, it mingles freely with the toxin on the journey to the cell, and the toxin is neutralized or destroyed before injury can occur. The dose to be administered depends upon so many conditions that a firm rule for its administration should not be made. If seen on the first day, 3,000 units should be administered, second day 4,000, later, 5,000-10,000, and some

cases require much larger doses before recovery takes place.

Tetanus.—The bacillus of this disease grows freely in suitable culture media and produces a powerful toxin which is soluble. The toxin produced by the germ in the human being does not produce symptoms of the disease until it has entered the end organs of the motor nerves and combined with them, and has been carried to the central nervous system. Our knowledge of the presence of the disease is discovered after the symptoms have developed, or in other words, after the toxin has combined with the cells of the motor nerves and central nervous system and has already crippled them. Tetanus anti-toxin neutralizes the toxin circulating in the blood, but does not gain entrance to the structure of the nervous system to destroy the toxin present within the nerve cell. Upon this one point does the neutralizing properties of tetanus anti-toxin depend for curing the disease, and, until this can be overcome, we must content ourselves by preventative treatment in all suspected cases, using an immunizing dose immediately upon seeing our patient and before the symptoms develop. Some observers, by using large and frequent doses, claim to have reduced their mortality about one-half, but all fail to give any reliable statistics to prove their assertions. The immunizing dose is now marketed in syringes containing 1,500 and 3,000 units.

THE ANTI-BACTERIAL SERA.

A general statement regarding this class of sera seems fitting at this time. The meningococcus as well as the streptococcus, gonococcus and pneumococcus do not produce in culture media a toxin of sufficient strength to be of value in treating the horse for the production of anti-toxin; the toxin they produce is confined within their capsule.

In view of the fact that these micro-organisms do not produce an extra cellular toxin, anti-toxic immunity cannot be produced in animals as a result of artificial immunization with this organism.

CEREBRO-SPINAL MENINGITIS.

The results thus far obtained from statistics collected from all sections of this country as well as foreign countries, show a decrease in mortality from about 90% to about 30% by the

early use of anti-meningococcic or Flexner's serum. The method of treatment as adopted by Flexner and others is to perform lumbar puncture immediately, removing as much cerebro-spinal fluid as possible, then inject, either by syringe or by means of gravity, using a funnel connected with the needle by a rubber tube, from 20 to 45 cc. of the serum, providing a similar amount has been withdrawn, this to be repeated each day until the fluid contains no meningococci and the degenerated leucocytes have been replaced by normal.

SCARLET FEVER.

Marked beneficial results have been noted in this country and abroad from using anti-streptococcic serum early and in sufficient doses. In Vienna the mortality has been reduced one-half. Cases reported from the Montreal Civic Hospital for contagious diseases indicate a reduction of mortality in like proportion.

The method of administration is similar to other sera, the dose varies from 40-80 cc. in the course of twenty-four hours and is continued until improvement is noted.

ACUTE ARTICULAR RHEUMATISM.

There is no question in my mind but what this disease is due to invasion of the joints by the streptococci. Clinical reports from men who have used anti-streptococcic serum early, show conclusively that the disease is often aborted or runs a short and oftentimes an uncomplicated course, especially as regards heart complications. Chronic cases are much improved with a tendency to complete recovery.

ERYSIPELAS, PYEMIA, SEPTICEMIA.

The rational treatment of these diseases when caused by the streptococcus, is to employ the serum in large and frequent doses.

The results obtained by numerous practitioners, when given in suitable doses, demand the more general use of the serum, the average dose being 20 to 30 cc. each day until improvement is noticed.

GONORRHEAL RHEUMATISM.

Anti-gonococcic serum is produced from the ram instead of the horse, the immunization requiring ten weeks, at the end of which time the animal is bled to death. Its use in the treat-

ment of the acute gonorrhoeal infections has not met with success, while its use in chronic gonorrhoeal joints has proven to be of value. The amount given varies from 2 to 6 cc. at intervals of from two to seven days, and is usually injected over the abdomen.

PNEUMONIA.

Anti-pneumococcic serum has been in use in the treatment of this disease for several years. Its action does not depend upon an anti-toxin, and latest researches by Newfeld, Rimpau and Wright, show that the serum contains bacteriotropic or opsonifying substances which prepare the pneumococci for indigestion by the leucocytes.

The results obtained from its use in the hands of various skilled clinicians, vary greatly. Some have lauded it with highest terms, while others have failed to get results. The cause for these opposite views probably depends upon the absence in the serum of an anti-toxin, its use after the disease is far advanced and the species of organism causing the disease being unknown. However, the greater number of physicians who have used the serum in large doses, have been impressed by the general improvement of their patients, lowering of temperature, fever complications, and the disease terminating by lysis. The best serum should be obtained and 20 cc. should be used every 12 hours until general symptoms improve.

Serum Disease.—In 1905, Pirquet and Schick originated the term "serum disease." From the injection of sera we have noticed two types of the disease. *The first type* results from the first injection of the serum, has an incubation period of eight to twelve days. Symptoms are fever, urticaria, with itching appearing at the point of injection, occasional swelling of the glands near the region injected, and pain in the metacarpal, hand and knee joints.

The second type occurs when injection is made between twelve and forty days after the primary injection. The incubation period is short, usually only a few hours. If injection is made between forty days and six months there may be an immediate reaction with or without a recurrence in six to eight days. If the interval is over six months, symptoms appear in about six to twelve days. When the interval between injections is six days or less, the disease is not produced.

The question now arises, what is the cause of the so-called disease? Pirquet and Schick explain it by stating that it is due to the already present serum anti-bodies which combine with the immunizing substances in serum and produce poisonous substances which cause the disease.

Gay and Southard in 1907 claimed this theory wrong. From their experiments, they draw the following conclusions. First, that normal horse serum contains a substance called anaphylactine. This substance is not absorbed by the tissues of the guinea pig and elimination is slow, that the presence of this substance produces an avidity in the cells of the guinea pig, so that when more serum is injected the cells are overwhelmed and functional equilibrium is so disturbed that local and general death may follow. This would explain the sudden deaths in guinea pigs after injection of serum and if the essential lesion of serum anaphylaxis is localized in the respiratory centers, it would explain the marked respiratory embarrassment after injections of serum and the sudden deaths which have followed the injection in asthmatics. Time and further investigations will probably clear up this mystery and then steps can be taken to prevent serum disease.

In treating this subject I have not burdened you with a discussion of the results obtained from serum therapy nor the report of cases in my own practice. I have always been an ardent supporter of serums, have used them largely in nearly all the diseases I have mentioned in this paper, and I feel that I stand on firm ground when I say that they have accomplished, when properly used, all I could expect from them when I stopped to consider the species of the germ producing the disease, the power of the germ to produce and liberate a toxin, and the inability of the horse to produce an anti-toxin when a toxin is not used in immunizing the horse, and lastly that anti-bacterial sera are not supposed to destroy a toxin but to assist in destroying bacteria and that this requires time to accomplish.

DISCUSSION.

Dr. Allen of Burlington:—I want to say just a word about the susceptibility to horses. I treated a woman who had been caring for her child who was ill with diphtheria, she was a woman of about forty and I advised a preventative dose. I gave her the anti-toxin and it was but a very few minutes before she began to gasp for breath, and had a most severe attack of asthma, in fact for a minute or two I feared she would die. Before giving her another dose I inquired if she were susceptible to horses and she said that she was. I asked as to

her feelings when she had the toxin and she said she felt as if she were near horses. I mention this because it was the first case of the kind that I ever saw. I gave subcutaneous injections of saline solution in this case. But I think it would be well always to find out if the patient is susceptible to horses. I do not know just what I would do, but I don't think I would give a dose of full strength. I never heard of such a case before but since have heard of other cases.

Dr. Melville of St. Albans:—In connection with this paper I would like to speak of two or three cases I have had; these three cases have all occurred within the last six weeks or two months. All were women carrying children, all women under thirty, two of them twenty-eight. They were at the full term, two were, one five months. All were taken with severe chills followed by rising temperature, temperature of 107 in one case, 105 in the other two. I gave patients in two cases a dose of calomel and in two cases the temperature dropped three degrees, and the patient recovered, in one case she was insane three weeks. I did not have serum in the first cases, but I sent to Burlington and got streptococcal serum and in the third case I gave an injection of 23 cc. in the shoulder and in eight hours gave 20 cc. more and in eight hours more gave another 20 cc. On the second day I gave no more serum as I had none. The next day her temperature was normal and she recovered. This led me to wonder just how much good the serum did do, and if perhaps we did not depend too much upon the serums, and not enough upon the old fashioned methods. I would not at all belittle the serum though.

Dr. Wood of Gardner, Mass.:—I have noticed in the last two weeks in several reports of cases where serum was used that the injection was made near the point of infection. It has always been my custom to inject into the buttock of the thigh, and found that a very good place. I have been told that by the passing of a law by the Legislature two years ago that diphtheria serum was made free in this State. I have practiced medicine on the borders of this State and in this State. A week before last I was called to see a patient on the Vermont side; it was out in the country and in the middle of the night, and when I got there I found the young woman had an extreme case of diphtheria. I had no idea what the case was when I was called from home and so was not prepared with serum. I went home and got some that had been furnished by the State of Massachusetts and gave 6000 units. I then started her husband to a Brattleboro drug store for some serum as I understood it was free in Vermont. They would not give it to him as they said they had no right to furnish it except the order be signed by the Secretary of the Board of Health, and we found no way of getting the anti-toxin. Now these people were poor and I think they should have had the serum. However I procured some from the State of Massachusetts and I think I saved the girl. I have had one case of tetanus. A servant was preparing some fish and in cutting it up cut herself on one of the discs, on the thumb near the joint. She did it up and went on about her work, and the next morning she got up about five o'clock and went about her work. Had no trouble with her thumb but complained that she could not open her jaw. I was called and I called counsel

but there was nothing we could do and we had to use the serum before noon. Now I think that at the time of the cut that woman should have had a preventative dose, but if I had suggested it the idea would have been scouted. I find that the people need education on these subjects, the laity have to learn the need. As it is the majority oppose the use of serums.

Dr. Rich of Swanton.—I would state that anti-toxin is free and I have never had any difficulty in obtaining it from the St. Albans Board of Health. I have noticed that in Russia where scarlet fever has been such a scourge that the mortality has been reduced to 3½% by the use of anti-streptococcic serum. Dr. McColl claims that in such infectious diseases the serum is very helpful.

Dr. Waller of North Troy.—Last spring we had an epidemic of measles, we had 350 cases of measles in North Troy. Some of them very closely resembled diphtheria, though I did not really find diphtheria bacillus in but three or four cases. I used the serum and found that it worked very well. In erysipelas the serum works wonders.

Dr. Crane of Hardwick.—I have noticed that in many cases of diphtheria at first examination it is hard to be positive that it is diphtheria. Fully one-half of the cases look like tonsillitis, and in some cases from the examination you would think were laryngitis, and by the time that you can get a report from the laboratory the case may be pretty well along. I think it is well to use the anti-toxin at once, a preventative dose anyway.

Dr. McSweeney of Burlington.—Diphtheria is in the system twenty-four hours before the bacillus is shown. I have been through several diphtheria epidemics in Burlington and I find that when I use the anti-toxin at once I have never lost a case. I believe that it is better to go on the supposition that we have a case of diphtheria and act accordingly than run any risks. In regard to the tetanus serum, I believe in giving the immunizing dose just as soon as I can get it. I ordered the anti-tetanus serum for that man who had his foot crushed there at Alburgh last week. From the time he came into the hospital he was given the serum every three or four hours and I think we are going to save his limb. Such cases require heroic treatment.

LUMBAR PUNCTURE.

BY

DR. C. H. BEECHER,
Burlington, Vt.

Since its introduction by Quincke in 1890 lumbar puncture has gained in importance not only in its diagnostic value, but more recently from its therapeutic usefulness.

Technique.—There are a few absolutely wrong statements, and so many conflicting ones in the various descriptions of lumbar puncture that a full discussion of its technique will not be amiss.

Instruments.—Various needles have been described and used for the puncture. Ones most used are a long hypodermic needle, an aspirating needle, or a small trocar.

They all have disadvantages: the hypodermic needles are of too fine a bore and too apt to break, besides they have no stylet; the aspirating needles have the same disadvantages as the hypodermic needles, and besides many have no thread for attachment of a syringe provided medication is to be done at the time of puncture; the trocars are usually without a thread and those long enough for use in adults are usually of much too large caliber. It is further a tedious and nearly impossible task to dry satisfactorily a nested trocar.

To overcome these disadvantages, I have had made by the Kny-Scheerer Co. a needle in two sizes which I show herewith. It is made strongly, though of moderate caliber, is of extra length, has an obturator which is retained in position by a lock and is threaded for attachment of a syringe.

Preparation of instruments.—The needles are best sterilized by boiling. If the fluid secured is to be cultured or used for animal inoculation it is essential that the needles be prepared aseptically, not by use of chemical antiseptics.

Preparation of the skin.—The skin of the area of puncture should be prepared as for any surgical operation; cleansed with soap and water, washed with bichloride solution, and wiped with alcohol or ether. The site of puncture may be indicated by touching the skin with tincture of iodine or pure phenol.

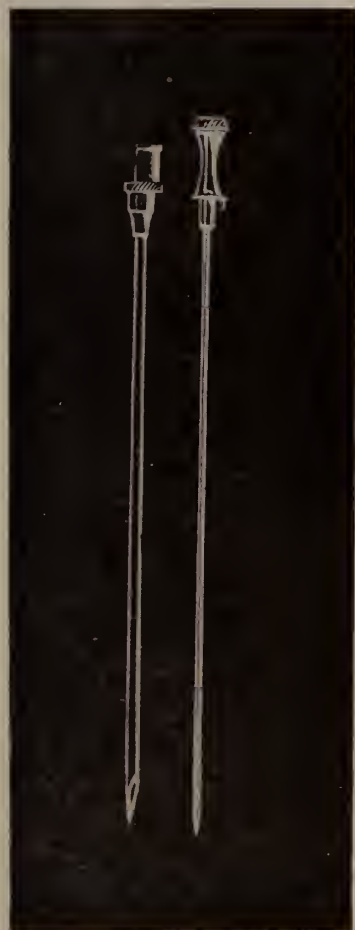
Anesthesia.—In the great majority of patients on whom lumbar puncture is done, coma or stupor is present. In these cases no anesthetic is needed. In a few cases, especially nervous children and women, in the hyperaesthetic stage of meningitis, or in any case where much rigidity or much opisthotonus is present, a general anesthetic is advisable. It is as painful to the patient to use cocain or ethyl-chlorid locally as to do the puncture, as the skin is practically the only sensitive part encountered.

Position of the patient.—The patient should be in bed (as most of the cases will be anyway), lying on either side of the body, and close to the edge of the bed. The thighs and head should both be flexed as strongly on the trunk as the usually present rigidity will permit.

The patient should be in bed because of the possibility (slight) of collapse and also because the sitting posture does not produce as much widening of the intervertebral spaces as is possible in the lying position. This is due to the fact that the muscles that cross the hip joint posteriorly do not pull on the pelvis enough to cause much flexion of the spinal column, unless the thighs are flexed to less than a right angle with the trunk,

Point of puncture.—The dural sheath extends to about the second sacral vertebra while the

as possible injury to the cord is concerned. The cauda equina is so freely movable that there is little danger to that unless excessive manipulation is done after the needle is introduced. A convenient rule is to draw a line posteriorly between the highest parts of the iliac crests. This line usually crosses the vertebrae at a level with the fourth lumbar spine, but may of course be higher or lower by one or possibly more vertebrae. The interspace either above or below this point of crossing may be used. In children the spinous processes of the lumbar vertebrae are



spinal cord in the adult ends usually at the level of the intervertebral disk between the first and second lumbar vertebrae, and at birth about a vertebra lower. Marked flexion of the spinal column raises the lower end of the cord to a slightly higher level.

Any of the intervertebral spaces then below the end of the cord are available for the puncture and it makes no difference which is used so far

short, extend nearly directly backward, and the interspinous ligament is not especially tough, and the puncture may well be made in the median line close to the under border of the spinous process of the upper vertebra of the chosen space. In adults on account of the increased length of the spinous processes and often their more marked downward inclination, together with the toughness of the interspinous ligament, there is

more room and the puncture is more easily done one-half an inch to the side of the median line and at a level with the lower part of the spinous process of the vertebra next above the space used, and directed slightly toward the median line. That is if the fourth space is used the needle should enter at the level of the lower part of the spinous process of the fourth lumbar vertebra. If the puncture is made at one side of the median line, the needle should enter from the same side of the median line that the patient is lying on, to facilitate the collection of the fluid, especially if an ordinary sterile test tube is to be used.

THE PUNCTURE.

The needle should be guarded by the finger and introduced firmly to near the necessary depth at one motion. The distance to the dural sheath varying from $\frac{3}{4}$ to 3 inches with age, size, and amount of muscular and adipose tissue present.

When the point of the needle, without too much movement, is felt free of resistance the obturator is removed, fluid appears, and a container is attached to the needle. If bone is struck on the attempt at introduction the needle should be partially withdrawn, and the angle of insertion changed. If after several attempts it is found impossible to avoid the bone the needle should be completely removed and reintroduced in another place.

If, after withdrawal of the obturator no fluid comes, the needle should be introduced a little farther or withdrawn a little. If still no fluid appears, the head and thighs should be still more strongly flexed on the trunk, the patient if conscious and able to respond, should be told to strain or cough, or the patient may be raised to a sitting posture. All these factors have a bearing in increasing the amount of pressure the fluid is under.

Causes of failure to get fluid are (1) failure to enter the dural sheath, either being too far to one side of it, or its being pushed ahead of a dull needle; (2) fluid present but so thick (pus) or slight in amount or under so little pressure as not to run; (3) a plugged needle; plugged before, during or after introduction.

Suction should not be used. When the fluid is under normal pressure, with the patient in the horizontal position, it emerges drop by drop, if the pressure is increased it may run in a stream and under very great pressure may even spurt

to a considerable distance (2-4 feet). The rate of flow depends on the position of the patient and the bore of the needle.

Amount to be taken.—If the first few drops of fluid from the needle are bloody, as often happens if an obturator is not used in the needle, they may be thrown away; but usually all the fluid may be collected in a sterile container for examination and estimation of the amount withdrawn. The normal amount of fluid present is variously estimated at 50-150 c.c. It is very rapidly restored, as it corresponds nearly with lymph. As a safe rule 30 c.c. (1 oz.) is a sufficient amount to withdraw at one time, especially if for diagnostic purposes.

If it is being employed therapeutically also, and the fluid is still under marked pressure when 30 c. c. have been withdrawn and no complaints of headache, faintness or sickness have been made, more may be taken, but if we are to be guided by the amount taken, 50 c. c. should be the limit at one time, it being safer to repeat the procedure than to take too large an amount at one time, as practically all the serious results have followed the withdrawal of a large amount of fluid, which was under high pressure, at one time, the sudden relief of pressure in these cases causing an acute congestion or actual hemorrhage into the brain or cord, and fatal collapse.

In a child with bulging fontanels, an amount sufficient to relieve their tension may be taken safely.

The knowledge of the amount of pressure the fluid is under is of some value.

The normal pressure with the patient in the horizontal position is from 60-120 m.m. of water (4.5-9 m.m. Hg.), and in pathological states may be as high as 200-800 m.m. water (15-60 m.m. Hg.). All these readings are increased in the sitting posture.

If with the patient in the horizontal position the hips are raised to an angle of 30 degrees, the pressure falls to 0.

The danger limit in the reduction of pressure is from 60 to 80 m.m. water. This can be easily estimated by having the discharging end of the needle, or attached tube, 60-80 m.m. (2.4-3.2 inches) above the level of the dural end, the fluid ceasing to flow when the pressure the fluid is under is reduced to the height in m.m. that the outer end of the tube is above the inner end. This is not absolutely accurate, but is sufficiently so for clinical purposes. In fact the

ordinary observation of the rate of flow, with the amount withdrawn is usually sufficient. A special manometer is not necessary.

I have used recently, with much satisfaction for collection of the fluid a sterile container which Dr. Stone has made. It consists of a graduated ounce bottle with attached rubber tubing to be connected with the needle used. Vent is allowed by a hole in the side of one of the two glass tubes, which tube is closed at its upper end. When this tube is pushed into the cork the container is closed, if the rubber tubing is on both glass tubes. The second glass tube is opened at both ends. The rubber and the glass tube, open at both ends may be used for the estimation of the amount of pressure the fluid is under.

The wound in the skin after withdrawal of the needle may be closed with any sterile dressing, preferably cotton and collodion.

A short rest in the recumbent position is advisable.

Diagnostic value.—(1) *From the amount of pressure.* Moderate increase in pressure, with severe pressure symptoms, is to be found in acute processes; while a great rise in pressure, with only slight pressure symptoms, is seen in the chronic conditions.

Specifically, the pressure is increased, ordinarily, in all forms of meningitis, including the so-called serous meningitis; brain tumors; recent hemorrhages, either idiopathic or traumatic, into the central nervous system; uremia; and in some of the infectious fevers, especially in some cases of typhoid fever.

(2) *From examination of the fluid.* (a) *Macroscopical.* Normally the fluid is clear and colorless. A cloudy, turbid or purulent fluid indicates meningitis, although it may be clear on account of the meningitis being localized by adhesions. It is frequently clear in tubercular meningitis. It is usually bloody or blood-stained in meningeal hemorrhage and in hemorrhage into the ventricles.

(b) *Microscopical.* The number of cells present in the fluid is increased in meningitis. In the *acute cases* the *polynuclear leucocytes* are the predominating cells. In the *more chronic conditions* the *lymphocytes* are relatively much increased; this is especially true of tubercular meningitis, after the first few days, and of cerebro-spinal syphilis, tabes dorsalis, and general paresis.

The endothelial cells may be present in excess in transudates, as in the fluid in uraemic states,

and the so-called serous meningitis.

Tumor cells have been found *rarely*.

(c) *Bacteriological.* Often the fluid must be centrifuged for the direct examination for bacteria, but in a frankly purulent fluid this is usually not necessary; an examination of a stained slide often being satisfactory.

The positive bacteriological examination is the only way to absolutely diagnose a case of meningitis and the only way to differentiate the varieties of meningitis.

Tubercle bacilli are usually present in the fluid of tubercular meningitis, but require special technique and often prolonged search.

The meningococcus is present and usually easily identified in a stained smear from the fluid of epidemic cerebro-spinal meningitis.

The pneumococcus and streptococcus are the organisms most often present in other purulent cases.

Various other organisms have been found in some cases.

If necessary for identification of the organism, cultures may be made, and animal inoculation done, though the latter takes some time.

(d) *Chemically.* The chemical examination yields little that may not be demonstrated easier, quicker and with more certainty, at present, by other methods of examination.

Therapeutic value.—(1) *For relief of pressure symptoms.* The pressure symptoms which lumbar puncture may relieve are: the sudden collapse with coma, seen in the hyperacute cases of cerebro-spinal meningitis; the headache, delirium, convulsions, rigidity, stupor and coma of any type of meningitis. All of these may of course be due in great part to toxemia which removal of fluid may relieve only to a slight extent. If there is little relief from what are ordinarily pressure symptoms by two punctures, repeated punctures are rarely beneficial.

In children the diminished tenseness of the bulging fontanel and a lessened MacEwen's sign are of some value as to the amount of actual relief afforded by the puncture to the increased pressure and increased amount of fluid present.

(2) *For introduction of medication.* It is used as the method of introduction of Flexner's serum for the treatment of cerebro-spinal meningitis; as one method of introduction of tetanus anti-toxin in the treatment of tetanus and for the introduction of cocain, stovaine, etc., for the production of spinal anesthesia.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D., }
 B. H. STONE, M. D., }*Editors.*

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EDITORIAL.

The Ninety-seventh Annual Meeting of the Vermont State Medical Society held at St. Albans has become history. The papers of the programme with one exception were read by their authors and the general discussions were unusually full and spirited. We regret to say that what would have otherwise been an unusually good programme was slightly marred by the usual absence of a large proportion of those delegated to lead the discussions of the papers. This part of any literary programme is of importance not at all secondary to the presentation of the principal papers, and yet it is a very conspicuous fact that it does not seem to carry with it a sense of responsibility proportionate to its importance. It is rare that a man promising to present a paper fails to be present, yet members promising to discuss papers and allowing their names to be used, time and time again fail to present themselves or to give a good excuse for not doing so. A general extemporaneous discussion of a paper, while often of great value,

can never have the weight of a carefully thought out discussion. A man allowing his name to be used on the programme in the capacity of a leader of a discussion should consider himself under exactly as much obligation to prepare his part and be present as though he were down for the paper itself. The formal discussions which were given at the St. Albans meetings were no whit less in value than the papers considered. The value of the papers which were not so discussed was largely detracted from by this lack.

The House of Delegates made some very important amendments to the Constitution and By-Laws, thereby adding to this society an entirely new function, that of defending its members from liability action in the courts. These changes are as follows:

ART. III. Constitution. "The House of Delegates shall elect a Medico-legal Committee of three members, one to serve for one year, and one to serve for two years and one to serve for three years, and hereafter there shall be elected annually one member to serve for three years, or until his successor is elected."

ART. II. Sec. 2. By-law. "Each county treasurer shall collect from each member of his county society the sum of four dollars for the State Society." * * * * *

ART. XVIII. Sec. 1. "The State Society may defend its members sued for malpractice."

Sec. 2. "It shall be the duty of the Medico-legal Committee to investigate and defend suits against members in good standing for all alleged malpractice."

This action is in accordance with that taken by several other State Societies and it is hoped that it will be successful in decreasing the number of malpractice suits in the State.

The Society strengthened its position on the contract practice question by altering the resolutions of 1908 to read as follows:

On and after the first day of January, 1911, no member of this Society shall accept the position of club, society, lodge, fraternal or benefit society

physician, or do town or city pauper work or corporation or railroad service, or any other contract work where the price named for the work is below the prevailing schedule of fees in the locality where the contract is proposed. Also that in no case shall any physician agree to attend the families of the members of such club, society, lodge, or fraternal organization at half price or less than the regular price.

Nothing in this section shall be construed as preventing any member from attending the worthy poor, or to give free service to those too poor to pay anything.

Any violation of this article shall be considered unprofessional conduct, and it shall be the duty of the House of Delegates to expel such members when proof of such conduct shall be presented to them."

The question of membership which was considered by a committee appointed for that purpose was finally expressed in the following language: "That the State Medical Society express as its sentiments that all County Societies should adopt the following By-Law: 'A legally registered physician who does not practice, or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership.'"

This in effect extends the privilege of membership to anyone who does not practice sectarian medicine. This last action of the State Society is in our opinion an important one. The field of medicine has become so broadened that there is no longer any use for sectarianism. The unification of state examining boards was the first step and the opening up of county, state and national medical societies to practitioners of all legitimate schools of medicine should be the final step toward breaking down the old arbitrary and silly distinction. Anyone who maintains these artificial differences does it now for advertising purposes and such a one is not desirable in any society.

The boasted superiority of the continental physician which leads hundreds of American physi-

cians to look upon a time spent in continental medical centers as the acme of their dreams is due not at all to any superiority which these men have in ability, training or skill, but rests solely and simply on the tremendous amount of pathological material available.

A thousand autopsies a year is given as an average at the German universities. It is quite safe to say that there is no university or hospital in America that has available a fifth of this material. This comes about not from any failure to appreciate the value of autopsies by American physicians and surgeons, but from the basic differences in our constitution and laws.

The rights of the individual even after death are so thoroughly entwined in all our legal enactments that we may never hope to have the legal right to do autopsies which our German and French brethren have, but medical men should do all in their power to overcome this dread of post-mortems on the part of the laity, for it is only by the final post-mortem examinations of puzzling cases that we may hope to correct our errors of diagnosis and attain to the greatest skill in treatment. All rational medical and surgical treatment must depend upon a thorough conception of the pathology giving rise to the morbid symptoms.

NEWS ITEMS.

Dr. A. L. Hill has returned to Colorado, after a year's stay in Derry, N. H. He returned West on account of his wife's poor health.

Dr. C. S. T. Whitcomb has returned from Cantoocook, N. H., to Ashland, Mass.

Dr. W. H. Tarbell has removed from Hopkinton, N. H., to Cantoocook, N. H.

Dr. H. M. Morse, recently of Claremont, N. H., has purchased the practice of Dr. W. C. Phillips of Springfield, Vermont. Dr. Phillips

has given up the practice of medicine and retired to farm life.

Dr. E. N. Carignan (Baltimore Medical College) has located in Dover, N. H.

Dr. J. J. Morin, U. V. M. 1909, has opened an office in Somersworth, N. H.

Dr. Arthur Lamoreaux has located in Berwick, Maine, after passing the board of medicine of that state.

Dr. C. Kidder has opened an office in Woodstock, Vermont.

Dr. H. C. Stearns has returned to Haverhill, N. H., after a stay of a year in Concord, N. H.

A son was recently born to Dr. and Mrs. G. H. Branch of Grand Isle.

Dr. R. C. Flagg has gone to Essex Center to take the practice of Dr. H. A. Ladd, who is town representative. Dr. Ladd is to give up his practice indefinitely because of ill-health.

A physician of Manchester, N. H., who is somewhat of a humorist tells our correspondent the following incident: Being present as an observer at a surgical operation which had for its main object the dilatation of the internal sphincter ani, the doctor made the discovery that the conscience was amenable to surgical treatment. The patient was a young lady of refinement and upon coming out from the effects of the ether exhibited a succession of smiles and pleasurable facial expressions. When sufficiently recovered, the patient remarked that "now her conscience was clear." To the facetious bystander it seemed as if the location of the conscience had been fixed and the treatment for an abnormal one was to give a little ether and dilate well the spincter ani.

At this time the most sensational suit for damages ever tried in Cheshire County is going through the courts at Keene, N. H. It appears that Dr. H. R. Faulkner and Dr. C. S. Walker, both of Keene, took care of a woman with a broken neck of the femur. After recovery there was a shortening of five-eighths of an inch and

according to the measurements of another doctor six-eighths of an inch, both measurements being made at the trial. The defendants claim that no better results could have been obtained. There was no X-Ray apparatus at the hospital where the patient was treated. The plaintiff claims the fracture was not correctly located by the attending surgeons. The woman sues each doctor for twenty-five thousand dollars and the husband of the woman also sues each doctor for ten thousand dollars for loss of services of his wife. Dr. Gray of Cambridge, Mass., is the plaintiff's expert and a number of prominent surgeons from Boston and adjoining towns are attending court in this case. The jury gave a verdict for the defendants.

A son was recently born to Dr. and Mrs. Joseph Archambault of Essex Junction.

Dr. George M. Vincent, U. V. M. 1865, State Medical Society of Wisconsin, for several years President of Village Board of Topsham and member of State Legislature in 1879, died at his home September 11th from cerebral hemorrhage, aged sixty-nine years.

Dr. Joseph Taylor, Manchester, N. H., is the defendant in a suit for five thousand dollars' damage claimed because of alleged neglect in not operating. The case was a malignant growth and the doctor did not think proper to operate. After the woman died, the husband learned from another doctor that an operation might have been done.

Dr. F. A. Stillings, Dr. L. A. Sanders and Dr. C. H. Sunn of Concord, N. H., are co-defendants in a suit for twenty-three thousand dollars' damage. The case is that of a broken arm in a boy seven years of age. The claim set up by the boy's father is loss of service of the boy during his minority because the fracture was not properly cared for.

Dr. A. C. Merriam, Washington, D. C., is the defendant in a suit for five thousand dollars because he could not be found for a case of labor for which he had been engaged. He left no note as to where he could be found when he was not in his office and the suit is based on this alleged neglect.

Miss Katherine H. Ross of Rutland and Dr. Edmund M. Pond, a well-known Rutland sur-

geon, were married October 12th in Shelburne. Dr. and Mrs. Pond sailed from New York October 20th for several months' trip abroad. They were accompanied by Dr. Pond's daughter and Mrs. Pond's sister.

Dr. W. B. Thorning of the University of Vermont College of Medicine, class of 1899, who has recently been studying in London and Vienna, is spending a few weeks in Burlington. He intends to practice in Houston, Texas.

The College of Medicine, University of Vermont, opened November 1st with a total attendance of about one hundred and ninety, and an entering class of fifty-six. The opening address was given by Dr. J. C. Rutherford of Providence, Rhode Island.

The Governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a twelfth series of clinical lectures on Diseases of the Skin in the Out-Patient Hall of the Hospital on Wednesday afternoons, from November 2nd to December 21st, 1910, at 4:15 o'clock. The course will be free to the medical profession. Walter C. Witter, Chairman of Executive Committee.

We know of a rare opportunity for an up-to-date man who wishes to engage in general practice in a Vermont town of twelve thousand.

New York and New England Association Railway Surgeons.—The twentieth annual session of the New York and New England Association of Railway Surgeons was held at the Hotel Astor, Broadway and 44th Street, New York City, on November 3-4, 1910, under the presidency of Dr. L. M. Bingham of Burlington, Vermont. An excellent programme was carried out. Dr. John B. Deaver of Philadelphia delivered an address on surgery on November 3rd at 12 o'clock.

BOOK REVIEWS.

THE ESSENTIALS OF HISTOLOGY, DESCRIPTIVE AND PRACTICAL.—For the use of Students. By Edward A. Schäfer, F. R. S., Professor of Physiology in the University of Edinburgh. New (8th) edition, thoroughly revised. Octavo, 571 pages, with 645 illustrations. Cloth, \$3.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

This is a thoroughly up-to-date work on histology divided for convenience in teaching, into lessons. Each chapter is headed with directions for the preparation of material, for study of the tissue described in the chapter. The arrangement adapts it especially for a text book but does not deter from its value as a reference work. It is well and profusely illustrated.

SYMPTOMATIC AND REGIONAL THERAPEUTICS.—By George Howard Hoxie, A. M., M. D., Professor of internal medicine and dean of the clinical department in the school of medicine of the University of Kansas, etc. Fifty illustrations in the text. D. Appleton & Co., New York & London. \$4.00 cloth.

The author states that this work contains the material for the course in general therapeutics recommended by the curriculum committee of the American Medical Association and the curriculum of the Association of American Medical Colleges. The work first takes up the consideration of symptoms and their relief and the relation of symptoms to pathological processes, the careful distinction being made between symptomatic and specific treatment. In the second section the treatment of diseases is discussed, thus covering the same ground from a different view-point. The repetition of drugs and procedures in the writer's opinion should be of great value in fixing the details in the student's mind. Finally there is a general review of the pathology of the body and an application of the principles already laid down. The arrangement is logical and the detail well carried out. The work should be of value to student and practitioner alike.

NUTRITION AND DIETETICS.—A Manual for Students of Medicine, for Trained Nurses, and for Dietitians in Hospitals and other Institutions. By Winfield S. Hall, Ph. D., M. D., Professor of Physiology, Northwestern University Medical School; Lecturer on Physiology and Dietetics in Mercy Hospital and Wesley Hospital, Chicago. D. Appleton & Co. New York & London.

This book represents the course now given by the author and his associates to undergraduates and nurses. It covers the subject of nutrition, which the author defines as "the physiological process of supplying the material needs of the body," and dietetics, which he defines as "a systematic presentation of food classification and food preparation together with the principles which govern the choice of foods under various conditions, age, employment, health or sickness."

As an essential to a thorough understanding of nutrition and dietetics, the author considers the fundamental principles as embodied in the essential facts of physiological chemistry, a general knowledge of the structure of the alimentary canal and the digestive system in particular. To this is added practical ideas and methods of preparing the food in the kitchen.

The work goes into the subject with great detail and thoroughness.

THE PRACTICE OF MEDICINE.—A Guide to the Nature, Discrimination and Management of Disease. By A. O. J. Kelly, M. D., Assistant Professor of Medicine, University of Pennsylvania; Professor of Medicine, University of Vermont. Octavo, 949 pages, illustrated. Cloth, \$4.75, net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

Dr. Kelly's avowed purpose in the preparation is to prepare for the student and younger practitioner of medicine a guide to the discrimination and management of disease that should contain the essentials unadorned with great detail. The purpose he has successfully accomplished. The work is not and makes no pretensions to being an extensive discussion of the subject of Practice. Such a treatment demands volumes, but in the work Dr. Kelly has presented in a clear, orderly, logical manner the facts essential to the student and practitioner. Furthermore, he has presented these facts in a way most easily understood and remembered. His intimate knowledge of pathology together with his experience as a practitioner and teacher has eminently fitted him to make clear the relation between morbid anatomy and symptomology. In treatment he has carefully detailed one course of therapeutics which his personal experience has taught him to be of value and has given with less detail other remedial measures and agents.

MINUTES OF THE NINETY-SEVENTH ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY, ST. ALBANS, VERMONT, OCTOBER 13, 14, 1910.

The first session of this meeting was held in Paige's Hall and was called to order at 2.00 P. M. by the President, Dr. W. L. Havens of Chester.

Prayer was offered by the Chaplain, Rev. Ralph F. Lowe. Hon. C. S. Greene, extended a welcome to the city.

Dr. Marvin of Essex Junction moved that as the minutes of the last annual meeting had been printed and distributed that the Secretary's report of the meeting be accepted and adopted as printed. Motion seconded and carried.

Dr. Berkley of St. Albans reported for the Committee on Arrangements.

Dr. C. H. Beecher of Burlington gave his report as secretary, which upon motion of Dr. Holton, seconded by Dr. Paige was accepted and ordered placed upon record.

Dr. B. H. Stone of Burlington gave his report as Treasurer. On motion of Dr. Waller, seconded by Dr. Davidson, report was accepted and placed upon record.

Dr. Beecher of Burlington moved that the thanks of the Society be extended through the Trustee to the donor of the trust fund. Motion seconded and carried.

Dr. C. H. Beecher of Burlington gave the report of the Publication Committee, which upon motion of Dr. Steele, seconded by Dr. Lyman Allen, was accepted and placed upon record.

There was no report from the Committee on Medical Education.

Dr. Houle gave the report of the Committee on Nereology, which upon motion of Dr. Allen, seconded by Dr. Marvin, was accepted and ordered placed upon record.

Dr. J. N. Jenne of Burlington, Delegate to the American Medical Association, read his report of that meeting. Dr. Allen, seconded by Dr. Marvin, moved that the thanks of the Society be extended Dr. Jenne for his full report and that the report be accepted and placed on file, which was so ordered.

Dr. Crain of Rutland reported as Delegate to the New York State Convention, which report upon motion of Dr. Stone, seconded by Dr. Welch, was accepted and ordered placed on file.

Dr. Wood, Delegate from Massachusetts was introduced by the President and made appropriate remarks.

Dr. Reese, Delegate from the New York State Society was introduced by the President and responded with appropriate remarks.

Dr. Havens, President, stated that on account of the evening lecture being an illustrated lecture, because of which the lights would need to be turned off, it had been suggested that there be a change in the program and the President's address be given at the afternoon session rather than in the evening as it appeared on the program, and that as it involved a change in the program a motion to that effect must be carried by a two-thirds vote.

Dr. F. E. Clark moved that the program be changed and that the President's address be the last number on the afternoon program in place of on the evening program, seconded by Dr. Ross. This motion was carried unanimously and the change was ordered.

Dr. E. H. Ross of St. Johnsbury, gave the Vice-President's annual address, entitled "Extra-Uterine Pregnancy." The paper was discussed by Dr. McSweeney of Burlington, Dr. G. M. Sabin of Burlington, Dr. Marvin of Essex Junction, Dr. Welch of Franklin, and Dr. Reese of Cortland, N. Y.

A paper entitled, "General Principles of Serum Therapy," was read by Dr. Marvin of Essex Junction. The paper was discussed by Dr. Allen of Burlington, Dr. Melville of St. Albans, Dr. Wood of Northfield, Mass., Dr. Waller of North Troy, Dr. Crain of Rutland.

Owing to the lateness of the hour the President's address was omitted and the meeting was adjourned until 8.00 P. M.

Meeting of the House of Delegates was held at 5.00 P. M.

EVENING SESSION.

Meeting called to order at 8.10 P. M. by Dr. Havens, President. A report of the first meeting of the House of Delegates was made by the Secretary of the House, Dr. A. O. Morton. Dr. W. J. Dodd of Boston, was introduced by the President and gave an illustrated lecture entitled, "X-Ray in Medicine and Surgery."

At the close of the lecture a vote of thanks was extended to Dr. Dodd for his very interesting lecture, and it was moved and seconded that Dr. Dodd be made an honorary member of this Society. Motion carried and it was ordered that Dr. Dodd's name be placed on the roll of the Society.

The President's annual address, entitled "A Decade in Medicine," was given by Dr. Walter L. Havens of Chester Depot.

Meeting adjourned at 9.30 P. M.

The annual banquet was served at the Owl Club Rooms, Dr. F. E. Clark of Burlington being Anniversary Chairman.

FRIDAY, OCTOBER 14th, 1910.

MORNING SESSION.

Meeting called to order by the President at 9.30 A. M. A report from the House of Delegates of its adjourned meeting was presented by the Secretary, Dr. A. O. Morton.

A paper on "Autointoxication" was read by Dr. E. M. Crane of Hardwick, Vt. The paper was discussed by Dr. Gibson of St. Albans, Dr. Peck of Brandon, Dr. Reese of Cortland, N. Y., Dr. Beecher of Burlington.

A paper entitled "Lung Surgery without Complicating Apparatus," was read by Dr. Samuel Lloyd of New York. This paper was discussed by Dr. M. R. Crain of Rutland, and Dr. Lyman Allen of Burlington. Upon motion of Dr. Jenne, a vote of thanks was extended to Dr. Lloyd for his valuable paper and he was made an honorary member of the Society.

A paper entitled, "The Use of Bismuth Vaselin Paste in Suppurating Tracts," was read by Dr. Lyman Allen of Burlington.

Adjourned at 12.00 Noon.

AFTERNOON SESSION.

Meeting called to order by the President at 2.15 P. M. A report from the House of Delegates was read by Dr. Sears, Secretary pro tem.

A paper entitled, "Some Practical Points in the Diagnosis and Treatment of Diseases in the Upper Abdomen," was outlined by Dr. Maynard of Burlington. Discussion by Dr. Rumrill of Northfield, Dr. Crain of Rutland and Dr. Peck of Brandon.

Dr C. A. Pease of Burlington, introduced a motion that a greeting from this meeting be sent Dr. W. S. Nay of Underhill, who was prevented from attending this meeting on account of illness; saying that a word of greeting and remembrance from this meeting would cheer Dr. Nay. Motion seconded and the Secretary was instructed to send such a greeting.

Meeting adjourned upon motion at 3.25 P. M.

PRAYER BY THE CHAPLAIN, REV. RALPH F. LOWE.

Our Almighty Father, it is with reverence that we invoke thy blessing on us on this occasion.

We ask that Thou wilt guide and direct us in the great work Thou hast entrusted in our hands. Help us to realize that we are working together with Thee, that we are co-workers with Thee in alleviating the pains and ills to which humanity is heir. Help us to live and work for others that we may have a share in the building of Thy most glorious kingdom on earth. For Christ's sake we ask this. Amen.

ADDRESS OF WELCOME BY HON. C. S. GREENE.

Mr. President, Ladies and Gentlemen of the Society:—It give me great pleasure on behalf of the Citizens of St. Albans to welcome you to our city for your ninety-seventh annual meeting. I hope your stay while among us will be most profitable and pleasant. Again I welcome you, in the name of our citizens. I extend you the freedom of our city, I give the keys of the city into your hands.

REPORT OF COMMITTEE ON ARRANGEMENTS, GIVEN BY DR. BERKLEY, CHAIRMAN OF THE COMMITTEE.

There is very little to be said that you are not all familiar with. There are several exhibits in the rooms below. The Committee sent out one hundred letters with the result that we have ten exhibits. The ladies of St. Albans give a reception at 3 o'clock in the parlors of the Congregational Church to the visiting ladies. To-night at 9:30 the annual banquet will be served in the Owl Club Rooms. Tickets \$1.00. To-morrow morning a ride has been planned for the ladies to Maquam. Lunch will be served at Maquam and return here at four. The ladies of the reception committee wish me to say for them to the members of the Society that they would like to have them come to the Church at 5.00 o'clock and have a cup of coffee.

President Havens:—I am sure the members will all be glad to accept the ladies' invitation. On behalf of the Society I extend to the Committee through Dr. Berkley a vote of thanks for their work in our behalf.

SECRETARY'S REPORT.

To the Members of the Vermont State Medical Society:—I take pleasure in presenting to you my third annual report. The membership of the State Society is divided among the component County Societies as follows:

Addison	24
Bennington	17
Chittenden	75
Caledonia	31
Franklin	37
Lamoille	15
Orleans	19
Rutland	61
Washington	50
Windham	37
Windsor	28
Making the total membership of the State Society	394.

There have been three deaths, three resignations, and twenty-three have been dropped for non-payment of dues, a total loss of twenty-nine members, but there have been added twenty-eight new members, making the net loss one member.

I recommended last year that the offices of Secretary and Treasurer in the County Societies be

held by the same members. A resolution to that effect was adopted by the House of Delegates and most all of the County Societies now have the same member holding both offices. The rest I hope will soon realize that the advantages of this plan more than make up for its disadvantages, and make the desired change, which greatly facilitates and simplifies the work of both the County and State officers.

Some Counties still fail to elect alternates at the same time as the delegates are elected, as the Constitution provides.

The following letter from the Dartmouth Medical College is self explanatory:

"DR. C. H. BEECHER, Burlington, Vt.

Dear Doctor:—Since the matter of the discontinuance of the old custom of having our graduating class examined by delegates from the New Hampshire and Vermont Medical Societies has not been formally reported to you, I write this letter to inform you of a faculty vote of the school recently taken in this matter. It has seemed to the faculty members for some years that the work was not needed, since State Boards of Registration have taken over the responsibility for determining the fitness of men desiring to practice medicine in the various states. But although merely a nominal examination has been held of late years by the visiting delegates, the old custom has been so pleasant in many ways that it has been continued, particularly since the delegates have always seemed glad to come when it was possible for them to do so, and have taken so lively an interest in the passing of judgment upon the men of the graduating classes. But it was thought that the changes from the old custom could not be delayed long, since it was unfair to ask the Societies to appoint men who should be expected to leave their work, and come to hold oral examinations of men who should be passed upon by the regularly appointed State Boards, and accordingly the vote of discontinuance was taken.

The faculty desires to express the deep appreciation it feels and has always felt for the cheerful and valuable co-operation shown by the State Societies during all the years that the delegate examination has been held, and hope sincerely that the cordial relations always existing between them and this school may continue to be as real as they have been in the past.

Yours very sincerely,

G. S. GRAHAM, *Sec'y.*

The University of Vermont College of Medicine being the State University, is in a somewhat different position, as regards the continuance of delegates to the examinations, but as the original functions of these delegates is so well taken by our State Board of Medical Registration that there is now no reason for their appointment, I would recommend that the delegates to both institutions be discontinued, the necessary changes to article IV of the By-Laws being made by the House of Delegates at their meeting.

Respectfully submitted,

C. H. BEECHER, *Sec'y.*

TREASURER'S REPORT.

Vermont State Medical Society in account with
B. H. Stone, Treasurer.

CREDIT.

Balance on hand	\$877.02
Dues received from County Societies for 1908-1909.	
Addison	50.00
Orleans	6.00
Franklin	6.00
Bennington	2.00
Dues received from County Societies for 1909-1910.	
Bennington	32.00
Caledonia	62.00
Chittenden	144.00
Franklin	72.00
Lamoille	30.00
Orleans	35.00
Washington	102.00
Windham	66.00
	<hr/>
	\$1484.02

DEBIT.

Parker Syms, expenses of attendance at White River Junction meeting	\$13.40
R. C. Cabot, expenses of attendance at White River Junction meeting	9.89
J. H. Woodard, expenses of attendance at White River Junction meeting	13.40
Georgia Sturtevant, Stenographic work	30.90
Free Press Association, Printing	52.43
K. R. Farrell, Stenographic work	30.00
C. H. Beecher, miscellaneous expenses	25.42
Burlington Medical Publishing Co.	400.00
Junction House, hotel bills of guests	18.50
Landmark, printing	8.20
Gibbs & Wheeler, livery bill,	21.00
B. J. Derby, stamps	1.00
Nellie L. Johns, Stenographic work	6.00
Balance on hand	853.88
	<hr/>
	\$1484.02

Respectfully submitted,

B. H. STONE, Treasurer.

Examined and approved, A. M. NORTON, Auditor.

The following communication received by your Treasurer is self explanatory.

VERMONT NATIONAL BANK.

BRATTLEBORO, VT., AUG. 30, 1910.

B. H. STONE, M. D.

Treas. Vermont Medical Society,
Burlington, Vt.

Dear Sir:—I beg to advise that I have to-day had placed in my hands, a trust fund for the benefit of the Vermont Medical Society, consisting of the following securities, namely:

Western United Gas & Electric Co., 5% first mortgage bond of 1922, \$500.00, and

Atchison, Topeka & Santa Fe Ry. Co., 4% general mortgage bond of 1995, \$1,000.00.

The condition of this trust shall be as follows, namely:

"The trust shall be operative beginning October 1st., 1910, the first interest payment to be in October 1911."

"The income of the above securities shall be paid annually in October to the Treasurer of the Vermont Medical Society, for the purpose of establishing a lectureship, providing for a speaker for each annual meeting of said society upon either Sanitary Science, or General Medicine. The appointment of said speaker to rest with the officers of said Medical Society."

The name of the donor of this trust, at his request, to be treated as confidential until his decease, by the trustee.

Yours truly,
GEO. C. AVERILL, Trustee.

REPORT OF EXECUTIVE COMMITTEE.

To the Members of the Vermont State Medical Society:

Your executive committee respectfully report that Drs. G. C. Berkley, W. J. Upton and E. A. Hyatt of St. Albans were appointed the Local Committee of Arrangements for the 1910 session of the Vermont Medical Society, and that on October 3rd, Dr. F. E. Clark of Burlington was appointed Anniversary Chairman, the Chairman elected at the last session Dr. S. W. Hammond being unable to serve.

W. L. HAVENS,
G. C. BERKLEY,
C. H. BEECHER.

REPORT OF PUBLICATION COMMITTEE.

To the Members of the Vermont Medical Society:

The Publication Committee submits the following report:

The Arrangements for the publication of the "Transactions", being left with us, we felt that as the plan of previous years had been satisfactory we had best continue it, and have done so.

The "Transactions" have been printed in installments in the Vermont Medical Monthly, and then bound in one volume and a copy sent to each member who has requested one. The Society has paid the Vermont Medical Monthly four hundred dollars for their work.

We believe this has again given general satisfaction, and recommend its continuance this year.

Signed by the Committee
C. H. BEECHER,
DAVID MARVIN,
F. E. FARMER.

REPORT OF COMMITTEE ON LEGISLATION.

To the Members of the Vermont State Medical Society:

GENTLEMEN:—As there has been no session of the Legislature since our last meeting your committee has nothing new to report.

The Free Antitoxin law which was passed two years ago has given universal satisfaction and we doubt not that it has been the means of saving many lives. The amendments to the Pure Food laws and the law for the inspection of milk and dairies of the

State were also placed upon our statute books at the same session and have proved of much sanitary benefit to the people of our State.

Respectfully submitted,
GEORGE H. GORHAM,
LYMAN ALLEN,
A. H. BISBEE.

REPORT OF COMMITTEE ON NECROLOGY.

To the Members of the Vermont State Medical Society:

There have been three deaths during the past year, Dr. F. S. Gray of Troy, March 10, 1910, Dr. F. A. Bennan of Georgia, March 26, 1910, Dr. A. J. Darrah of Enosburgh Falls, April 3, 1910.

Obituaries of these members will be printed in the next volume of the "Transactions."

Respectfully submitted,
A. E. HOULE,
J. W. JACKSON,
H. H. LEE.

REPORT OF DELEGATE TO THE AMERICAN MEDICAL ASSOCIATION.

To the Vermont State Medical Society.

Your delegate, whom you honored by an election to represent this society at the meeting of the American Medical Association, at its annual session held at St. Louis, Missouri, June 6th to 10th, 1910, begs leave to submit the following report:

That he attended the meeting in the above named city and was present at each and all of the sessions of the House of Delegates of that Association.

The meeting was a large and well attended one, and it was considered a successful meeting both from the standpoint of the character and number of notable contributions upon various scientific subjects, in the various sections of the Association, and from the great material progress made by the Association, as disclosed by the report of the various committees, in numerous important matters of interest to the profession to the furtherance of which the Association is committed.

The weather was ideal and contributed very materially to the pleasure of the members and their guests who were in attendance, notwithstanding the location of the city and the season of the year.

The Association was received with characteristic southern hospitality, not only by the members of the profession in and about St. Louis, and the State of Missouri, but by the laity of the city who threw wide-open their doors in most generous hospitality to their guests. At the opening of the meeting of the General Assembly, an address of welcome was extended by the president of the St. Louis Medical Society, Dr. Henry Schwartz; in behalf of the medical profession of the State by Dr. H. Pease of Kansas City, president of the State Society, who commended the Association upon its good work in the public health movement and in its efforts to secure the enactment of Pure Food Laws. An address also of welcome in behalf of the profession of St. Louis was given by Dr. W. G. Moore, in which he pleasantly referred to the fact there was no North, South, East or West divisions in medical profession and that there never had been.

His excellency Gov. Hoadley was present and at once challenged the interest of his hearers by his eloquence; by the cordiality of his welcome to the State and humorously alluded to his attitude toward

the trusts. He said, "that he had been informed that the American Medical Association was a trust, but stated that if it was such, that it was a good trust, and he welcomed it to the city of St. Louis, and gave the keys to, and freedom of, the city to its visiting guests and conferred upon them immunity from its police powers."

The report of the President of the House of Delegates of the Association has appeared in the Journal of the Association, as well as the reports of the executed proceedings of the various sections of the Associations and doubtlessly have come to the attention of the members of this Society; they obviously are too voluminous and extended to be even commented upon in detail here, however, your representative thinks it proper to call your attention to a few notable matters:

First:—The much heralded contention arising through certain charges having been made against one of the high officials of the Association, and the promised revolution which was to take place at this meeting did not materialize. The Daily Press of the city during the days that the House was in session contained many allusions to the fight that was said to be going on, stating that new charges were to be made against this official and old ones were to be reiterated, but no hostility was observed in the House toward this official. On the contrary when Dr. Simmons offered his resignation as General Secretary of the Association, he gave his reasons for so doing which may be found in full in the proceedings of the House of Delegates published in the Journal in the issue of June 11. It seemed to the writer that he gave very good and sufficient reasons why he should be relieved from the compelling duties of that office, namely, that he might better attend to the increased demands of the not less important work of the Editor of the Journal. Nevertheless it appeared that the temper of the house was such that it thought Dr. Simmons would by his retention as General Secretary of the Association not only best subserve the interest of the Association, but that it was but fair and just to him that he be re-elected under the circumstances as a vindication from the serious charges made against him, and as an expression of confidence and appreciation of the great work that he has done in the past for the Association, and he was unanimously re-elected.

The report of the Board of Trustees shows some interesting facts, among others that the total issue of the Journal was nearly three million copies during the preceding twelve months, with an average circulation per week of 55,361.

A table was exhibited showing the distribution of subscribers to the Journal; the percentage of physicians in each State who are subscribers. Vermont under this table is credited 31.8 per cent. of its physicians in good standing, which is rather low, in fact standing fifth from the bottom of the list.

The Treasurer's Report shows receipts and disbursements of about \$43,000.00. During the preceding year, the assets of the Association aggregate near four hundred thousand dollars, and an increase in the total assets for the current year of \$43,000.00.

The report of the committee on Medical Legislation will be found in the issue of the Journal above referred to, and is of interest to those that feel that uniform laws should be had to govern the granting of licenses to physicians to practise medicine in the

various States, and recite some of the chief difficulties in way of such laws and make reference to the facts that regulations of the practise of medicine falls strictly within the police powers of each State and further, that a model practise act, uniform in all its provisions even if no difficulty was encountered in securing its passage by the Legislatures of the various State would be inoperative, inasmuch as the legal powers and provisions under the constitutions of various States vary to considerable extent. Progress was reported in many States, however, in this matter.

The report of the Council on Medical Education is an extremely interesting matter, especially to such as are engaged in teaching, or connected in any way with the State Boards of Censors. A notable advancement is to be noticed both with respect to the recommendations of the Council and the requirements made by the Board of Censors of the various States in the matter of preliminary educational requirements for a candidate in medicine. It may be reported that the general trend of opinion seems to be, that the preliminary educational requirements should include one or more years in a College of Arts and Science as a preliminary to taking up the study of medicine, and this followed by a four year under-graduate medical course, supplemented by one or more years of hospital practise. But it must be said in truth, however, that there is still a very respectable minority, who are competent to speak upon this subject, who feel that in this country with its comparatively sparsely settled rural districts, that it is impracticable, at the present time, to require the same preparation for a medical career that is held to be desirable or necessary in the more populous European countries.

The report of the Committee on Organization under which Dr. McCormick labored to secure the passage of an act by the National Congress, authorizing the establishment of a department of Public Health, reports some progress. The Owen Bill, so-called, which failed in its passage, met with approval of the committee but, as reported in the press of the country was bitterly opposed by and failed of passage through the efforts of the patent medicine interest. But, I regret to say, also was opposed by the conflicting interest within the profession by the various bureaus and divisions already created which would be directly affected by the transfer. This was perhaps to be expected, through the honest differences of opinion between medical men, in the matter. It seems particularly fortunate that we should have in charge of this matter, men great enough to harmonize these various conflicting views, and to finally reach, as they did, a substantial agreement, and it seems likely that we are to have a National Health Department substantially upon the lines of the Owen Bill in the near future. A resolution was offered by Dr. Guthrie of Pennsylvania and unanimously adopted by a rising vote in the house in the substantial endorsement of that bill.

Respectfully submitted,

J. N. JENNE.

REPORT OF DELEGATE TO THE NEW YORK STATE SOCIETY.

Mr. President and members of the Vermont State Medical Society: I had the honor to represent you

last January as delegate to the New York State Medical Society, and was very cordially received. The meeting was very successful both from a scientific and social standpoint. The attendance was large and there were many able papers and most of them were very thoroughly discussed. There was a symposium consisting of six papers on appendicitis. Besides the papers by members of the Society there was a very interesting one by Simon Flexner on poliomyelitis, also two very able articles on colon bacillus infections and their treatment by vaccines by Frank Billings and M. L. Harris, both of Chicago.

It was the hundredth annual meeting of this Society, all of which were held in Albany, and there was a strong effort made by members from New York City to have the place of meeting changed to New York, but it was finally decided that if they could have such successful meetings as the present one held in Albany they would continue holding them there for another century.

We had a very enjoyable banquet at the Ten Eyck.

Respectfully submitted,

M. R. CRAIN.

INTRODUCTION OF DELEGATES FROM OTHER SOCIETIES.

DR. HAVENS.

Gentlemen:—It gives me great pleasure to introduce to you to-day as delegate from the Massachusetts State Society, my old time friend, Dr. H. N. P. Wood, of Northfield, Mass.

DR. WOOD.

Mr. President and members of the Vermont State Medical Society.

It is with peculiar pleasure that I come as a delegate to bring the greetings of Massachusetts State to Vermont State, and at this time when you are so nearly approaching the one hundredth anniversary of your organization. This organization is almost as old as that of New York State and almost as old as Massachusetts. It is with a peculiar pleasure, I say, for the reason, that although I am not a native born Vermonter I began my practice in Vermont. And, indeed, a few years back I learned that my name was still registered in the Court of Windsor County and that I was eligible to practise in Vermont, and in fact I do. I sometimes brag that I have attended patients in three States in one day. I thank you for the hearty greeting you have given me and again I bring you the kindest greetings from Massachusetts.

DR. HAVENS.

Gentlemen:—It gives me pleasure to introduce to you not an old time friend, but a new friend, Dr. Reese of Cortland, N. Y., Delegate from New York State Society.

DR. REESE.

Mr. President and Gentlemen of the Society:—I come to bring the greetings of the Old Empire State to the Green Mountain State. I am glad that I might come because I have had the pleasure of riding through your beautiful State. When we came where we could see the mountains they seemed to be saying "welcome" to us. They made me think of the time we travelled through Scotland and the grand old mountains there, the Green Mountains are so much like them. I think I have been in no State where the scenery was so beautiful, the Green Mountains and the beautiful Lake Champlain lying

between and uniting our two States. I think it is well for us to be together often, to be closely united. We have many and important questions that we need as physicians to unite upon, for which we need legislation and interstate legislation; tuberculosis, the checking of that disease is of national importance; Poliomyelitis, Infantile Paralysis, is another disease that we need to unite upon; and there are a great many other questions that must be settled by the Medical Fraternity and the more closely we are in touch the better the work can be done. No State can live to itself, no hamlet can live to itself. Take our milk supply, the city is dependent upon the country for its milk. We must have mutual protection there. We need public health laws. I hold there should be a health department with a Cabinet Officer (applause). There is no subject that should be too great or too small for every Medical Society to attempt to investigate it and inform themselves as to the needs of the community.

Now if you will all come down to Albany we will give you a cordial welcome and you will all come home filled in two ways (applause)—wait a minute—filled in two ways, with enthusiasm and knowledge.

HOUSE OF DELEGATES SECRETARY'S REPORT.

The Annual Meeting of the House of Delegates was called to order at 5 p. m. by President A. J. Valleau. Roll call showed twenty delegates and ten alternates present. The report of the Committee on Remuneration of Quarantine Families was read and adopted by the House. The report follows:

REPORT OF COMMITTEE ON REMUNERATION OF QUARANTINE FAMILIES.

Members of the Vermont State Medical Society.

GENTLEMEN:—Your special committee on "Remuneration of Quarantine Families" beg leave to submit the following report:

On investigation we find that no State in the Union has such a law and we do not think that it would be wise at this time to ask the several municipalities to take upon themselves this additional burden. We already have upon our statute books (section 5440 P. S.) a law that gives authority to the Board of Health to furnish medical attendance and care for themselves on account of poverty. It is expected that this law will be strengthened at the present session of the Legislature. We therefore recommend that no action be taken at present upon this matter.

Respectfully submitted,

GEO. H. GORHAM,

LYMAN ALLEN,

A. B. BISBEE.

Committee.

The report of the committee on "Protection of the Members in Mal-practice Suits" was read, and after a general discussion was accepted by the House. The report follows:

Your committee recommend the following changes in the By-laws and Constitution.

Proposed changes in the Constitution and By-laws of the Vermont State Medical Society to allow of the protection of its members in mal-practice suits.

Art. III of Constitution. There shall be added to Art. III the following:

"The House of Delegates shall elect a Medico-legal committee of three members, one to serve for

one year, one to serve for two years, and one to serve for three years, and hereafter there shall be elected annually one member to serve for three years, or until his successor is elected."

By-laws, Art. II. Sec. 2 shall be amended to read "Each county treasurer shall, collect from each member of his county society the sum of three dollars for the State Society."

Art. XVII. Sec. 1, shall read "The State society may defend its members sued for mal-practice."

Sec. 2, shall read, "It shall be the duty of the Medico-legal committee to investigate and defend suits against members in good standing for alleged mal-practice."

DR. E. A. HYATT,
Chairman.

The various sections of the report were now taken up separately and discussed by the House.

Dr. Allen, of Swanton, moved that the addition to Article 3 of the Constitution be made. The motion was seconded and carried.

The House now took up Article 2, Section 2.

Dr. Crane made a motion to change the amount recommended by the Committee from three dollars to four dollars. This was carried. Dr. Townsend moved that the By-law as changed be adopted. The motion was seconded and carried.

The House now took up Article 17, Section 1, which was an addition to the By-laws.

Dr. Sears moved that the word "may" be changed to "shall". The motion was seconded, and on being put to vote was lost.

Dr. Chandler moved that the By-law, as proposed by the committee, be adopted. The motion was seconded and carried.

Dr. Chandler moved that Section 2 of Article XVII be adopted as reported by the committee. This was seconded and carried.

The report of the committee on admitting to membership practitioners of other schools was read and accepted by the House. The report follows:

At the last annual meeting of the Vermont State Medical Society, the undersigned were appointed by the President of the House of Delegates as a committee to investigate the matter of admitting practitioners of sectarian medicine to the Vermont State Medical Society.

As that committee we submit the following report:—The Secretary of the American Medical Association in reply to a query, says that that organization "leaves the matter of membership to the State and county societies." Therefore whatever action the Vermont Society may take in this matter, will in no way conflict with the constitution and by-laws of the American Medical Association.

But, on the other hand, in the standard constitution and By-laws for State societies, as prepared by a committee appointed by the American Medical Association, and recommended for adoption by State Societies, the following by-law appears:

"Every reputable and legally registered physician who does not practice, or claim to practice, nor lend his support to any exclusive system of medicine shall be eligible to membership." Furthermore, in the standard constitution and by-laws for county societies prepared by the same committee, the same idea is repeated. In the constitution it reads, anyone "who does not support, or practice, or claim to practice any exclusive system of medicine shall be eligible for membership." In the by-laws it says, any-

one "who does not support, or practice, or claim to practice, sectarian medicine shall be eligible to membership." These extracts show the attitude of the American Medical Association to be that sectarians who renounce sectarianism are eligible for membership.

Article five in the Constitution of the State Medical Society reads, "The active membership of this Society shall consist of the total active membership of affiliating county societies. This means that the county societies set the requirements for membership to the State society and consequently to the National; and it means further, that the State society has no right to take into active membership any person who has not become affiliated with a county society.

With the foregoing in mind, we recommend that the Vermont State Medical Society continue its present policy of permitting the County Societies to set the requirements for membership. But, in order that these requirements may be uniform, we recommend that at this annual Meeting the Vermont State Medical Society expresses as its sentiments, that all county societies should adopt the following by-law, "A legally registered physician who does not practice, or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership."

L. H. ROSS,
W. A. LYMAN,
H. C. TINKHAM,
Committee.

New business was next taken up by the House.

Dr. Townsend moved that the next meeting of the House be held at Rutland.

Dr. Jenne moved that Dr. Townsend's motion be amended to read at Burlington, instead of Rutland. Dr. Townsend accepted the amendment. The motion and amendment were seconded and carried.

Dr. S. W. Paige sent in his resignation as a member of the House of Delegates. This was accepted.

The following communication was read from the committee on laws of the Vermont State Dental Society, but no action was taken as a similar clause is included in the present law.

We, the undersigned, members of the committee on laws of the Vermont State Dental Society; fearing that the medical laws of the State, as now upon the statute books, might be so construed as to be a menace to the regular practicing dentists of the State, and believing that the framers of the law did not so intend, would respectfully request that your committee on laws have the amendment as given below, or some similar change made in the laws at this session of the Legislature, to the end that there be no danger of interfering with the practice of the regular licensed dentists of the State in the discharge of the duties of their profession.

PROPOSED AMENDMENT.

Nothing in this act shall be construed as to interfere with the rights and privileges of the Dentists licensed under the act regulating the practice of dentistry of this State in the regular discharge of their duties.

GEO. F. CHENEY,
GEO. O. MITCHELL,
Members of the Committee
on laws of the Vermont
State Dental Society.

The following amendment to Article 4 of the By-laws was carried by the House:

DELEGATES.

Amendment to Article IV of By-laws.

"Delegates shall be elected annually by the House of Delegates to represent this Society at the Annual Meetings of the State Medical Societies of the New England States and New York, and such other Societies as the mutual interests of the Societies may direct.

A delegate and an alternate shall be elected every even year to represent this Society at the Annual Meeting of the American Medical Association.

Credentials shall be issued to delegates by the Secretary when he is duly notified of the time and place of the Meeting they are to attend. In case a delegate is unable to attend the meeting to which he is elected, it shall be his duty to notify the Secretary of his inability to attend, and the Secretary and President shall appoint another member to fill his place."

The House next proceeded to the election of officers. Dr. Morton, of St. Albans, nominated Dr. S. W. Paige of St. Albans, as President; and Dr. Crain of Rutland nominated Dr. H. C. Tinkham, of Burlington, for President. Both nominations were seconded.

A ballot was taken which resulted in Dr. Tinkham's election.

Upon motion of Dr. Morton, Dr. Tinkham's election was made unanimous by the House.

Dr. J. N. Jenne moved that a nominating committee be appointed by the chair to nominate the remainder of the officers. This motion was seconded and carried.

The Chair appointed Drs. J. N. Jenne, M. L. Chandler, and W. W. Townsend.

The meeting then adjourned to eight o'clock Friday morning, Friday, Oct. 14th.

The meeting was called to order by Vice-President Wm. Lindsay, of Montpelier. The Chairman of the nominating committee nominated the following members as officers for the ensuing year.

Vice-President, S. W. Paige, of St. Albans; Secretary, C. H. Beecher, of Burlington; Treasurer, B. H. Stone, of Burlington; Auditor, A. M. Norton, of Bristol.

Executive Committee, H. C. Tinkham, of Burlington, C. K. Johnson, of Burlington, C. H. Beecher, of Burlington.

Publication Committee, C. H. Beecher, of Burlington, David Marvin, of Essex Junction, F. E. Farmer, of St. Johnsbury.

Committee on Legislation, W. N. Bryant, of Ludlow, S. E. Darling, of Hardwick, C. S. Scofield, of Richford.

Committee on Necrology, E. H. Martin, of Middlebury, E. H. Ross, of St. Johnsbury, L. C. Holcombe, of Milton.

Member of Committee on Education to succeed Don D. Grout, whose term expires this year, W. L. Havens, of Chester.

Medico-Legal Committee, E. A. Hyatt, St. Albans, W. Lindsay, of Montpelier, James N. Jenne, of Burlington.

Delegate to American Medical Association (for two years), James N. Jenne, of Burlington, alternate, B. H. Stone, of Burlington.

Delegate to Connecticut River Valley Medical Association, W. N. Bryant, of Ludlow.

Delegate to White Mountain Medical Association, C. J. Rumrill, of Randolph.

Delegate to White River Valley Medical Association, W. Lindsay, of Montpelier.

Delegate to Maine State Medical Society, M. P. Stanley of White River Junction.

Delegate to New Hampshire State Medical Society, F. T. Kidder, of Woodstock.

Delegate to Massachusetts State Medical Society, E. M. Crane, of Hardwick.

Delegate to Connecticut State Medical Society, P. E. McSweeney, of Burlington.

Delegate to Rhode Island Medical Society, C. W. Bartlett, of Bennington.

Delegate to Medical Society of the State of New York, W. W. Townsend.

Anniversary Chairman, S. W. Hammond, of Rutland.

Two members, whose names shall be submitted by the Governor for appointment of one to the Board of Medical Registration for six years. W. S. Nay, of Underhill, F. E. Farmer, of St. Johnsbury.

Officers of the House of Delegates, President J. P. Gifford, of Randolph.

First Vice-President, W. W. Townsend, of Rutland.

Second Vice-President, F. T. Gartland, of White River Jct.

Secretary, Lyman Allen, of Burlington.

The report of the committee was adopted by the House, and the members nominated for the various offices were declared elected by the Chair.

A petition from members of the Rutland County Medical Society was next read by the Secretary. The petition follows:

"We the undersigned, physicians and surgeons, members of the Rutland County Medical and Surgical Society, and of the Vermont State Medical Society, hereby request our delegates to the last named Society to make it plain to the House of Delegates that we desire said House of Delegates, at this coming 1910 meeting, to take definite and positive action against all contract practice, this to include fraternal and benefit Societies, town and city pauper work and corporation and railroad service, and any other contract where the price named is below the prevailing schedule in the locality where the contract is proposed.

James Hamilton, Rutland. W. W. Townsend, Rutland.

C. F. Ball, " Ray Ernest Smith, "

A. H. Bellerose, " S. W. Hammond, "

H. R. Ryan, " M. J. Mangan, "

G. Rustedt, " E. M. Pond, "

G. G. Marshall, " M. R. Crain, "

This opened up a general discussion on contract practice, which was participated in by most of the members.

Dr. Crain moved that an addition to the resolution on contract practice, as printed on page nine in the "Transactions of the Vermont State Medical Society for the year 1908" be made so that it would read:

"On and after the first day of January 1911, no member of this Society shall accept the position of club, society, lodge, fraternal, or benefit society physician, or do town or city pauper work or corporation or railroad service or any other contract work where the price named for the work is below the prevailing schedule of fees in the locality where the contract is proposed."

Also that in no case shall any physician agree to attend the families of the members of such club, society, lodge, or fraternal organization, at half price, or less than the regular price.

Nothing in this section shall be construed as preventing any member from attending the worthy poor, or to give free services to those too poor to pay anything.

Any violation of this article shall be considered unprofessional conduct, and it shall be the duty of the House of Delegates to expel such members, when proof of such conduct shall be presented to them."

Dr. Allen, of Burlington, moved that the House adjourn until afternoon. The motion was seconded. Upon being put to vote was lost.

Dr. Crain's motion was seconded, and the resolution, as changed, was adopted.

The House adjourned until 1:30 P. M.

The House was called to order at 1:30 by the vice-President, Wm. Lindsay.

Dr. Sears was appointed temporary Secretary.

Dr. Hyatt moved "that the Medico-legal Committee shall draw on the Treasurer for such sums as are needed for the performance of its duties for the current year, to a sum not exceeding \$500.00.

That the Medico-legal Committee may secure the services of a competent attorney, and pay him such retainer as is necessary.

That the Medico-legal Committee shall make such rules for its guidance as it may deem necessary."

The motion was seconded, and carried.

The House then adjourned.

MEMBERS OF THE VERMONT STATE MEDICAL SOCIETY FOR THE YEAR ENDING OCT. 1st, 1910.

ADDISON COUNTY.

MEMBERS.

- E. G. BlaisdellBridport
- F. T. Briggs.....Bristol
- O. M. Bump.....Salisbury
- G. P. Collins.....Ferrisburg
- P. L. Dorey.....Middlebury
- M. H. EddyMiddlebury
- S. S. EddyMiddlebury
- G. F. Edmunds.....Bristol
- C. W. Howard.....Shoreham
- E. H. MartinMiddlebury
- A. M. NortonBristol
- L. F. A. Ouellet.....Orwell
- F. C. PhelpsVergennes
- E. PilonVergennes
- Mary M. PrattShoreham
- R. W. Prentiss.....Middlebury
- F. E. ReadSalisbury
- G. A. Russell.....Lincoln
- E. A. Tobin.....Bennington
- H. L. TownsendBridport
- V. M. Waterman.....Vergennes
- E. S. WestonNew Haven
- W. J. WhiteMiddlebury
- G. F. B. WillardVergennes
- H. L. WilliamsonBristol

BENNINGTON COUNTY.

MEMBERS.

- C. W. Bartlett.....Bennington
- C. S. BuchananBennington
- A. S. M. ChisholmBennington
- J. J. Cochrane.....E. Dorset
- F. E. DeanSouth Shaftsbury
- D. A. GleasonNorth Bennington
- F. W. GoodaleBennington
- S. K. GrayEast Arlington
- L. H. HemenwayManchester
- L. E. HemenwayManchester
- A. E. HouleBennington
- F. J. HurleyBennington
- L. M. KelleyManchester Centre
- F. C. LiddleDorset
- C. W. PhillipsArlington
- L. H. RossBennington
- E. V. TrullManchester
- J. B. WoodhullNorth Bennington

CALEDONIA COUNTY.

MEMBERS.

- W. J. AldrichSt. Johnsbury
- J. M. AllenSt. Johnsbury
- W. C. BlakeLyndon
- J. C. BreitlingLunenburg
- D. R. BrownLyndonville
- A. A. CheneyLyndonville
- C. A. CramtonSt. Johnsbury
- E. M. CraneHardwick
- S. E. DarlingHardwick
- E. E. DickermanWest Burke
- H. A. ElliottBarnet
- C. FairbanksSt. Johnsbury
- F. E. FarmerSt. Johnsbury
- W. B. FitchSt. Johnsbury
- J. M. GibsonMcIndoes Falls
- L. W. HubbardLyndon
- R. T. JohnsonWest Concord
- F. C. Kinney.....Greensboro Bend
- H. H. LeeWells River
- A. J. MackeyPeacham
- H. H. MiltimoreSt. Johnsbury
- A. C. McDowellLyndonville
- R. M. McSweeneySt. Johnsbury
- C. A. PrevostSt. Johnsbury
- W. N. RickerWells River
- E. H. RossSt. Johnsbury
- T. R. StilesSt. Johnsbury
- H. A. SuitorWest Burke
- A. E. WakefieldSt. Johnsbury
- F. WelchSt. Johnsbury
- C. B. WilsonBradford

CHITTENDEN COUNTY.

MEMBERS.

- B. D. AdamsBurlington
- L. AllenBurlington
- B. J. AndrewsBurlington
- J. A. ArchambaultEssex Junction
- F. J. ArnoldBurlington
- F. W. BayliesBurlington
- C. H. BeecherBurlington

W. D. Berry	Burlington
L. M. Bingham	Burlington
G. H. Branch	Grand Isle
H. D. Brooks	Burlington
T. S. Brown	Burlington
E. T. Brown	Burlington
E. H. Buttles	Burlington
W. G. Church	Burlington
F. E. Clark	Burlington
J. M. Clarke	Burlington
I. S. Coburn	Milton
C. F. Dalton	Burlington
J. H. Dodds	Burlington
C. B. Dunn	Winooski
W. H. Englesby	Burlington
R. C. Flagg	Essex Center
S. L. Goodrich	Burlington
D. D. Grout	Waterbury
D. C. Hawley	Burlington
L. Hazen	Burlington
E. A. Heath	Winooski
A. S. C. Hill	Winooski
L. C. Holcombe	Milton
H. D. Hopkins	Jericho Center
Sue E. Howard	Burlington
G. B. Hulburd	Jericho
F. K. Jackson	Burlington
H. N. Jackson	Burlington
J. N. Jenne	Burlington
C. K. Johnson	Burlington
R. W. Johnson	Burlington
Henry Ladd	Essex Center
E. S. Lane	N. Ferrisburgh
F. C. Lewis	Burlington
H. E. Lewis	New York
W. A. Lyman	Burlington
David Marvin	Essex Junction
S. E. Maynard	Burlington
L. B. Morrison	Burlington
P. H. McMahon	Burlington
P. E. McSweeney	Burlington
J. C. Murphy	Shelburne
W. S. Nay	Underhill
D. J. Nolan	Burlington
C. A. Pease	Burlington
C. N. Perkins	Burlington
H. F. Powers	Winooski
W. R. Prime	Burlington
F. A. Rich	Burlington
F. G. Riley	Winooski
G. F. Rist	Burlington
F. M. Rogers	Alburg
J. J. Ross	Richmond
L. B. Rowe	Orwell
G. M. Sabin	Burlington
F. W. Sears	Burlington
H. H. Seeley	Howard, Neb.
D. A. Shea	Burlington
F. R. Stoddard	Shelburne
B. H. Stone	Burlington
J. D. Tanner	Burlington
W. T. Tilley	Richmond
H. C. Tinkham	Burlington
M. C. Twitchell	Burlington
H. R. Watkins	Burlington
J. B. Wheeler	Burlington
H. L. Wilder	Burlington

FRANKLIN COUNTY.

MEMBERS.

C. G. Abell	Enosburgh Falls
W. B. Arnold	St. Albans
C. E. Allen	Swanton
G. C. Berkley	St. Albans
H. A. Bogue	Richford
*F. A. Brennan	Georgia
E. M. Brown	Sheldon
N. P. Carey	East Fairfield
G. S. Clark	Montgomery Center
L. W. Clough	Enosburgh Falls
A. L. Cross	Swanton
*A. J. Darrah	Enosburgh Falls
A. Davidson	St. Albans
John Gibson	St. Albans
J. B. Hall	Franklin
H. M. Hallock	Hot Springs, Ark.
F. S. Hutchinson	Enosburgh Falls
W. W. Hutchinson	Enosburgh Falls
E. A. Hyatt	St. Albans
W. B. Hyde	Bakersfield
C. U. Johnson	West Berkshire
H. H. Johnson	Franklin
E. R. Lape	Swanton
E. P. Lunderville	Richford
S. H. Martin	Georgia
E. J. Melville	St. Albans
A. O. Morton	St. Albans
S. W. Paige	St. Albans
J. R. Patten	Fairfield
R. N. Pelton	Richford
J. G. Perrault	St. Albans
H. L. Pierce	Swanton
C. S. Scofield	Richford
Grace Sherwood	St. Albans
A. A. Skeels	St. Albans
W. S. Stevens	St. Albans
W. J. Upton	St. Albans
E. L. Washburn	East Berkshire
R. E. Welch	Franklin

*Deceased.

LAMOILLE COUNTY.

MEMBERS.

H. W. Barrows	Stowe
G. L. Bates	Morrisville
C. W. Bates	Morrisville
J. H. Bean	Jeffersonville
L. P. Holcomb	Johnson
W. M. Johnstone	Morrisville
C. S. Leach	Hyde Park
G. B. Maurice	Waterville
J. C. Morgan	Stowe
R. G. Prentiss	Johnson
G. C. Rublee	Wolcott
W. T. Slayton	Morrisville
S. G. Start	Cambridge
J. M. Stevens	Hyde Park
A. J. Valleau	Morrisville

ORLEANS COUNTY.

MEMBERS.

G. F. Adams	West Derby
F. N. Aldrich	Derby Center
J. F. Blanchard	Newport
A. M. Butterfield	North Troy
E. M. Cleasby	Orleans
J. C. Colby	Stanstead, P. Q.
C. L. Erwin	Newport Center
R. A. Gatchell	West Charleston
A. M. Goddard	Albany
O. B. Gould	Newport
*F. S. Gray	Troy
F. R. Hastings	Barton
J. F. Kendrick	Charleston
B. D. Longe	Newport
E. M. Nichols	Barton
C. C. Waller	N. Troy
H. E. Sargent	Island Pond
R. M. Wells	Barton Landing
J. F. Wright	Barton Landing
R. F. Willard	Coventry

*Deceased.

W. H. Morehouse	Fair Haven
J. P. McDowell	Middletown Springs
J. P. Newton	Benson
G. D. Parkhurst	Fair Haven
C. W. Peck	Brandon
C. C. Perry	West Rutland
W. S. Pomeroy	Danby
C. C. Perry	West Rutland
W. S. Pomeroy	Danby
E. M. Pond	Rutland
E. G. Roberts	Fair Haven
C. B. Ross	West Rutland
G. Rustedt	Rutland
H. R. Ryan	Rutland
R. E. Smith	Rutland
Wm. Stickney	Rutland
C. W. Strobell	Rutland
H. H. Swift	Pittsford
J. E. Thomson	Rutland
W. W. Townsend	Rutland
J. L. Welch	Proctor
E. O. Whipple	Danby
J. H. Woodward	New York City

RUTLAND COUNTY.

MEMBERS.

E. L. Averill	Brandon
O. C. Baker	Brandon
C. F. Ball	Rutland
A. H. Bellerose	Rutland
C. H. Bonney	Ludlow
W. N. Bryant	Ludlow
C. S. Caverly	Rutland
E. R. Clark	Castleton
O. F. Clough	Poultney
B. D. Colby	Sudbury
T. A. Cootey	Rutland
M. R. Crain	Rutland
N. J. Delahanty	Rutland
J. J. Derven	Poultney
J. S. Eastwood	Brandon
E. D. Ellis	Poultney
J. W. Estabrook	Brandon
G. H. Fox	Rutland
H. A. Francisco	Rutland
J. L. Gammons	Poultney
O. J. Gilchrist	Rutland
A. J. Greenwood	Poultney
C. E. Griffin	Fair Haven
W. H. Grinnell	Danby
T. H. Hack	Proctor
T. Hagan	Pittsford
J. M. Hamilton	Rutland
S. W. Hammond	Rutland
J. D. Hanrahan	Rutland
L. A. Heidel	Rutland
J. S. Horner	West Pawlet
A. K. Kinne	Middletown Springs
J. Knowlson	Poultney
R. Lape	Fair Haven
H. L. Manchester	Pawlet
M. J. Mangan	Rutland
G. G. Marshall	Wallingford
H. L. Martyn	Cuttingsville
J. H. Miller	Wallingford
R. H. Miner	Windsor

WASHINGTON COUNTY.

MEMBERS.

F. C. Angell	Randolph
F. X. Z. Archambault	Barre
A. C. Bailey	Randolph
E. H. Bailey	Graniteville
G. S. Bidwell	Waterbury
A. B. Bisbee	Montpelier
H. D. Bone	Waterbury
L. W. Burbank	Cabot
C. H. Burr	Montpelier
C. F. Camp	Barre
F. H. Carter	Plainfield
H. S. Carver	Marshfield
C. E. Chandler	Montpelier
M. L. Chandler	Barre
E. A. Colton	Montpelier
Dr. Delferro	Barre
J. E. Dewey	Montpelier
P. Duffy	Barre
E. E. Ellis	Brookfield
E. H. Ghidella	Barre
J. P. Gifford	Randolph
V. C. Goodrich	Barre
J. R. Grimes	Montpelier
L. W. Hanson	Barre
W. R. Harkness	Montpelier
G. L. T. Hayes	Graniteville
H. H. Hayward	Tunbridge
W. J. Howard	Roxbury
C. E. Hunt	Montpelier
J. W. Jackson	Barre
H. Janes	Waterbury
J. H. Judkins	Northfield
W. E. Lazell	Barre
L. L. Leonard	Barre
W. Lindsay	Montpelier
A. T. Marshall	Chelsea
M. E. McGuire	Montpelier
L. A. Newcomb	Montpelier
H. L. Newell	East Randolph
G. H. Parmenter	Montpelier
W. D. Reid	Barre
R. W. Rowland	East Corinth

C. J. RumrillRandolph
 L. A. RusslowRandolph
 E. G. SpragueBarre
 C. L. StewartRandolph
 F. E. SteeleWaterbury
 O. G. StickneyBarre
 W. J. TindallMontpelier
 W. D. TurnerWorcester
 W. L. WassonWaterbury
 E. B. WatsonWilliamstown
 H. A. WhitneyNorthfield
 J. H. WinchNorthfield

G. R. DavisBethel
 D. S. DrakeWhite River Junction
 A. C. EastmanWoodstock
 F. A. EdmundsPittsfield
 T. F. GartlandWhite River Junction
 W. S. GustinUnion Village
 C. H. HazenSpringfield
 G. HolbrookWoodstock
 H. C. JacksonWoodstock
 J. C. KenneySharon
 F. T. KidderWoodstock
 C. W. LockeSpringfield
 C. E. MerriamRochester
 J. H. RanneyPittsfield
 V. M. RogersQuechee
 F. C. MorganClaremont, N. H.
 F. C. RussellNewbury
 O. W. SherwinWoodstock
 M. P. StanleyWhite River Junction
 C. E. WardHartland
 H. E. Woodbury.....Indianapolis, Ind.

WINDHAM COUNTY.

MEMBERS.

C. R. AldrichBrattleboro
 E. S. AllbeeBellows Falls
 G. R. AndersonBrattleboro
 J. H. BlodgettBellows Falls
 E. S. BowenBrattleboro
 W. D. BowenSaxtons River
 E. R. CampbellBellows Falls
 I. R. DoaneSpringfield
 G. S. FosterPutney
 G. T. GaleWest Townshend
 F. L. GilbertGrafton
 L. H. GilletteSpringfield
 G. H. GorhamBellows Falls
 J. W. GreggBrattleboro
 H. P. GreeneBrattleboro
 F. HamiltonBrattleboro
 W. L. HavensChester Depot
 E. C. HavilandBrattleboro
 W. F. HazeltonBellows Falls
 J. S. HillBellows Falls
 H. D. HoltonBrattleboro
 W. H. LaneBrattleboro
 S. E. LawtonBrattleboro
 J. F. McGinityLudlow
 A. I. MillerBrattleboro
 A. L. MinerBellows Falls
 G. G. MurrayBellows Falls
 J. F. O'BrienBellows Falls
 F. H. O'ConnorBrattleboro
 F. L. OsgoodSaxtons River
 F. L. OsgoodTownshend
 L. T. PageWilmington
 L. W. ParadyJacksonville
 C. S. PrattBrattleboro
 T. RiceTownshend
 J. T. RuddenBellows Falls
 J. S. StevensonChester
 W. N. ThompsonHartford, Conn.
 H. TuckerBrattleboro
 H. L. WatermanBrattleboro
 P. P. WhiteWilliamsville

HONORARY MEMBERS.

Conn, G. P.Concord, N. H., 1869
 Watson, H. P.Manchester, N. H., 1887
 Ramson, J. B.Dannemora, N. H., 1889
 Field, A. E.Barre, Vt., 1890
 Douglas, O. B.Concord, N. H., 1891
 Crothers, T. D.Hartford, Conn., 1892
 Kellogg, D. S.Plattsburgh, N. Y., 1892
 Lyon, E. M.Plattsburgh, N. Y., 1892
 Irish, J. C.Lowell, Mass., 1894
 Shattuck, Frederick C.Boston, Mass., 1894
 Porter, William H.New York City, 1895
 Gordon, S. C.Portland, Me., 1895
 Marcy, Henry O.Boston, Mass., 1896
 Mabon, WilliamOgdensburgh, N. Y., 1897
 Stearns, Henry P.Hartford, Conn., 1899
 Richardson, Maurice H.Boston, Mass., 1899
 Lockhart, F. A. L.Montreal, 1899
 Cook, Geo. H.Natick, Mass., 1901
 Weeks, S. H.Portland, Me., 1901
 Wiggin, F. H.New York City, 1901
 Gordonier, H. C.Troy, N. Y., 1902
 Crowell, H. L.Kansas City, Mo., 1903
 Munro, John C.Boston, Mass., 1904
 Emerson, Francis P.Boston, Mass., 1904
 Scudder, Chas. L.Boston, Mass., 1905
 LeFevre, EgbertNew York City, 1906
 Arnold, H. D.Boston, Mass., 1906
 Burrell, HerbertBoston, Mass., 1907
 Gile, J. M.Hanover, N. H., 1907
 Pisek, G. R.New York City, 1908
 Haynes, I. S.New York City, 1908
 Scripture, E. W.New York City, 1908
 Cabot, R. C.Boston, Mass., 1909
 Syms, ParkerNew York City, 1909
 Dodd, W. J.Boston, Mass., 1910
 Lloyd, SamuelNew York City, 1910

WINDSOR COUNTY.

MEMBERS.

L. B. AllenPost Mills
 E. A. BarrowsHartford
 M. F. BlodgettCorinth
 J. D. BrewsterWindsor
 C. M. CampbellRochester
 B. A. ChapmanSpringfield
 G. N. CobbWhite River Junction

LIST OF PRESIDENTS SINCE 1851.

Goldsmith, M.Rutland, 1851
 Palmer, B. W.Woodstock, 1852
 Thayer, S. W., Jr.Northfield, 1853
 Warner, E. D.New Haven, 1854
 Perkins, JosephCastleton, 1855
 Carpenter, WalterRandolph, 1856
 Stevens, H. F.St. Albans, 1857

Allen, C. L.	Middlebury,	1858
Knights, A. E.	Springfield,	1859
Morgan, B. F.	Bennington,	1860
Woodward, A. T.	Brandon,	1861
Stiles, J. N.	Windsor,	1862
Bradford, P. D.	Northfield,	1863
Fassett, O. F.	St. Albans,	1864
McCullom, William	Woodstock,	1865
Warner, E. D.	New Haven,	1866
Frost, C. P.	Brattleboro,	1867
Richmond, J. S.	Woodstock,	1868
Janes, Henry	Waterbury,	1869
Putnam, S.	Montpelier,	1870
Upham, E. F.	West Randolph,	1871
Holton, H. D.	Brattleboro,	1872
Butler, L. C.	Essex,	1873
Butler, L. C.	Essex,	1874
Butler, L. C.	Essex,	1875
Dunsmore, George	St. Albans,	1876
Chandler, C. M.	Montpelier,	1877
Bullard, G. B.	St. Johnsbury,	1878
Thayer, S. W.	Burlington,	1879
Jackson, J. Henry	Barre,	1880
Sherwin, O. W.	Woodstock,	1881
Bingham, L. M.	Burlington,	1882
Clark, S. S.	St. Albans,	1883
Draper, Joseph	Brattleboro,	1884
Kemp, D. G.	Montpelier,	1885
Brooks, S. T.	St. Johnsbury,	1886
Campbell, Edw. R.	Bellows Falls,	1887
Clarke, J. M.	Burlington,	1888
Brown, H. S.	St. Johnsbury,	1889
Jenne, J. N.	St. Albans,	1890
Caverly, C. S.	Rutland,	1891
Wilder, H. R.	Swanton,	1892
Bisbee, A. B.	Montpelier,	1893
Linsley, J. H.	Burlington,	1894
Branch, C. F.	Newport,	1895
Stoddard, F. R.	Shelburne,	1896
Rogers, Lyman	Bennington,	1897
Lawton, S. E.	Brattleboro,	1898
Crain, M. R.	Rutland,	1899
Huntington, W. D.	Rochester,	1900
Wheeler, J. B.	Burlington,	1901
Pond, E. M.	Rutland,	1902
Bryant, W. N.	Ludlow,	1903
McSweeney, P. E.	Burlington,	1904
Chandler, M. L.	Barre,	1905
Hawley, D. C.	Burlington,	1906
Gorham, G. H.	Bellows Falls,	1907
Peck, C. W.	Brandon,	1908
Havens, W. L.	Chester,	1909

FEWER DEATHS FROM INFLUENZA.

Pneumonia and Tuberculosis Still Head the List of Fatal Diseases.

WASHINGTON, D. C., September 24, 1910.—There was a noteworthy decrease in the number of deaths from influenza, commonly called "grip," in 1909, in the Census Bureau's death registration area, representing over 55 per cent. of the estimated population in continental United States

in the year in question, it is to be seen in the census bulletin on mortality statistics for 1909, prepared by Dr. Cressy L. Wilbur, chief statistician for vital statistics, and submitted to Director Durand.

The deaths from influenza numbered 6,649 in 1900, as compared with 9,989 in 1908, in the registration area. This is considered remarkable since bronchitis and pneumonia, diseases classified under respiratory diseases but usually closely associated with influenza, showed, for bronchitis about the same number of deaths, and for pneumonia a marked increase for 1909.

Pneumonia, in the aggregate, caused more deaths than other diseases, except tuberculosis. The number increased from 61,259, or 136 per 100,000 population, in 1908 to 70,033, or 143.6 per 100,000 population, in 1909, the latter number being only 7 less than the number, 70,040 from tuberculosis of the lungs. The rates for both years were lower than for any previous year of the decade.

Diseases of the nervous system increased from 71,090 for 1908 to 74,656 for 1909, the amount of increase, 3,566, or 5 per cent., being slightly less than the average for all causes. The death rate fell from 157.9 to 153.1 per 100,000 population. The increased number of deaths in this class was due chiefly to apoplexy, those reported from meningitis showing a marked decrease.

Diseases of the circulatory system largely increased, both in the number reported, 80,607 to 90,456, or 12.2 per cent., and in the death rates, 179 to 185.4, based upon estimated population. Increased deaths and rates are shown for pericarditis, endocarditis, heart disease, angina pectoris, diseases of arteries, and diseases of veins. The greater part of the numerical increase in this class was due to organic heart disease, 5,933, or 9.9 per cent., although the proportional increase of endocarditis, 912, or 15.2 per cent., and diseases of the arteries, 2,239, or 28.2 per cent., is greater. The remarkable increase of the latter would seem to show a strong tendency to report arteriosclerosis, one of the chief diseases included, as a cause of death.

Diseases of the respiratory system showed about the same amount of increase as diseases of the circulatory system for 1909 as compared with the preceding year. The number rose from 81,758 to 90,868, an increase of 9,110, or 11.1

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dissolve promptly and thoroughly. **Test one by the watch.** Drop the tablet into a syringe half filled with lukewarm water. Shake vigorously. In five seconds (or less) it will have dissolved completely.

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Syrup Wild Lettuce, 120 minims.	Heroin hydrochloride, 8-24 grain.
Tinct. Cocillana, 40 minims.	Menthol, 8-100 grain.
Syrup Squill Compound, 24 minims.	

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THE HYPODERMATIC TABLET AS AN EMERGENCY AGENT.—If there is one class of therapeutic agents which more than another should be chosen with discretion and judgment, the hypodermatic tablet represents that class. When he administers a preparation hypodermatically the physician wants prompt action, and he wants to be certain that he is going to get it. To have that assurance he must use a tablet that is active, that has definite strength, that dissolves promptly and wholly. Cheap tablets, poorly made tablets, tablets concerning which there is the slightest doubt as to medicinal quality, may well be left alone. And there is no need to err in the matter of selection. Hypodermatic tablets of the better sort are easily obtainable. Perhaps the brand which comes most readily to mind is the brand which is exploited so extensively by physicians under the familiar caption of "Five Seconds by the Watch." The makers, it is hardly necessary to add, are Messrs. Parke, Davis & Co., who guarantee their hypodermatic tablets unequivocally as to purity, solubility, activity and stability.

AN UNCONVENTIONAL COUGH SYRUP.—There are "cough syrups" without end. Some of them, it is needless to say, have little or no therapeutic value. Conversely, there are some that no physician need hesitate to prescribe. One of these—Syrup Cocillana Compound (P. D. & Co.)—is so exceptional in many particulars as to be worthy of special mention just now, when coughs are so plentifully in evidence. By its name no one would recognize it as a preparation for "coughs" and "colds," and this, in connection with its general efficiency, constitutes one of its chief claims to distinction. It is a product which the layman knows nothing about. It does not encourage counter-prescription or self-medication. It was designed especially with reference to the needs of the prescriptionist.

The formula of Syrup Cocillana Compound, which of course is plainly printed on the label, is quite unusual. Let us briefly consider its components: *Euphorbia pilulifera*—serviceable in the treatment of chronic bronchitis and emphysema; wild lettuce—a mild and harmless narcotic, useful in spasmodic and irritable coughs; cocillana—valuable expectorant, tonic and laxative, exerts an influence on the respiratory organs similar to that of ipecac; syrup squill compound—serviceable in subacute or chronic bronchitis, as an expectorant, and as an emetic in croup; cascarn—the bitter glucoside of cascara sagrada, useful for its laxative action; heroin hydrochloride—a derivative of morphine and extensively prescribed in the treatment of cough, especially of bronchial origin; menthol—stimulant, refrigerant, carminative and antiseptic, serviceable in coughs of pharyngeal origin.


Syrup Cocillana Compound would seem to be worthy of extensive prescription.

per cent., while the death rate increased from 181.6 to 186.3 per 100,000 provisionally estimated population. Bronchitis showed about the same number of deaths in 1909 and 1908, with a reduction in 1909 in the death rate from 26.9 to 24.9 per 100,000 population. The increase in this class was largely due to pneumonia.

Diseases of the digestive system, chief among which is diarrhea and enteritis affecting infants under 2 years of age, increased but slightly in the number of deaths registered for 1909 (2,323, or 2.6 per cent.), while the death rate based upon an increased estimated population fell from 199.1 to 188.6. No diseases of this last class showed higher rates of any consequence, and the mortality from infantile diarrhea, 91.5 per 100,000, was lower than that for any recent year, although not as low as that of the five-year period, 1901-1905, which was 89.4.

Diseases of the genito-urinary system increased from 51,717 for 1908 to 57,070 for 1909, the difference of 5,353, or 10.4 per cent., corresponding to the similar rise observed in diseases of the circulatory system. The death rate increased from 114.9 for 1908 to 117 for 1909. Bright's disease constituted the chief cause of death in this class, and is the only one that showed a notable increase.

Disease incident to childbirth showed a slight increase in the total number of deaths, 7,344 to 7,791, and a decrease in the death rates per 100,000 estimated population, 16.3 to 16. It should be remembered that the rates given, which are based upon the total estimated population, should be doubled to show the mortality, approxi-



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mately, of females, and increased still more to show the mortality of the special class alone susceptible, namely, females of child-bearing age, or, with closer approximation, married females of child-bearing age. Such ratios can not be given until population data shall be available for comparison. Nearly half of the deaths of women that result from child bearing are due to puerperal sepsis, an entirely preventable disease, and for which ignorant and careless midwifery is chiefly responsible.

Fewer deaths and lower death rates are recorded for 1909 than for 1908 from meningitis. So far as the varieties of meningitis can be distinguished from the returns, there would seem to be a marked remission of epidemic cerebro-spinal meningitis for the past two years as compared with the years 1904 to 1907. Only 2,191 deaths from this cause were compiled for 1909, a decrease of 409 from 1908, while meningitis as a whole decreased 1,051 in the same time. The death rates from all forms of meningitis, 16.1, and from that portion compiled as epidemic cerebro-spinal meningitis, 4.5, were lower for 1909 than for any year since the beginning of these reports in 1900. Fewer deaths were registered

from meningitis for 1909 than in the preceding year in every one of the registration states, and in all but 6 of the 36 great cities. No city showed any considerable increase, the largest being 23 for Detroit, Mich.

Of comparatively trifling numerical importance as a cause of death, diabetes shows a slowly progressive tendency to increased mortality, perhaps dependent, as with cancer, upon the advancing age distribution of the population. The number of deaths increased for the registration area from 6,274 for 1908 to 7,024 for 1909, and the death rate per 100,000 estimated population rose from 13.9 to 14.4. The amounts of change for individual states and cities are too small to be significant, but it is noticeable that the decreased numbers were shown in but comparatively few cases.

There were 21 deaths in 1909 caused by German measles, including 1 reported as "French measles" and 9 from "rubella;" 84 from chicken-pox; 34 from mumps; 1 from roseola; 1 from Rocky Mountain spotted fever (Garfield county, Colo.); 3 from glandular fever; 10 from beriberi (8 Japanese, 2 Chinese, all on the Pacific coast, except 1 Chinese at Bayonne, N. J.).

DEATH RATE AMONG CHILDREN.

*A Great Part of the Diseases are Preventable, a
Census Bulletin States.*

WASHINGTON, D. C., September 23, 1910.—Of the total number of 732,538 deaths in 1909, in the Census Bureau's death registration area, representing a fraction over 55 per cent. of the provisionally estimated population of continental United States, no less than 196,534, or 26.8 per cent., were of children under 5 years of age, and 140,057, or 19.1 per cent., were of infants under 1 year of age. It appears in the Census Bureau's forthcoming bulletin on mortality statistics for 1909.

In general, one death out of five that occurred during the year 1909 was of an infant under 1 year of age, and a little more than one death in four, or about 27 per cent., was of children under 5 years of age. The registration cities showed slightly higher and the rural part of the registration states showed slightly lower proportions than those for the registration area as a whole.

The proportion of deaths of children under 5 years of age to the total deaths that occurred in the year is far greater than that of any other five-year period, a fact which, the bulletin states, does not indicate necessarily that the actual mortality or death rate per 1,000 persons living is higher than that at certain other periods, especially those at the more advanced ages. The early years of life, however, are of special importance, not only because of the large number of deaths that occur therein but also because, perhaps in greater proportion than that of any other period of life, a great part of these deaths are entirely preventable, and the causes which produce them are not being successfully combated. Great progress has been made in the reduction of infant mortality in England and other foreign countries in recent years, and a special organization has been formed lately in this country known as the American Association for the Study and Prevention of Infant Mortality, whose object is to co-ordinate all the sanitary agencies available for the special purpose of reducing the number of preventable deaths of infants. It would be extremely desirable for such an important purpose that reliable statistics of infant mortality should be available for the entire registration area, and, as soon as possible, for the entire United States,

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with which the registration area for deaths will ultimately be coterminous. The correct statement of infant mortality, however, which is a technical term denoting the number of deaths of infants under 1 year of age per 1,000 living births, depends on the accurate registration of births, which is scarcely to be found in the United States, the bulletin states.

"In default of the proper statement of infant mortality, based on comparison of the deaths of infants under 1 year and the registered births, recourse may be had to the ratio between the deaths of infants under 1 year of age and the population by sex under 1 year, but the latter ratio is unsatisfactory for many reasons and is not available except by process of estimation for intercensal years. A very crude means of judging of the relative condition of a given area as regards the general extent of infant and child mortality is to compare the total number of deaths of infants under 1 year and of children under 5 years of age with the total number of

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deaths registered for the year. Other things being equal, that is to say, with substantially similar populations with respect to age distribution and in the absence of epidemic diseases prevailing at higher age periods, the relative proportions of deaths of infants and children to the total number of deaths should show approximately the importance of infantile diseases and the feasibility of reducing the general mortality by efforts directed toward this class of disease.

"The per cent. distribution of deaths of infants under 1 year to the total deaths for all ages ranges from 11 for California to 23 for Pennsylvania and South Dakota, and for children under 5 years of age from 15 for California to 33 for Pennsylvania and South Dakota.

"The colored population of Maryland, the only state for which a comparison of white and colored is available, shows still higher ratios, namely, 24 and 34 per cent., respectively. The lower proportion of deaths of infants in California may be explainable in part by the high proportions of deaths of nonresidents from tuberculosis and other diseases at more advanced periods of life and perhaps the relatively small proportion of children. The high ratios for Pennsylvania and South Dakota are related also to the high birth rates of those states.

"For individual cities it happens frequently that the presence of an institution in which many deaths at advanced ages occur lowers the proportion of deaths of infants and children, although the infant and child mortality may be fairly high.

"As stated by Dr. Arthur Newsholme, medical officer of the local government board of Eng-

land, in his recent report on 'Infant and child mortality:'

"The subject of child mortality is of national importance. One out of three deaths at all ages occurs under 5 years of age, one out of five during infancy, and one out of nine total deaths at all ages occurs under three months of age.

"Infant mortality is the most sensitive index we possess of social welfare and of sanitary administration, especially under urban conditions.

"A heavy infant mortality implies a heavier death rate up to 5 years of age, and right up to adult life the districts suffering from a heavy child mortality have higher death rates than the districts whose infant mortality is low.

"A careful study of the death rate of England and Wales during the last fifty years at each of the first five years of life leaves it doubtful whether any appreciably greater selection or "weeding out" is exercised by a heavier than a lighter infant mortality. Any such effect, if it exists, is concealed behind the overwhelming influence exerted by the evil environment to which children are exposed in districts of high infant mortality. It is strictly correct, therefore, to say that a high infant mortality implies a high prevalence of the conditions which determine national inferiority."

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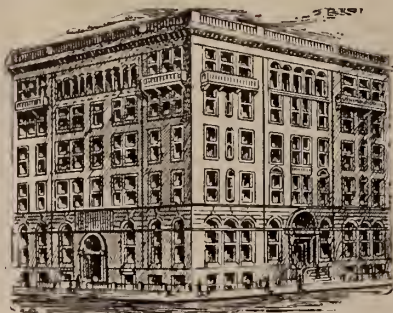
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Vermont Medical Monthly

Official Organ of the Vermont State Medical Society.

Vol. XVI, No. 12.

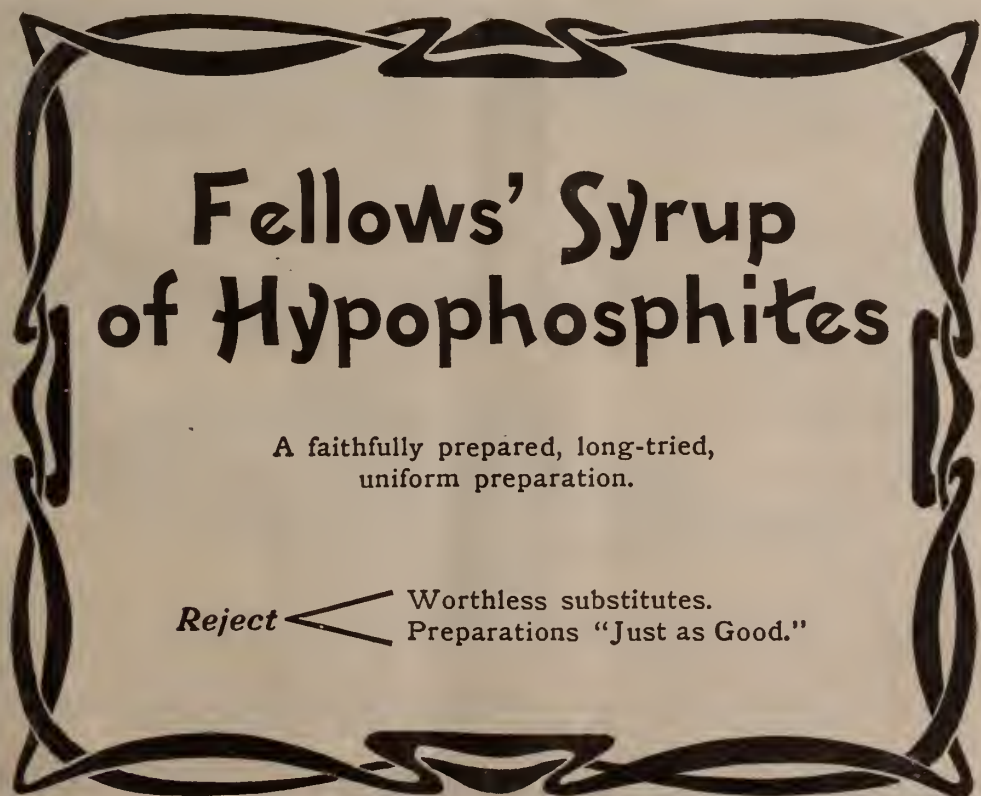
Burlington, Vt., December 15, 1910

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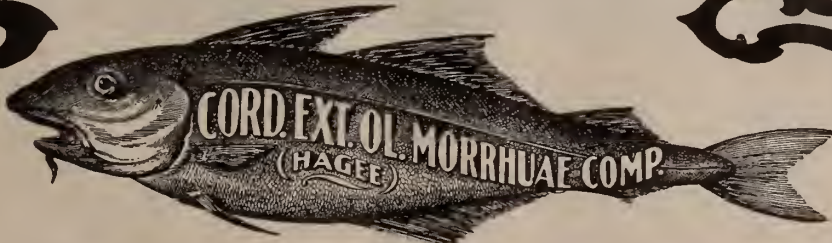
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A CARGO OF DRIED FLIES.—A steamship reaching New York harbor from Vera Cruz and Havana, recently brought in her cargo the strange consignment of thirty-eight bags (each five feet long) of dried flies, which were said to be consigned to a German chicken farm. It is certainly a relief to know that those dead flies did not remain within our borders. We tremble to think of the tuberculosis, typhoid and dysentery potentialities inherent in that cargo of flies, and which might conceivably extend through those German chickens to unsuspecting humanity.

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“Pat, in our hurry to sew up the incision yesterday we accidentally sewed up a small pair of forceps inside you, and we will have to take out the stitches and remove them, or you will never get well.”

“All right, doctor, take ‘em out,” said Pat.

The next day the surgeon came back, and said: “Pat, I’m awfully sorry, but when we sewed up that incision yesterday we unfortunately left some of the absorbent cotton in the wound, and we will have to take out the stitches and take it out or it won’t heal properly.”

“All right, doctor,” said Pat, still cheerfully.

The next day the doctor came to see his patient, and as he uncovered the wound and was examining the stitches, Pat raised up his head and said: “Doctor, dear, in place of sewin’ me up again to-day, would ye moind puttin’ on hooks and eyes?”—Exchange.

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Vermont Medical Monthly.

VOL. XVI.

DECEMBER 15, 1910.

NUMBER 12.

ADDRESS DELIVERED AT THE OPENING OF THE 58TH SESSION OF THE UNI- VERSITY OF VERMONT COLLEGE OF MEDICINE, NOV. 1st, 1910.

BY

DR. J. C. RUTHERFORD,
Providence, R. I.

*Mr. President, Members of the Faculty, Old
Friends, Fellow-Students:—*

Nearly thirty years ago an awkward, raw-boned, young man, standing a little under six feet in height, and weighing perhaps one hundred and twenty-five pounds, was graduated from the Medical Department of the University of Vermont. What he actually knew might have been told in a very few words; but the largest volume ever printed, could scarcely contain all he thought he knew. As time went on, the relative proportions changed and have been changing through all these years, until now, he is profoundly thankful for the little knowledge he has acquired and stands appalled at the depth of his ignorance; and to be summoned into this presence; to be invited to address these young men whose opportunities surpass a thousandfold the opportunities he enjoyed; to be requested to speak before these learned elders, gives him a peculiar feeling: a curious commingling of humility and pride.

When I graduated from this college there were, if my memory serves me, twenty-one members of the Faculty; now there are forty-two, some of whom, however, by acting in more than one capacity, make the actual number fifty-five.

There have been many changes other than in the personnel of the Faculty. The most important of these are in the requirements for matriculation, in the methods of teaching, in the curriculum, in the adoption of the four year course, in the requirements for graduation, and not the least important, in the erection of the imposing structure in which we are assembled.

The University, the Faculty and the medical profession are to be congratulated upon the fact that by adopting the four year course this College has assumed its proper position in the front rank of institutions of like character. It required much

thought, much labor and much time to bring this about, but it was accomplished; and when two years hence it shall be required that each matriculant "shall have had at least one year's study in a reputable college as a preliminary to taking up the study of medicine," then the Faculty can look upon their work and say, "it is good;" and it seems to me no more than just that a tablet, bearing the names of those who achieved this great purpose, should be placed upon the walls of this building.

There are, as I have said, great changes in the method of teaching—in my day, the instruction consisted of a course of lectures with the daily quiz. There were no recitations, the final examinations were oral, and the whole performance was, in the light of our present knowledge, grossly farcical; for the examiners could really only guess at the qualifications of the candidates for graduation. The lectures were, with a few exceptions, fully up to the standard of most of the medical schools of that day; yet, notwithstanding the fact that the "germ theory" as it was then called, had attracted wide attention, and antiseptic surgery was coming into vogue, we had but little instruction in pathology, and none in bacteriology.

It is not possible that you will ever hear, as I have, a venerable professor describe typhoid fever as "a disease peculiar in its character; contingently contagious; dependent upon a specific blood poison; characterized by a peculiar petechial eruption of the skin owing to the presence of scybalae in the bowels"; nor another equally venerable professor discoursing learnedly upon the five different kinds of pus; nor yet another professor ascribing the cause of pneumonia to the presence of pneumic acid in the blood. It sounds ridiculous, but those gentlemen are neither to be censured nor criticised, for they were doing their best according to their lights; and what they lacked in academic training they made up in sound, practical common sense; moreover, it is not at all improbable that to the student a generation hence, the teachings of today will sound equally absurd.

During the past thirty years there has been a great advance in surgery—an advance which can be ascribed wholly and solely to asepsis in its various forms. The modern surgeon, thanks to

improved technique, which makes his patient practically immune from sepsis, is much more daring, but he is not a better anatomist, he is not a more skillful operator than his forebears were; and if the greatest living surgeon were thrown back into the darkness of forty years ago, what would he do? Is it presumable that he could do better work than did the surgeons of that time? In his prime, Valentine Mott was the greatest surgeon in this country, and his chiefest pride lay in the fact that he once successfully ligated the sub-clavian artery; and when one considers that this was done without antiseptics, asepsis, catch-forceps or absorbable ligatures, it appears even to us, who are not surprised at anything in surgery, to have been a wonderfully daring operation. "There were giants in those days."

There have been many fashions in surgery during the past thirty years. In 1880 every cervical tear, however slight, must be repaired at once. Overlapping that, was a rage for ablation of the ovaries, and for every conceivable reason, from the cure of feeble minds to rickets. Hysterectomy and renal surgery followed after—then came the greatest of all diseases—appendicitis. Thousands of surgeons sought, and found, the bubble reputation even at the caecum's head. Gall bladder surgery, gastrointestinal surgery, and intestinal anastomosis have each had their day, and at the present time surgical diseases of the pancreas are attracting the most attention. Unquestionably many people have been unnecessarily subjected to the pain and danger of an abdominal section; but that was not altogether an unmixed evil, for much good has been derived even from unnecessary operating, inasmuch as surgical technique has been made wellnigh perfect, after treatment has been reduced to a science, and conservative surgery has become the rule.

Surgery of the heart, surgery of the brain and surgery of the lungs are still in a great measure before us; yet when they shall have reached the point that for example, abdominal surgery has reached today, there will still be room for advancement in all departments of surgery and it is for the coming generations of surgeons to see that that advancement is made.

Medicine has not advanced as rapidly, nor to as great an extent as has surgery. It is true that preventive medicine, hygiene, modern sanitation and to some extent vaccine therapy, have reduced the death rate of the country at large, very appre-

ciably; but, are those diseases that cannot be reached by preventive medicine, or by hygiene, or by sanitation, or in which the offending micro-organism not having been discovered, vaccine therapy cannot be used, any more successfully treated today than they were thirty years ago? In other words, is the percentage of death from diseases wherein the treatment is almost wholly confined to the administration of drugs, any lower now than it was thirty years ago?

For the purpose of comparing the percentages of today with those of thirty years ago, I wish to present some figures which are, to say the least, startling, and might even be thought incredible, but for the fact that they were derived from a source of unquestioned authenticity—viz.: the last report of the Rhode Island State Board of Health. In Rhode Island, where the laws governing registration, and the laws governing the practice of medicine are rigidly enforced, the vital statistics are carefully compiled and have been since 1852; and those who know the efficient Secretary of the State Board of Health, Dr. Gardner T. Swarts, will bear me out in the statement that no error is allowed to creep in if it is in his power to prevent it. The table of comparison is as follows:

	1880	1908	1853-1908 (55 years)
Total deaths	4829	8267	71404
Gen. diseases	38.91	27.36	33.57
Diseases nerv. syst. and organs of spec. sense	11.80	9.81	11.15
Dis. circulatory syst.	5.03	10.91	6.62
Dis. respiratory syst.	11.88	12.75	12.58
Dis. digestive syst.	10.08	14.30	13.02
Dis. G. U. syst. and adnexa..	2.29	8.44	4.43
Dis. puerperal state	1.05	1.04	.97
Dis. early infancy	2.50	5.46	3.85

The percentage of deaths from some of the most common diseases is as follows:

Typhoid fever	2.91	.80	2.26
Measles .....	.02	1.09	.66
Scarlet fever	9.69	.40	2.27
Diphtheria	3.14	1.60	2.41
Pulmonary tuberculosis ...	13.50	10.33	12.72
Cancer (all forms)	2.58	5.05	3.07
Diabetes .....	.31	.87	.46
Cerebro spinal meningitis...	.41	.65	.37
Convulsions of children (under five)	2.74	.24	1.70
Organic dis. heart	4.80	8.15	5.64
Acute bronchitis	none	1.73	2.00
Pneumonia	7.53	7.32	8.17
Pleurisy .....	.35	.44	.34
Diarrhea and enteritis (under two)	5.28	7.06	6.86

Diarrhea and enteritis (over two)	1.96	1.44	2.02
Appendicitis .....	.....	.74	3.45
			('92-'08)
Syphilis .....	.20	.39	.21
Acute nephritis	none	.88	.23
Chronic nephritis	1.11	6.58	3.13
Eclampsia .....	.06	.35	.03
Puerperal Septicemia .....	.31	.36	.37

From the above figures we see that the percentage of deaths has decreased in typhoid fever 2.11%, scarlet fever 9.29%, diphtheria 1.54%, pulmonary tuberculosis 3.17%, convulsions of children under five years 2.50%, pneumonia .21% and diarrhea and enteritis in children over two years .52%, while in cancer, diabetes, measles, cerebro spinal meningitis, organic disease of the heart, pleurisy, diarrhea and enteritis in children under two years, syphilis, chronic nephritis, puerperal eclampsia, and puerperal septicemia, the percentage has increased.

An explanation for the increased percentage in diseases of the genito urinary system and its adnexa is found in the fact that whereas formerly many deaths were reported as due to inflammation of the bowels, abscess in the iliac fossa, etc., gynecologists and abdominal surgeons now make more accurate diagnoses, and the deaths are tabulated under the proper heads. The increased percentage in deaths from heart disease is due to the fact that such diseases are more frequently recognized than formerly, and the increase in Bright's disease may be due to a marked increase in atheroma; but no satisfactory reason can be given for the increased percentage in deaths from cancer.

The greatest decrease is in scarlet fever—9.29%, and the greatest increase is in chronic nephritis—5.47%.

The deduction naturally to be drawn from a study of these figures is that therapeutics is not a science, but an empiricism; that drugs are not curative, but at the best only palliative, or in rare instances supportive; and that—although less manifest now than ever before—from the time the first woman gave her first child some simple decoction to relieve a bellyache, mankind has worshipped the fetich of drugs; and that worship continued until pathology demonstrated the condition of diseased organs, and the searchlight of bacteriology revealed the cause of the disease; then medicine entered upon a new and glorious era—one which will, in my opinion, relegate materia medica to a position among the "special

subjects" and promote bacteriology and vaccine therapy to a full chair.

For many years nothing has led us so far along the path of advancement in the treatment of disease, as the introduction of vaccine therapy. Diphtheria, rabies, tetanus, meningitis, hay fever, septicemia, furunculosis, cystitis, pyelitis and specific arthritis are some of the diseases that have yielded to its power; and a young Vermonter practising in Rhode Island has made a serum which he has used with gratifying success in infantile paralysis. Typhoid vaccination has been proved of great value as an immunizing agent even though its period of immunization is short—from six months to one year. In the last annual report of the Surgeon General of the United States Army, wherein, speaking of the immunizing value of typhoid vaccination he says: "Among 11,338 persons in the army who have been vaccinated there have developed to date three cases, with no deaths. In the first case, there is no doubt that the infection took place while crossing the continent and before the vaccination was completed. The other two cases were so mild that there was some doubt as to the correctness of the diagnosis. Among 74,450 persons unprotected by vaccination 306 cases of typhoid developed." He further says that the protective value of typhoid vaccination has been fully demonstrated and advocates its adoption as a routine procedure throughout the army. Vaccine therapy has been, and is ridiculed, even as Harvey's theory was ridiculed; its detractors being of three classes; first, those who have used it unintelligently, therefore unsuccessfully; second, those who always oppose any innovation; and third, those who, for selfish reasons, do not wish its adoption.

Lister and Pasteur led us through the gateway of a valley, which though narrow, broadened, slowly at first, then more rapidly and more rapidly still, until today, we are well advanced into a field so vast that its borders are hidden beyond the horizon. Radiating from the entrance of this valley are paths leading in every direction; some of them brilliantly lighted, like the path leading to diphtheria antitoxin; some are shaded, but still not dark, like the path that leads to preventive medicine; some are dark, with occasional patches of bright light, like the path that leads to vaccine therapy; and some lead to what appears to be impenetrable darkness, like the path that leads to the cause and cure of cancer.

Every day brings to light something new. Every day brings us nearer the time when the practice of medicine shall no longer be theoretical but scientific; and it is for you, young men, you and your contemporaries, and those who follow after you, to carry on the work so ably advanced by Flexner and Wright and their collaborators, until the dark places are illuminated, the crooked paths made straight.

It has been suggested by an eminent member of our profession, that the small medical colleges be abolished, and that all medical students should be required to attend the large colleges in the large cities. The question has caused considerable discussion and the matter is still unsettled. Personally, I should be opposed to such consolidation and such abolishment, because I firmly believe that some of the best work is done, and some of the firmest foundations for future usefulness are laid in the so-called fresh water colleges, of which the University of Vermont College of Medicine is an honorable example.

Another matter that is being discussed is reciprocity in the practice of medicine between the states. Some of the western states have already adopted this, and it appears ridiculous that states having similar laws, and where the requirements for the practice of medicine are practically the same, (for example in states like Massachusetts and Rhode Island), should not allow physicians in one state to practice reciprocally in both states. It should be a part of your future work to agitate the question until the desired result shall have been attained.

The greatest handicap under which the recently graduated medical man labors is lack of clinical experience. Though he be never so thoroughly grounded in the theory and practice of medicine, the principles of surgical technique, the mechanism and complications of labor, the dosage of drugs, microscopy, pathology, bacteriology, et cetera, yet have not bedside experience, he is like the captain of a ship in a fog, who tries to steer her by dead reckoning, safely into port. Cabot of Boston—whose wide experience is reinforced by all the resources of the Massachusetts General Hospital and by all the appliances that science can suggest—admits that one thousand autopsies proved his diagnoses erroneous in 33% of his cases. Such being the fact what per cent. of diagnoses will be correct in the recent graduate's practice? And for that matter in the 5, 10, 20, 40 or even 50 year

graduate's practice? Many pathological conditions are easily recognized; but my young friends will soon learn that not every bright red, distinctly outlined, patch of skin spells "erysipelas," nor that every pain in the right iliac region is necessarily appendicitis. But you may ask, "how is one to get clinical experience?" and the answer is obvious, "at the bedside," and that can be had only by attending the sick in private practice, or by hospital work.

The chief aim of a medical school is to prepare a student as thoroughly as may be for practicing his profession. This school, like all other medical schools is, in that respect, far from perfect—there is still much to be desired; and although this is not the time to criticise or condemn, it does not appear to me that the bounds of propriety would be overstepped were a suggestion made as to the methods of teaching. That is to say, that whereas now the different branches of medicine are presented to the student separately, leaving them arranged in his mind in a manner not unlike the arrangement of pickets in a fence, they should be so presented to him that they would be interlocked, overlapped, interwoven—interdependent each upon the other. Then upon graduation he would be equipped with knowledge which otherwise it would take him years to acquire, and be in a position to reflect credit not only upon himself, but upon his alma mater.

Upon graduation, some of you from choice, some of you from necessity, will immediately enter practice; and some of you will doubtless obtain positions in hospitals. A hospital training is of inestimable value to a young physician, yet hospitals in the larger cities have great difficulty in getting satisfactory internes—probably because the majority of students find that they cannot afford to spend the two years required by hospitals, which is, of course an erroneous idea. But few graduates from the University of Vermont have been internes in the Rhode Island Hospital and it is my privilege and my pleasure to speak a word for that institution and urge those of you who wish to do hospital work to apply for admission. It is the second largest hospital in New England—treating last year over 6,400 patients in the house, and thousands in the out patient department—is equipped with every modern appliance and the work done there is of the highest order. The examinations, while rigid, are practical and eminently fair.

We have heard of late a great deal about predatory wealth accumulated by and through the machinations of corrupt corporations. What shall be said of the predatory wealth of patent medicine makers—of the great fortunes acquired by playing upon the gullibility of people who believe that in drugs there is a panacea for every ailment, real or imaginary? Which is the most contemptible thief, he who holds you up at the point of a gun and steals your purse, or he who, deluding you and blinding you with false promises to restore your health, filches from you your purse, and leaves you a slave to drugs? Which is the most deserving of eternal damnation?

We have in our National Government a Department of Agriculture, whose chief function is to protect the products of the farm, the vineyard and the forest from destruction by noxious insects, and the domestic animal against infectious and contagious disease. We also have a Department of Labor and Commerce to look after and protect the working man, and to stimulate industries. Why, then, should we not have a Department of Medicine to protect the people, not only against the ravages of disease, but against the brazen effrontery, the demoralizing influences and the machiavelian rapacity of the makers and venders of patent medicines?

Young gentlemen, when you have received your diplomas and have gone out into the world to practice your profession, some of you will go to large cities, some to small cities and some to villages. Those who go to the large cities will, if they become associated with a hospital, enjoy greater privileges and have better opportunities for advancement, and for winning a reputation than those who go to the smaller cities and villages; but those who go to the small towns and villages will not necessarily be lacking in opportunity, for witness the fact that some of the most widely known members of the profession lived in small towns. The discoverer of vaccination lived in an English hamlet; there is a man who was knighted by his sovereign and who has won a world wide reputation because of devotion to his work among, and ministrations to the wants of the poor and needy fishermen of bleak and frozen Labrador; the father of abdominal surgery lived in the little city of Louisville; the discoverer of ether anesthesia was an obscure dentist; there is in the little village of Waterbury, Vermont, a man whose record as a military surgeon never has been excelled and it is extremely doubtful if

it ever be equalled, a man who, while still very young had charge of over twenty-three thousand wounded men after the battle of Gettysburg; there was a young subordinate officer in the United States Medical Service, who laid down his life to prove the source of yellow fever; and there is in this city a man who, while having but a local habitation and a name, will abide in the affections and live in the memories of those of us who have enjoyed the privilege of being his pupils.

In any event, wherever you go, do not bury your talent in the ground. Be earnest in the endeavor to do your best as opportunity and ability are given you, and you will find that life grows richer as it goes on; the interest in your profession, the affection of your patients, the confidence of your associates, and the respect of the community in which you reside, will be as incense upon the altars of your lives; yea, "like the precious ointment upon the head that ran down upon the beard—even Aaron's beard."

I wish it were possible for me to express adequately my appreciation of and love for this beautiful city. If, in endeavoring to do so the personal element is interjected, I crave your pardon. Burlington! The name recalls to my memory some of the happiest years of my life. The recollection of my early struggles, of the pleasant social, civic, military and professional associations, of the earnest faces of the students in the lecture room, of the many kindnesses shown me by friends—some of whom, alas! are gone—grows brighter as the vista of years grows longer; and although I love my home and the many dear friends I have there, still, there will always be, in the warmest corner of my heart, a place reserved for Burlington.

It has been my privilege to visit many countries, and nowhere have I seen, nor do I believe there can be found upon the face of the earth a place as beautiful as Burlington. Two years ago, standing upon an eminence just outside the city, looking at the land I love so well, I compared it with some of the characteristic features of certain other lands. England is a vast park; Holland, a beautiful flower garden; Switzerland, a picturesque landscape; Italy and France are fruitful vineyards; Germany, a hive of industry; and here in the magnificent panorama spread before me, was a scene that embraced and surpassed them all; and in the center of all this natural grandeur, seated like a queen upon her throne, is

that noble old institution bearing the exquisitely euphonious name, "UNIVERSITATIS VIRIDI MONTANAÆ."

My young friends, being interested in students, I have, while standing here, sized you up—as we sometimes say in Rhode Island—and while in the abstract "one star differs from another star in glory," in the concrete you make a composite picture of a mighty fine looking young man. You are not quite the equal of Brown in baseball, and you are a little inferior to Dartmouth in football; but along other lines you have great opportunities and brilliant prospects before you; therefore I give it you strictly in charge that to even matters up, you prove yourselves far and away their superiors in advancing the cause of medical science. I wish I could follow your careers, but that is impossible; with us it must necessarily be, hail! and farewell! yet I beg to assure you of my sincerity in believing that all of you will succeed, and that some of you will become famous; and when the end comes, as inevitably it must come to all of us, may yours be "the inner consciousness of duty well performed, the public voice of praise that honors virtue and rewards it."

"The days of our age," says the Psalmist, "are three score years and ten, * * though [some] men be so strong that they come to four score years." Three score and eighteen years at the time of the greatest advancement in the world's history. Search back through the thousands of years to the time men's deeds were first recorded, and you will find no age, no era, no epoch wherein the progress, the achievements, the enlightenment of mankind are in any particular comparable with what has transpired during the past eight and seventy years.

A certain man because of strength has come to three score and eighteen years. Two score and seventeen of those years were given to the University. For nearly two score years he has been its chief official. To have reached three score and eighteen years in this bustling, hurrying, strenuous age, with step still firm, with body still erect, with voice still resonant, with eye undimmed, with vigor unimpaired, with mind alert and keen, is wonderful. The history of that man's life would be a history of the University; his personal memoirs would be a history of literary New England; the good he has accomplished is a tale that never can be told.

Three score and eighteen years, and still "rejoicing like a young man to run a race." His

life is an inspiration, his presence is a benediction.

To you, Mr. President, I beg to offer the assurance of my most distinguished consideration; to the gentlemen of the Faculty, my felicitations; and to all the students in all departments of the University, my kindest wishes.

EXTRA-UTERINE PREGNANCY.

VICE-PRESIDENT'S ANNUAL ADDRESS.

BY

E. H. ROSS, M. D.,
St. Johnsbury.

In 1883 when Tait first operated for a ruptured tubal pregnancy, the condition assumed a practical nature which had previously been lacking. Though many cases had been reported, it was considered rather rare and was interesting from a pathological rather than a practical standpoint. Since that time, so many cases have been reported, so many operations have been done for its relief and so much study devoted to it that its grave dangers and the importance of its early recognition are well understood.

ETIOLOGY.

Different observers have advanced so many and plausible theories of causation that I will refer to them briefly, following Dr. Williams' classification, under two heads:

1. Mechanical interference with the downward passage of the ovum.
2. Physical and developmental conditions.

Peritoneal adhesions, tubal polypi, tumors of the tube wall and of surrounding organs, by narrowing the lumen of the tube, have all been considered sufficient to interfere with the passage of the ovum to the uterus.

Salpingitis was given great prominence by Tait and others as a cause. Their theory was that the ovum was normally fertilized in the uterus. That this was aided by the fact that the ciliary current in the uterus was upward, and in the tube was downward, so that the spermatozoa were readily carried to the fundus but were prevented from gaining access to the tubes. For this reason they supposed that if the cilia in the tube were destroyed by salpingitis, there would then be no obstruction to the ascent of the spermatozoa and the descent of the ovum would be much more difficult. Recent work has

demonstrated that these premises were false. It has been shown that the ciliary current is from above downward from the fimbriated end of the tube to the internal os so that the spermatozoa have to work against the current all the way. Furthermore, experiments on animals and in a few cases observations on human beings show that a few hours after coitus, spermatozoa can be found in the lateral portion of the tubes and even on the surface of the ovary. From this it would appear that conception normally takes place near the fimbriated end of the tube or upon the surface of the ovary. While this disproves Tait's theory, it by no means eliminates salpingitis as a cause. The fact remains that a history of, or evidence of inflammation of the tubes is found in a large percentage of cases. This may be in a measure accounted for by the fact that after salpingitis, the tips of the mucosa, lining the tube, are found adherent and in many cases form cul de sacs in which an ovum may lodge and result in a tubal pregnancy.

Another means of arresting an ovum in its progress through the tube is found in the existence of epithelial canals in the tube wall, one end of which communicates with the lumen of the tube, while the other end is blind. Here again the ovum may become side-tracked and develop in the wall of the tube.

Congenital narrowing of the lumen of the tube, the persistence of fetal convolutions and puerperal atrophy are all advanced as causes preventing the downward passage of the ovum. Migration of the ovum from the right ovary to the left tube or vice versa is strongly urged by some who point out that its journey might be so delayed that it would undergo sufficient development to interfere with its passage through the smaller portions of the tube.

PHYSICAL AND DEVELOPMENTAL CONDITIONS.

Webster, unable to accept any of the theories of mechanical obstruction, advanced the theory that considering the fact that both tubes and uterus are originally derived from the Mullerian ducts, there is no logical reason why an ovum should not become implanted upon the upper as well as the lower portion of the tract. The only reason he could give for its infrequent occurrence was that the decidual reaction, which occurs so promptly in the uterus in the presence of a fertilized ovum, is generally lacking in the tubes. Such a reaction he considered a reversion

to an earlier type and a sign of degeneracy. Most recent observers consider that the decidual reaction in the tubes is almost, if not entirely, lacking in tubal pregnancy.

The idea that the condition is a sign of degeneracy or reversion is opposed by the fact that it is found in many cases in perfectly healthy women, living in most favorable surroundings.

Mention is made of these various theories merely to show that there is no definite, universal cause for extra-uterine pregnancy. Many cases will occur without showing any cause, either in the history of the patient or in microscopic search of the specimen.

VARIETIES.

Inasmuch as the fertilized ovum may be arrested at any point on its way from the follicle in which it originated to the uterine cavity, it may develop in the ovary or the tube, and some claim in the free abdominal cavity, though there is considerable doubt as to whether it can become implanted on the peritoneum and develop as a primary abdominal pregnancy.

Though ovarian pregnancy is rare, there have been many undoubted cases reported and it is generally conceded today that it does occur.

Recent investigation and careful microscopic examination of cases supposed to be primary abdominal pregnancy show that they arise from cases of ruptured tubal pregnancy or cases in which the ovum became implanted on the fimbria ovarica where the surface is so small that the placenta must extend to surrounding organs, as development advances, and give the appearance of true abdominal pregnancy.

Tubal pregnancy is by far the most common form and for that reason deserves most attention. Here the ovum may become arrested at any point in the tube and give rise to an ampullar, isthmic, or interstitial pregnancy, depending upon the point of implantation. Conditions for the development of the ovum in the tube are naturally less favorable than in normal pregnancy. The decidual reaction in the tube is much less marked than in the uterus and may be absent altogether. The tube wall in contact with the ovum undergoes degenerative changes and becomes converted, in a great measure, into fibrin, which furnishes such slight resistance that the fetal cells invade the tube wall, open up its blood vessels and in a short time are found just beneath the peritoneum. For this reason Werth has

compared extra-uterine pregnancy with a malignant growth and says that "the ovum, in making its bed, digs its own grave."

As gestation advances its course is modified and may result in tubal abortion, tubal rupture, or occasionally go to full term in the unruptured tube.

Tubal abortion or the expulsion of the ovum from its sac into the lumen of the tube results usually from the opening up of a large blood-vessel and the resulting hemorrhage loosens up the connection between the ovum and the tube wall. If separation is complete the whole ovum is expelled into the lumen of the tube and may be forced into the abdominal cavity through the fimbriated end. If separation is partial the ovum remains in the tube while the hemorrhage continues. Thus as in normal pregnancy abortion may be complete or incomplete. The hemorrhage varies greatly in these cases. It may be severe and rapidly prove fatal or it may be slight and the patient recover. Tubal abortion occurs most frequently in the ampullar variety.

Tubal rupture is most common in the isthmic and interstitial cases. The direct cause of rupture may be violence resulting from a vaginal examination, coitus, a fall or even over-exertion. In the majority of cases it occurs spontaneously. In either event it is made possible by the invasion and weakening of the tube wall by the fetal elements. Rupture usually occurs near the placental site, either into the abdominal cavity or between the folds of the broad ligament.

When the opening is into the abdominal cavity the entire ovum may be forced from the tube or if the tear be small, profuse hemorrhage may occur without its escape. In either event the patient shows signs of collapse and may die in a short time. If the patient lives the fate of the ovum varies. If expelled, entire, into the peritoneal cavity its death is inevitable and unless advanced beyond the third month it will be rapidly absorbed. If only the fetus escapes, at the time of rupture and the placenta is not greatly injured, development may go on to full term. If the placenta is badly damaged, death of the fetus ensues and the pregnancy is terminated. Rupture into the broad ligament occurs in a small percentage of cases. This, the most favorable outcome of tubal rupture, usually results in the death of the ovum and the formation of a broad ligament hematoma. Occasionally, when the placenta has not

been too much damaged, gestation may continue between the folds of the broad ligament. Owing to its location and nearness to the rectum and bladder, this form of extra-uterine pregnancy is liable to infection and after suppuration may perforate into the bladder or rectum.

SYMPTOMS.

The symptoms of unruptured extra-uterine pregnancy are indefinite and often lacking entirely. In many cases, however, the patient has passed by one or more periods; has experienced the usual reflex symptoms of pregnancy followed by irregular hemorrhages in connection with which shreds, or even a triangular cast of the uterine decidua may be cast off. Frequently the woman has never conceived or has been sterile for a considerable period. She may complain of sharp attacks of pain in the ovarian regions. Local examination may disclose discoloration of the vulva, an enlarged and softened uterus and a more or less sausage shaped tumor on one side of, or behind the uterus.

Often the first sign of abnormal pregnancy is the occurrence of severe, sudden pain in the pelvis, followed by increasing pallor; sighing; fainting; rapid, feeble pulse, and perhaps sub-normal temperature. This indicates rupture of the tube with free hemorrhage into the abdominal cavity. The collapse may become rapidly more pronounced and the patient die in a few hours. In case the hemorrhage does not become at once fatal, it may recur again at a later period.

If the symptoms of collapse are less marked the probabilities are that tubal abortion has taken place, followed by a trickling of blood into the abdomen through the tube. In this event, the patient's condition is more favorable and gradual recovery takes place. Examination a few days later shows the pelvis more or less filled with a fluctuating tumor—pelvic hemocele.

If the patient survives the hemorrhage and shock following rupture and the placenta is not injured, pregnancy may continue. In this case the ordinary symptoms of pregnancy exist, but the patient suffers more pain and feels the fetal movements more acutely.

If the pregnancy goes on, false labor sets in at term and is accompanied by contractions similar to those in the early stages of normal labor, but of course without effect.

False labor lasts from a few hours to a number of days and is soon followed by the death of the child, absorption of the liquor amnii and decrease in the size of the abdomen. The fetus may become mummified or converted into a lithopedion or infection may occur, suppuration ensue leading to the death of the patient from exhaustion or peritonitis, unless the abscess ruptures externally and slowly discharges the fetus.

TREATMENT.

When once the diagnosis of unruptured extra-uterine pregnancy is made, there is but one treatment, namely: immediate removal by laparotomy. Rupture may occur at any moment and the patient die before aid can be given her. This danger is so great that operation is justified even when the diagnosis is highly probable, but not positive.

The operation in itself is not dangerous and conditions which simulate extra-uterine pregnancy usually demand operation for their relief.

All methods which aim to destroy the fetus and so terminate the pregnancy without operation are too great a menace to the patient. Even granting that the fetus can be killed by electricity or the injection of poisonous substances into the sac, the danger of rupture is not removed, as we know that rupture does occur after the death of the fetus. Moreover the retention of the products of conception in the tube render it useless and even a source of danger to the patient.

Where rupture has occurred, immediate operation is indicated unless the patient is at the point of death. Even in the most desperate cases, quickly opening the abdomen, seizing the tubal mass in the hand and applying long clamps on either side, will at once check the hemorrhage and give the patient a chance. When the abdomen is so full of blood as to obscure the field of operation, the forceps should be applied by touch without waiting to clear the field before checking the hemorrhage. Once this is done, the blood-clots can be removed and the operation completed by the aid of sight. If the patient's condition is too desperate, all of the blood need not be removed but the abdomen may be filled with hot salt solution and the wound rapidly closed.

Before and while the operation is in progress the patient may be put in the Trendelenberg position and salt solution given subcutaneously or intravenously, if necessary.

When the rupture has resulted in the formation of hemocele, it is better to leave the case to nature's care unless the hemorrhage continues or suppuration ensues. The patient should be placed in bed and carefully watched however for several weeks.

Rapid increase in the size of an hemocele or pressure symptoms on surrounding organs or symptoms of infection of the sac, call for immediate operation.

After the fourth month, conditions at operation are apt to be quite different and methods of operation vary according to whether the fetus is living or dead. In exceptional cases the living fetus may be found in a tubal or ovarian sac, more often a broad ligament pregnancy may have developed without rupture of the peritoneum, but most frequently the child and its membranes are found in the free peritoneal cavity and the placenta either in the tube or broadly attached to it and to the pelvic floor. Under any of these conditions, when the child is living, the mother is in danger from hemorrhage. Therefore operation should be undertaken at once, even in the later months, unless the patient insists on waiting after she has been told of her danger.

In these advanced cases, operation is often attended with difficulty because the fetal sac is as a rule, densely adherent to surrounding organs and the placenta is broadly adherent as well. Where it is possible, the entire sac should be removed. In broad ligament pregnancies, it may be necessary to remove the uterus as well as the sac, because of the adhesions and hemorrhage. In cases where removal of the sac seems to involve too great danger to the patient, it has been advised to open the sac, avoiding the placenta, and to remove the child. Then the edges of the sac may be stitched to the abdominal incision, leaving the placenta and the stump of the cord in situ and packing the cavity with gauze. The placenta then comes away gradually in small pieces. This of course requires a long period of convalescence, but it is much safer than attempting complete removal. If the placenta has become partially detached this cannot be done, on account of the hemorrhage. It must be removed at once however great the difficulties.

If the fetus is dead the operation is much simplified as the danger of hemorrhage from the placental attachment rapidly diminishes after fetal death. For this reason, operation should

be delayed for several weeks after the death of the fetus, to allow the obliteration of the maternal blood spaces in the placenta, which may then be pulled off without great danger from hemorrhage.

DISCUSSION.

Dr. McSweeney of Burlington—I feel that we owe a vote of thanks to Dr. Ross for this paper; it is a subject in which we are all interested and one with which we all have to deal. In old times we were told that the majority of such cases were lost. I never believed that the mortality was as great as is given, but anyway with the knowledge we have now in making a diagnosis I believe that there is no need of ever losing a case. Certainly not if proper care is taken. We used to be told that cases of rupture in pregnancy occurred with women over thirty or after a period of sterility. This may be in many cases, but I have had such cases in many instances in a woman under thirty, and not all by any means were sterile. I had a case of rupture not long ago in which the rupture took place when the patient was about three months along and she was under thirty; I had one case of rupture in a girl of eighteen, so there can be no age limit given. In regard to the diagnosis, 66% if left alone will die. That is a grave condition. They must be cared for and at once. The first thing in all cases is to be prepared to make a diagnosis quickly, and in almost every case operate. Have the operation take place before the rupture if possible. If rupture takes place the only thing that can be done is to operate and to do it as quickly as possible.

Dr. Sabin of Burlington—I do not see that there is anything left for me to say; about all that I can do is to second all the remarks that Dr. Ross and Dr. McSweeney have made. I would, however, especially emphasize the importance of a careful diagnosis, and of course, if an operation seems to be necessary that is the only thing to do. I am interested in this subject because it has been my fortune to meet with several cases of rupture, and I think that we all should be careful to keep the mental picture that Dr. McSweeney has given us in mind. As Dr. McSweeney said, be careful to get the history of the case. It is very important to make a pelvic examination. An operation must not be delayed, if we find that it is necessary then, do it at once. Another thing that I think we ought all to bear in mind is to be sure and call counsel if we do not feel positive that we know just what to do. Not to be afraid of some one thinking that we do not fully understand the case, call counsel whenever we feel the need of advise and do all we can for our patient.

Dr. Marvin of Essex Junction—I had a case, that of a woman of about 28 years of age. She was seized with a severe pain and fell to the floor. She was unconscious for a long time. She was about four months along. I was called and learned that she had been caring for a sick brother for a week or ten days and that she had been on her feet a good deal and I thought that very likely it was due to her being overtired. Two days later she lost consciousness and was unconscious for so long that I knew something was the matter, and I advised a vaginal examination. I found the pelvis full of fetus and blood. On the right ovary there was a bunch the size of a hen's

egg. She was operated upon and we found an ovarian cyst on the right side. This led me to feel more than ever the necessity of vaginal examinations.

Dr. Welch of Franklin—I had a case of extra-uterine pregnancy. The woman came to me and after a month's attendance I made an examination because she was of unnatural size and weight. I advised an operation but she objected, and she continued to have pains until about the ninth month when she was in such a condition that I asked Dr. Sherwood to come up for council, she confirmed the diagnosis that I had made and advised an operation, but it was delayed until I sent for Dr. Sherwood and she operated at once, and found a full grown child. After making the incision and removing the child the hemorrhage was so great that she passed out of existence. Since then we have operated at once.

AUTO-INTOXICATION.

BY

E. W. CRANE, M. D.,

Hardwick, Vt.

I shall use the term auto-intoxication in its broader sense, not confining its meaning entirely to the self-poisoning produced by the absorption and entrance into the circulatory system, of the many poisonous products of waste allowed to accumulate in many parts of the anatomy through the incapacity of over-worked, functionally disturbed, or permanently diseased organs, but also include the toxæmias caused by the absorption of poisons, generated within the alimentary canal, through chemical changes from whatsoever cause.

Auto-intoxication due to putrefactive changes within the alimentary canal, must be more or less seriously considered and dealt with in almost every case (acute or chronic) with which we have to deal. We are called upon to combat not only some specific disease, but very frequently many complications arising from a failure on the part of some weakened or diseased organ, to perform its normal function, or the inability of normal organs to effectively eliminate the fast accumulating poisons due alone to the specific action of the germ responsible for the disease, or the combined action of other poison producing micro-organisms which have gained entrance to the alimentary canal in various ways. No subject demands more serious consideration or thorough investigation, when we find death frequently claiming, after only a few hours' illness, a patient who was previously, to all appearances, robust and in the prime of life.

Auto-intoxication in middle life and in the elderly, is probably responsible for more ill health, in both male and female, than either the layman or the medical profession in general attribute to it. It is the forerunner of many pathological organic changes which if recognized early, constantly watched and cautiously treated, could, and would be, at least stayed for many years, and in a large per cent. of cases prevented altogether. The average man reaches an age of somewhere between fifty and sixty years without having become conscious that nature's resources for the defense and preservation of the body have become seriously or permanently weakened. He has had a few more or less acute diseases, and occasionally a day or two of uncomfortableness, which he has attributed to over-eating, over-working, or the loss of a few hours' sleep. He has rallied from each of these attacks without a thought of consulting a physician, or at the most, one or two office calls, which have resulted in his taking a little medicine and cutting down his diet for a few days. But the time comes when a few days' treatment does not restore him to his normal self, and it is at this stage that he needs the counsel of a prudent friend and physician. It is at this stage that nature's resources are becoming exhausted. The products of waste are accumulating in the system, the organs of secretion and excretion are no longer capable of performing their normal functions, nitrogenous foods undergo fermentation in the alimentary canal, toxins are formed and carried into the circulation. The appetite becomes impaired, symptoms of indigestion set in, the bowels are sluggish, and the kidneys inactive. Conjunctiva becomes more or less yellow, skin dry, and complexion sallow. He is somewhat anemic, complains of lassitude, headache, loss of memory, and inability to concentrate his mind; he becomes nervous and irritable, and is unable to sleep nights, and during all this time there has been a slow but progressive loss of flesh and strength. And in this condition he presents himself at your office—a nervous wreck—a premature old man. He has for months planned to take a vacation, was just waiting to get his business into shape so he would not worry about it while he was away. Upon physical examination you find, a strong cardiac impulse, increased precordial dullness, irregular and intermittent pulse, blood pressure somewhere between one hundred and fifty and

two hundred, a possible beginning or a well advanced arteriosclerosis, with weakened mitral valve. The urine is suggestive of chronic interstitial nephritis; it is of a low specific gravity, may or may not contain albumen. Indicanuria usually exists. Microscopical examination reveals crystals of calcium oxalate, hyaline and granular casts, and some loose epithelial cells. When this advanced stage has been reached, irreparable damage has been done, and you are not surprised to learn shortly that your patient has suffered a cerebral hemorrhage, or that under the high arterial pressure, a pronounced leak, by the mitral valve, has taken place, or that the heart, not being able to withstand the strain, has broken down and suddenly failed; or there may be a more gradual decline; a gradual weakening of the heart muscle; the development of chronic interstitial nephritis, a progressive loss of strength, increased toxic condition, coma and death.

Now this is invariably the course that a neglected case will run, and the saddest of the tale is yet to be told. It is the class of men in which this condition is most frequently found, for it is, I believe, a condition confined to classes and hardly to masses. My experience has led me to believe that it is not, as we were formerly taught, found most frequently among syphilitics and alcoholics. I find it among my friends; you find it among yours. I find it in the successful, wide-awake business and professional man. He is a man to whom you would go if you were in need of a friend. He is a man who would be grieved if he learned that you were in need and did not call on him. He is a man who loves mankind, and takes pleasure in letting you know it. He will meet you with a smile, open his heart to you, and make you feel that life is worth living. It is a pleasure to meet him and an inspiration to visit with him. He is, however, a man of excesses, and his besetting sins are over-working and over-eating. He is the man who does things in this world, and therefore we cannot afford to lose him from our midst.

It used to be difficult for me to control these patients, especially those who were not ready to retire from active life. After a short vacation, during which they are very much improved in every way, they fail to return to your office at the appointed time, and in a few months they are back to you with the same old feeling. Of

late years I have fully explained to them that their condition was one that required constant watching; that the conditions of the secretions must be known, the blood pressure taken and the urine analyzed, and that if they would be kept in a comfortable condition they must follow instructions implicitly, call at my office at the appointed time, whether they felt the need of further treatment or not; impress upon them that unless the glandular organs are kept in a fairly active state, that poisons are constantly accumulating in their systems, even though they may feel perfectly well; and that when sufficient accumulation has taken place to cause a return of the symptoms for which they first consulted you, that irreparable damage has been done, especially to the kidneys and blood-vessels.

In this era of great achievement along the line of preventive medicine, when so much is being done all over the country to educate the layman along hygienic lines, it seems to me that a battle should be waged against premature old age. Tradition hands down the fable of the search for the fountain of life, to bathe in which rendered one immune from death. When the analytical chemist and pathologist has solved the problem of auto-intoxication, he will have handed the people a solution of the ever foremost question of life and death. However, with our present *limited* knowledge of the development within the human body of these toxins, and their action upon the different tissues, we can to a great degree, retard their progress; by constant and faithful supervision of our patient's habits and mode of living. You will always get better results by insisting that your patient (for a period, at least), give up all work. Both physical and mental rest is desirable, and in some cases essential. Do not send or allow him to go away from home. Keep him where he can have the comforts of a home, where he can have a nap at 10.30 A. M. and one at 3 or 4 o'clock P. M., live a temperate life and indulge in absolutely no excesses of whatever nature.

We must depend largely upon nature's normal defenses and resources for the preservation of the body; the acidity of the urine, the acidity of the gastric juice, the equalization of the circulation of the blood throughout the entire capillary system. We cause every organ to do its normal amount of work, and call for as little work from each organ as is possible, and at the

same time meet the requirements of elimination. Give your patient and give his organs all the rest you consistently can. Small doses of calomel will relieve glandular inactivity, and thus bring rest to a tired heart, and when given in conjunction with nitroglycerine will work wonders towards lowering a high blood pressure. Nitrogenous foods are more liable to undergo putrefactive changes in the alimentary canal than are the carbohydrates, thus making it desirable at times to cut them from the diet list. But my experience has led me to believe that these patients, as a rule, do better to eat sparingly of a mixed diet of good, wholesome food, never overloading the stomach, or partaking of food when in the least fatigued. Alcohol and highly-seasoned food should never be considered. Idiosyncrasies should be taken into consideration. Ipecac and nux vomica are of service in toning up the lining membrane of the alimentary canal. Intestinal antiseptics are of use, but those should be selected which are the least soluble and slowest to be absorbed, that they may traverse the entire length of the alimentary canal. Such waters as Hunyadi and Veronica act well on the bowels and kidneys. The inhalation of oxygen two or three times each day is one of the best tonics to unstriated muscular tissue that I know of.

Now, gentlemen, I am not presuming that I have presented anything in this paper with which you are not perfectly familiar, but I do presume that there is not a man present who cannot look back and see at least one case of this nature which has terminated unfortunately, and this through somebody's negligence. I simply make a plea for the better education of a whole-souled, intelligent and over-worked class of men, who, when it is too late find themselves victims of some sequel of auto-intoxication.

DISCUSSION.

Dr. John Gibson of St. Albans—I hardly think that there is much that I can add to this excellent paper of Dr. Crane's. I may say, however, that the handling of this subject by the physician is a most serious problem. It is because in many instances we have not a sick man or woman to deal with but a half sick one. It is more difficult to treat a half sick person. I think that the point Dr. Crane made that we should act as a friend as well as the physician is an important one. The work of the physician is to offer advice, not to give a few pills and powders and leave the man alone, but to explain to him carefully just what his condition is and what the result will be if not attended to.

We must get people to realize that it is largely themselves, that they can do much to aid in their recovery. I would not send people away from home, let them stay where they can have the home comforts, where they can take a nap during the day and sleep late in the morning.

Dr. Peck of Brandon—I have given this subject quite a little thought. It is not in the alimentary canal alone that we find evidences of auto-intoxication, it is in the blood. Over-eating is not going to be remedied by drinking spring water, that is not going to eliminate the poison from the system. Dieting is not going to do it. You can't put out a fire by putting on a little less fuel. Take a man that weighs 250 pounds and eats and eats all sorts of things and you can't diet him without starving him. You have got to get the circulation cleared. Use the organs that nature has provided for the elimination of wastes and poisons, the skin, the liver and the kidneys. The liver is the great secreting organ, it is the great driver. Get normal functional action in the liver and kidneys. What is needed in the average case is a good clearing out, and I know of nothing better than calomel. I have never seen any case of auto-intoxication, if that is what it is, where calomel did not work.

Dr. Crain of Rutland—I give blue mass, calomel and sugar of milk. I would not send a patient away from home, have him rest and keep him where you can watch him. Regulate his diet.

Dr. Reese of Cortland, N. Y.—I think this is a very timely subject and interesting from two sides, the germ side and the cell. I believe in the treatment just spoken of, we must equalize the intake and the elimination. I do not think the question is so much what or how much a patient eats as whether or not he can throw off the waste. I recall a case I had not long ago, that of a woman. She was nervous, could not sleep, had no appetite, food did not seem to digest. I gave her five grains of blue mass, and five hours later gave 5 grains more. The next day I gave 5 grains more. The next day she was in great trouble. "Why doctor," she said, "my bowels are troubling me greatly, why they run me all the time." I said that was too bad and we would have to give her something and I gave her 5 grains more of blue mass. I wanted to get her system cleared out. Of course she dieted. She did not feel like eating, so she naturally dieted. I always counsel patients to eat of good wholesome food, but to keep the bowels well regulated, keep the kidneys in good condition so that the poisons can be eliminated from the system. Blue mass is good, epsom salts is good, so are some mineral waters.

Dr. Beecher of Burlington in response to request—I am not ready to talk on this subject, however, I will say just a word in regard to auto-intoxication. As a disease I do not believe that the thing exists, as a group of symptoms, the result sometimes of disease, it is the thing that produces old age and death. The great trouble seems to be due to over-eating and over-drinking and under exercising. It is shown in the blood, the blood pressure. The blood pressure is from 150 to 200. Heart shows it also. Heart action is irregular, accompanied with palpitation.

A DISCUSSION OF THE DISEASES OF THE UPPER ABDOMEN AND THEIR DIFFERENTIAL DIAGNOSIS.*

BY

DR. RUMRILL,
Randolph, Vt.

Gentlemen:—In the rapid progress in medicine and surgery we are forced to be ever vigilant lest we fall behind in the competitive race with our colleagues and in ways get behind the times and we must also see to it that the new things are sound before we accept them as infallible.

The diseases of the upper abdomen are now coming strongly into our thoughts and, though they have been neglected to some extent in years past because of the fixed attention of the medical world on the diseases of the lower abdomen, to-day we must recognize and treat gall bladder diseases, ulcers and carcinomas of stomach and its vicinity and diseases of the pancreas as well as we have the appendix and generative organs or we shall fail to do what the profession requires of us. So to-night I propose to go over carefully as I can in the time allowed those diseases of the abdomen that nearly always give two prominent symptoms—indigestion, and pain referred to the epigastrium—to help, if I can, in differentiating these various ills.

To begin with let me explain that trouble anywhere in the digestive tract is likely to cause reflexively a spasm of the pylorus, for like the miller, when there is trouble in the mill shutting off the oncoming water temporarily for repairs, Nature tries to stop the irritation caused by food passing a sore place by shutting down the flood gate—the pylorus. Again I would like to say that the pain at some particular spot is not because of the sore organ always being placed immediately under the tender spot but is due to the distribution of the three splanchnic nerves—as for instance, often I have found pressure over "McBurney's Point" to cause pain high in the epigastrium when nothing more than slight tenderness was present in the right iliac region. Bearing in mind these two things we

*Paper read before the June 14, 1910 meeting of the Washington County Medical Society.

shall come to search carefully for causes and by exclusion or other means we shall come gradually to the true cause. The best medical men now feel that any case of marked indigestion which fails to get relief when scientifically treated for 4 to 6 months should be handed over to the surgeon because the trouble is some organic disease and, luckily, the vast majority will get permanent cure by operation, those failing in this being unfortunate as their treatment is symptomatic and death is their only true relief.

Supposing we have before us a patient complaining of pain above the umbilicus and more or less disturbance of digestion what could be the trouble—what things are possibly the causes of the distress? It may be appendicitis or disease of the stomach, duodenum, liver, pancreas, subphrenic abscess or possibly mucous colitis. The last will soon show itself by the mucus in the bowel contents and occurs mostly in neurotics so we will not discuss that to-night. Subphrenic abscess we should always bear in mind and know it may occur as a result of perforation of gastric or duodenal ulcer or carcinoma or ruptured appendix and may come on as a complication after operation for appendicitis or cholecystitis. The abscesses may be mistaken for pleurisy with effusion or for abscess of the liver and usually have been overlooked altogether till it has spread up into the chest as empyema or purulent pericarditis. They may be distinguished, if thought of, by their slow onset with pus characteristics as chills, fever and rapid pulse and the pain usually felt in the back. There may be dulness at angle of scapula with bronchial breathing. When these things occur after operation on appendix or gall bladder and the patient still shows signs of sup-puration somewhere we should explore with needle under full anaesthesia, the 10th, 9th, 8th, 7th and 6th intercostal spaces in turn passing the needle at least 3 inches at the scapula angle. It will be difficult to distinguish a subphrenic abscess from pleurisy with effusion but the previous history of abdominal or thoracic diseases will aid us. If the needle strikes fluid we can tell whether it is in the pleural cavity or not because if it only enters the pleural cavity the needle will fail to move with respiration while if it is subphrenic abscess the needle will move with respiration the outer end going up with inspiration. I have seen only one case in my practice.

We now have left the five diseases most often met in our work. It is these—appendicitis—bile duct diseases—ulcers of the stomach and duodenum—cancers of stomach and duodenum and pancreatitis in its chronic form, diseases that give abdominal pain and all may give pain only in the epigastrium—all give nausea at times—all give abdominal distention and muscular rigidity. How shall we make our differential diagnoses?

Nearly always the pain is at first diffused over the abdomen around the navel but later the location of the most intense pain is over the inflamed organ. One symptom which I have not often seen in the descriptions of appendicitis is that pressure over "McBurney's point" in the case of appendicitis I have frequently found gives intense pain in the epigastrium and much less pain directly in the appendix, finding this reflex pain I have come to recognize these cases as appendicitis beyond a doubt. When we can not tell from the location of the pain what organ is diseased we must systematically arrive at a diagnosis by exclusion. For instance if the case vomits blood frequently and the pain is either made worse or better by eating, then we can feel sure that the pains and rectus muscle rigidity are not those of appendicitis but of gastric ulcer or carcinoma. In a general way I have come to feel that pain more or less severe in the right lower abdomen or a chronic indigestion with only an occasional uneasiness in this region with the history of chronic indigestion may be regarded as appendicitis even though nausea, rigidity, rapid pulse and fever are all absent and removal of the appendix will cure the indigestion.

Acute cholecystitis coming on with nausea, vomiting, pain and tenderness in the region of the gall bladder can usually be readily distinguished, especially if added to this we can make out gall bladder enlargement, but the chronic forms and mild cases of gall stones giving symptoms move in the line of chronic indigestion may make us uncertain whether we are dealing with appendicitis, gall bladder cases, or ulcer or carcinoma of the organs near the gall bladder. In these cases we must again often make our diagnosis by exclusion, that is, by convincing ourselves that the patient has not rather than that he has these other forms of abdominal troubles.

As a cause of trouble to middle or later life the bile ducts and gall bladder are certainly

great and when by examination of stomach and bowel contents we fail to find evidences of ulcers or carcinoma of stomach or duodenum usually we can feel certain of disease of the gall bladder or bile ducts. The pain is usually located in the right upper abdominal region and if on deep expiration we can get tenderness in the gall bladder or if by holding the hand firmly against the gall bladder in expiration and ask the patient to take a full breath we get pain or tenderness we may feel sure of our diagnosis. Dr. Tinkham says that in addition to this if we can get tenderness on the back exactly over the head of the 11th rib we may feel absolutely sure of cholecystitis in some form. He regards this point as much a characteristic feature of cholecystitis as is tenderness at McBurney's point a sign of appendicitis. The Mayos urge that in most cases of gall bladder disease if we question sharply enough we will get a history of former attacks of midline pain in gall bladder disease, that the pains were sudden, usually epigastric, coming on without special reference to diet, time of day or exercise, develop rapidly and disappear abruptly and leave the patient feeling normally well. One of the Burlington doctors said he always started his gall stone attacks by some sudden exertion like springing over a fence or taking a ride on a rough road.

We may have a tenderness developing in the midline over the pancreas. If chronic in form we find beside the indigestion usual to all these diseases named particularly indigestion of the fats and if we operate we will find fat necrosis in the omentum and quite often an accompanying sugar diabetes.

In all blind cases of indigestion of a chronic nature we should examine the stomach contents and while we often will find nothing definite to tell us what the trouble is we may possibly exclude ulcers or carcinomas. In my experience in gastric ulcer food relieves and in stomach cancers food causes pain and in gall bladder disease it does neither. Ulcers of the stomach do not always show an excess of hydrochloric acid, in fact the Mayos say they find many of their worst cases of ulcers with normal or decreased acidity, still with pain relieved by food and an increase of hydrochloric acid we should feel the case was not cholecystitis or cancer and if we should find pain made worse by food and a deficiency of hydrochloric acid and especially if the patient was vomiting blood we should feel

the case was one of carcinoma. Again the pain of ulcers or carcinomas of the stomach may radiate through to the back but they are not confined to one spot and the tenderness may be to the left of the midline in front or back.

With an acute, fulminating type of pain we can not always tell whether we have a perforating ulcer of the stomach or duodenum, whether the appendix has ruptured or whether it is acute pancreatitis. Usually, however, if we watch we shall see the intensity increasing in the region of the diseased organ—in the lower abdomen if it is appendicitis or above the umbilicus if acute pancreatitis or a perforation of ulcer or carcinoma.

On the whole I should urge that we be more careful in our diagnosis and not jump at conclusions, that we think of what might be wrong in the region of the trouble and carefully exclude one by one the possibilities till we can from that method make ourselves feel sure of the diagnosis, and while chemical and microscopical examinations of stomach and bowel contents may not always tell us much they may give us the clue that will lead us to prompt and successful treatment. Examination of the blood may assist much and while a mere leucocytosis may not mean much a gradually increasing one would exclude typhoid fever and indicate a pus condition coming on. With other symptoms in accordance we could then feel that drainage of appendix or gall bladder was urgent and so bring about recovery. We must to-day be scientific, be more thorough, and thereby reach conclusions carefully rather than by haste.

THE HELPFUL TOAD.—This much maligned reptile is neither venomous nor does he wear a precious jewel in his head, as a well-known dramatist once observed. Nevertheless the toad is in reality more valuable than if his cranium were filled with gems. He devours more insect pests than do birds: and unlike many of the latter, he is not a filcher of fruits. His maintenance costs the farmer nothing at all. An enterprising gentleman has established a toad farm near Greeley, Col., and is ready to supply toads to farmers and fruit growers at the rate of 25 cents each. They should be worth a great deal more than this, for a single robust toad will (it is stated) devour in a month 700 cut worms, a thousand ants, 150 weevils and as many beetles.

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EDITORIAL.

Any announcement made by Paul Ehrlich is always received with a great deal of expectation and interest and perhaps none more so than that of his recent achievement in finding a synthetic chemical product which apparently has a specific toxic action on the treponema pallida. The enthusiasm to which this announcement gave rise in Europe has probably not been equaled since Koch's publication of his work with tuberculin. This preliminary announcement has been followed by a large amount of clinical experimental work with the preparation both abroad and this side of the water. It can be said now without hesitation, that the remedy has a remarkable effect on the lesions of primary and secondary syphilis and of the distressing symptoms of the tertiary form of the disease. And now that we are to look forward to the speedy availability of this preparation to practitioners everywhere, it is wise to consider its nature, administration and effect. It is oft-times the fate of a new therapeutic agent to be

received by the general profession with too great enthusiasm, to be used with too little discrimination, to produce results far short of the expectation of enthusiasts and finally to suffer in consequence, from a period of skepticism and disuse. That this may not be the fate of arsenobenzole, the user should familiarize himself with the nature of the preparation, with the claims of its originator and the precautions suggested by him. Ehrlich was led to the research which has resulted in this preparation by a knowledge of the impossibility of producing an immunity similar to a bacterial immunity in diseases produced by protozoa, plasmodia, trypanosomes, piro plasmas, and pyogenic spirochates. That there was a possibility of finding a chemical substance which might attack these etiological agents without being dangerously injurious to the cells of the host, was suggested by the experience of quinine in malaria. The synthetic compounds available to the organic chemist are without number and it remains only to obtain a clue from which to start, with some promise of success. This clue was furnished Ehrlich in atoxyl devised by himself and used so successfully in sleeping sickness. Starting from this as a basis, he varied the chemical molecule until he had obtained some six or seven hundred different chemical substances, one of which, six hundred and six, seemed to meet the requirements. The drug which is a yellowish powder put up in vacuum tubes to prevent oxidation is given in a dosage from three-tenths to six-tenths grams by deep injection into the muscle of the buttock or below the shoulder blade. A solution is first made in hot water and then neutralized by the addition of normal sodium hydrate. The injection may be followed by some slight pain and swelling and possibly a slight rise of temperature and urticarial eruption. One dose is usually sufficient. In all primary lesions in which the sores are in the erosive type, if taken

early, one dose seems to destroy the spirochates. The immediate results in secondary syphilis are good so far as external manifestations are concerned. Tertiary lesions show marked improvement. Ehrlich himself is not extravagant in his claims for the preparation and wishes it tried at first only in the most suitable cases. A drug which is so powerful in the destruction of living parasites as this seems to be, can not be used without some danger and its originator has warned against its administration in patients suffering from advanced cardio-vascular disease and also against its use in cases where there is disease of the optic nerve. We greatly fear that its general use will result in some untoward accidents and any one who ventures to try it in its now experimental stage should do so only after thoroughly familiarizing himself with the method of administration, the suitable case and the possible dangers. Only time can tell how lasting the apparent cures are, but it seems probable that we have in six hundred and six now or further modified as the result of experience, a remedial agent of extreme value in the treatment of this most dreaded infection.

Now comes to the front the great, characteristically American disease, naso-pharyngeal catarrh, to disturb the dreams of the practitioner as well as his waking thoughts. To get at the cause is the problem. Is it our winter climate, our system of heating, our manner of dress, or our filthy habits? Our English cousins live in cold rooms with a climate infinitely worse than ours and suffer but little from catarrh. Our own western neighbors, even with their wonderful climates, do have catarrh, and we in the east have our houses well heated and go out into our cold damp air and straightway begin to change our "ms" to "bs" and do all manner of stunts

with the language. The prevailing opinion is very much against our steam and hot-air heating systems. The editor of the *Boston Medical and Surgical Journal* aptly compares our houses with the Desert of Sahara showing that while the relative humidity of the desert averages 30, the air in our houses frequently reaches a humidity of 16 or lower, thereby causing dryness of the mucous membranes and consequent congestion on exposure to cold. It is a well-known fact that lumbermen and others who live in the open air have practically no catarrh, even though exposed to the worst of wind and weathers. The fault then seems to be with our method of supplying artificial heat, which is devoid of the necessary moisture. Here seems to be an opportunity for the medical profession to exercise its inventive genius and fashion some apparatus which will provide not only heat, but moisture sufficient to keep our mucous membranes in a healthy functioning condition.

We note with interest the appearance in some of the railway coaches, of individual drinking-cup-vending machines. The provision of these individual cups has been made obligatory in Massachusetts, the order going into effect on the first of October, we understand, and no doubt the appearance on certain trains passing through this State is in compliance with that order. The installation of these machines is certainly to be commended and marks an advance step in practical hygiene. There is nothing which causes a shudder to go down the spinal column of a sanitarian more than to watch the common drinking cup and its users in a railway station, train, or other public place. Many will still persist in using such a cup rather than expend one penny necessary for the purchasing of an individual receptacle, but the provision of these cups no longer renders it necessary for one to

endanger himself to infection. It is only a question of a few years at most when provision of this sort will be required in every public place.

The University of Vermont College of Medicine, which opened its annual session last month, has an unusually large enrollment of students which is a reliable indication of the confidence that has been established in this institution.

Medical education today is very different from what it was twenty years ago. Medical knowledge is advancing so fast that changes have to be made in teaching from year to year to include the latest developments. The University of Vermont has made every effort to keep the College of Medicine well up in this rapid advance in medical knowledge and has adopted in its curriculum not only the new ideas in regard to medicine but also the newer methods of teaching medicine.

It is probably true that this school does not meet the ideal conditions in every respect, but it is a noteworthy fact that the criticisms of the Carnegie Foundation, in regard to this school, were in the main in regard to minor conditions only, and many of these conditions have been changed since this report was made. In fact, the course of instruction is improved and strengthened each year.

This department of the University serves the people of the state in two very important ways; first, it provides a place where the young men of the state can receive a thoroughly first class medical education at a less expense than it could be obtained at the medical schools in the large cities; and secondly, it provides a way in its clinics where the poor of the state may receive gratuitous medical and surgical service. The importance of this service to the people of the state cannot be too highly estimated and should bring in return the hearty moral support of the people.

NOTICE.

The following members of the Vermont State Medical Society have been reinstated and are now in good standing:

G. B. Hunter, West Brattleboro, Windham County Society.

W. N. Thompson, Hartford, Conn., Windham County Society.

G. D. Buxton, Proctorsville, Windham County Society.

A. L. Larner, Hinesburg, Chittenden County Society.

NEWS ITEMS.

The new regulation of the Massachusetts State Board of Health, prohibiting the use of common public drinking cups throughout the state, became operative October 1st. This law applies to schools, hotels, theatres, halls, railway stations and other public buildings, to parks, and highways and to railroad cars, boats, and other public conveyances. It is gratifying that Massachusetts has so soon followed the lead of other states in this desirable measure of hygienic reform.

Report from Providence, R. I., states that on September 27th, the Rhode Island Board of Shellfish Commissioners, condemned 275 acres of oyster beds at Bristol, in that state, as unfit for use on account of pollution by sewage from the city. It is matter of congratulation not only to residents of Rhode Island, but also to oyster consumers elsewhere, that their interests are being so observantly safeguarded by local authority.

At the Pure Food Show in Madison Square Garden, Dr. Reichmann recently produced a number of nursing bottles and showed that they were undersized and not correctly graduated. He stated that more than one-half of the bottles tested were found to be 26 per cent. short of the size for which they were sold, thus depriving the infant of more than one-fourth of the food it was supposed to get.

The Board of Trustees of the American Medical Association appointed June 27th, 1911, as the date for the opening of the next session of the American Medical Association, at Los Angeles.

This refers to the scientific session; the House of Delegates will meet on June 26th. This date was chosen after considerable study and is in accordance with the wishes of the great majority of those who replied to the letter of the Chairman of the Board of Trustees, published in the *Journal of the American Medical Association*, September 17th. At that time of the year, the weather is pleasant in Los Angeles and the season will be ideal, especially for those who wish to go or return by the northern route, taking Oregon, Washington and Yellowstone Park.

Passed Assistant Surgeon John M. Holt, U. S. P. H. and M. H. Service, Astoria, Ore., suggests that many chronic invalids and "shut-ins" may secure much mental rest and pleasant occupation of long hours, by becoming acquainted with the fascination of collecting, studying, sorting and arranging postage stamps. A number of those interested in this pastime have agreed to make up Christmas packages containing stamps, albums, stickers, etc., for gratuitous distribution during the holiday season. Dr. Holt requests members of the profession all over the United States to furnish him with names and addresses of individuals who might be entertained by such remembrances.

The American Public Health Association will hold the 1911 meeting in Havana, Cuba, December 4th to 9th at the Academy of Medicine, the use of which has been offered to the association. The changed situation in Cuba in reference to yellow fever is shown by the fact that, whereas a few years ago it would probably have formed the chief subject of discussion, the most prominent place on the program will be given at this meeting, on the request of local physicians, to tuberculosis. The question of the milk supply will also be considered.

The twentieth annual session of the New York and New England Association of the Railway Surgeons was held at Hotel Astor, New York City, Nov. 3rd and 4th under the presidency of Dr. L. M. Bingham of Burlington, chief surgeon of the Rutland Railroad. Dr. C. A. Pease of Burlington was elected recording secretary.

The New York State Department of Health announces a course of instruction for health officers, beginning on December 7th and lasting three days. The course will consist of labora-

tory talks and demonstrations at the State Hygienic Laboratory in Albany on the general subject of water and sewage purification. Talks on the chemistry and biology of water filtration methods; pure water and methods of disposal of wastes for isolated houses; the chemistry and biology of sewage disposal for municipalities will be supplemented by lantern slides and models.

The American Museum of Natural History, New York, has lately entered a new field for museum work in the form of a department of public health, to develop scientific work along practical lines directly beneficial to the masses of people. Prof. C. E. A. Winslow, until recently assistant professor of sanitary biology at the Massachusetts Institute of Technology, has been appointed curator of the new department, which he proposes to develop along two lines—bacteriology and municipal sanitation. A bacteriological laboratory is now being equipped and in this the department will keep under cultivation a complete collection of bacteria. It will thus be in a position to supply the needs of schools and other institutions interested in such work. The public exhibits of the department will deal chiefly with phases of municipal sanitation. To illustrate these, temporary exhibits will be prepared, the first, for instance, dealing with water supply sanitation, the sources of the water supply and its collection for public use being shown by models, specimens, photographs and charts. The chief features of each temporary exhibit will be preserved for a permanent public health exhibit such as several cities in Germany now possess.

Dr. Charles S. Rounsevel of Nashua, N. H., died November 7th as the result of a surgical operation. He was a graduate of the Homoepathic Medical College in Philadelphia. He had practiced in Nashua since 1884.

Dr. Philip Sussman, 13 St. Mark's Place, New York City, has just been sued for twenty-five thousand dollars by a boy's mother for administering chloroform against the boy's will. He was 16 years old. The mother said her son tried to prevent the administration of the chloroform but that the doctor stuffed a handkerchief saturated with the drug into his nostrils which event really caused the boy's death. The boy had an injured knee which the doctor was treating. Coroner's Physician Weston testified that

at the autopsy he found the youth died of inhalation of chloroform. The jury gave the mother a verdict for \$3,000.

Dr. B. L. Arms, class of 1905, University of Vermont, College of Medicine, has recently been appointed director of the Boston Board of Health Laboratory, succeeding Dr. Francis H. Slack.

Dr. Charles Flagg Whitney and Miss Mary Carolyn Ross were married recently in Mulgrave, Nova Scotia. Dr. Whitney is a graduate of University of Vermont College of Medicine, class of 1903 and is connected with the Boston Board of Health Laboratory.

Announcement is made of the marriage of Dr. J. C. Murphy of Shelburne, Vt., and Miss Alberta Thomas of Burlington.

Governor Mead has made the following appointments: Dr. F. H. Godfrey of Chelsea to be a member of the State Board of Medical Registration for six years from and including December 15th, 1910; Dr. A. S. Haskins of St. Johnsbury as a member of the State Board of Optometry for three years from and including January 1st, 1911; Dr. Lewis D. Martin of Barre to be a member of the Board of Osteopathic examiners for three years from and including December 15th, 1910; and Dr. C. S. Caverly of Rutland as a member of the Board of Health for six years from and including December 1st, 1910.

Dr. A. A. Taft is now located in Keene, N. H., after a long term of service in public institutions about Boston.

Dr. E. C. Haviland has located in Keene, N. H. He has been one of the resident physicians at the Brattleboro Retreat.

Dr. G. W. Roberts has removed from Brattleboro, Vt., to Chester, Vt.

Dr. H. K. Faulkner and Dr. C. D. Walker of Keene, N. H., who made a successful defence against the suit of a woman and her husband for alleged bad treatment of a surgical case, say that doctors should be much more careful in making records of their cases; not only making notes of what and why they did certain things in the case. but also what they did not do and the reasons for not doing what they might have done. In this suit for \$70,000 these doctors

wished their records had been quite minute though they were fairly complete. The hospital records were good but their individual records should have been perfect.

Dr. O. L. Corliss has removed from Mount Vernon, N. H., to Belchertown, Mass. This leaves Mount Vernon without a doctor.

Dr. S. K. Dearborn of Woodsville, N. H., was married a few days ago.

The Hospital Bureau of Standards and Supplies, No. 381 Fourth Avenue, New York, has presented its first annual report for the seven months ending September 30, 1910. The bureau shows substantial results in standardization and savings in the purchase of hospital and institutional supplies. The membership is composed of fourteen of the largest New York hospitals, and it is expected that others will join. A non-resident membership is contemplated, for the benefit of institutions located outside the City of New York. The movement is attracting much attention, and a large membership should result.

The United States Civil Service Commission announces an examination on January 18, 1911, at the places mentioned in the list printed hereon, to secure eligibles from which to make certification to fill a vacancy in the position of anatomist (male), at \$1,600 per annum, in the Army Medical Museum, Office of the Surgeon General, and vacancies requiring similar qualifications as they may occur, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer, or promotion.

The examination will consist of the subjects mentioned below, weighted as indicated:

<i>Subjects.</i>	<i>Weights.</i>
1. Pathologic histology	25
2. Gross pathology (including preparation of museum specimens).....	25
3. Bacteriology (including care and use of microscope)	25
4. Photomicrography	10
5. Training and experience	15
Total	
100	

Age limit, 20 years or over on the date of the examination.

Men only will be admitted to this examination.

It is desired that the person appointed to this position shall be young, in good health, a graduate in medicine, have a thorough knowledge of pathologic histology, pathology, and bacteriology, be capable of making photomicrographs, understand microscopes, surgical instruments and appliances, and be able to prepare, card and keep in order museum specimens.

In accordance with a recent act of Congress an applicant for this examination will be required to be examined in the State or Territory in which he resides and to show in his application that he has been actually domiciled in such State or Territory for at least one year previous to the date of the examination.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at Burlington, Montpelier, Rutland or St. Johnsbury for application and examination Form 1312. No application will be accepted unless properly executed, including the medical certificate, and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

Issued November 30, 1910.

OBITUARY.

John H. Cowles, M. D., (Castleton, Vt.) Medical College 1862, died at his home in Weeping Water, Neb., March 23rd from cerebral hemorrhage, aged 78 years.

Dr. Linn H. Corey, class of 1905, University of Vermont, Medical Department, died at his home in Woodstock, Vt., November 27, after an illness with intestinal tuberculosis. Dr. Corey was thirty-two years of age and leaves a wife and daughter.

Harley T. Caverly, son of Dr. and Mrs. C. S. Caverly of Rutland died at the Johns Hopkins Hospital in Baltimore, November 14th. Mr. Caverly was a second year medical student at Johns Hopkins.

Dr. C. L. Stewart died very suddenly at his home in Randolph, November 16th, from a disease of the heart. He was born in Grantham, N. H., April 2nd, 1829. He studied medicine in the office of Dr. B. R. Gibson of Sharon and later with Prof. B. Palmer of Woodstock and Prof. H. Childs of Pittsfield, Mass. He was graduated from the Berkshire Medical College in 1851. He practiced medicine in Royalton and in Reading before assuming his practice in Randolph, where he worked up a very extensive practice.

BOOK REVIEWS.

A MANUAL OF HYGIENE AND SANITATION—By Seneca Egbert, A. M., M. D., Prof. of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia; Member of the Academy of Natural Sciences of Philadelphia; Member A. M. A. and C. & C.

The 5th edition enlarged and thoroughly revised, presents in a very lucid and comprehensive style the subjects of Hygiene and Sanitation admirably suited to the needs of the student in being concise; to the physician in being practical.

ANATOMY, DESCRIPTIVE AND APPLIED.—By Henry Gray, F. R. S., late lecturer on Anatomy at St. George's Hospital, London. New (18th) edition, thoroughly revised, by Edward Anthony Spitzka, M. D., Professor of Anatomy in the Jefferson Medical College of Philadelphia. Imperial octavo, 1496 pages, with 1208 large and elaborate engravings. Price, with illustrations in colors, cloth, \$6.00 net; leather, \$7.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

The fact that Gray's Anatomy has been through so many editions is conclusive proof of two things; first, of the great effort to keep this work thoroughly modern, and secondly, of the demand there is for the book.

This edition shows careful revision, many parts are rewritten and new material and illustrations have been added.

The description is clear but not tiresome, the illustrations admirable and the text large and clear.

This work is clearly a leader in the text books on Anatomy—as it always has been.

INTERNATIONAL CLINICS, A QUARTERLY OF ILLUSTRATED CLINICAL LECTURES AND ESPECIALLY PREPARED ORIGINAL ARTICLES ON TREATMENT, MEDICINE, SURGERY, NEUROLOGY, PEDIATRICS, OBSTETRICS, GYNECOLOGY, ORTHOPEDICS, PATHOLOGY, DERMATOLOGY, OPHTHALMOLOGY, OTOTOLOGY, RHINOLOGY, LARYNGOLOGY, HYGIENE AND OTHER TOPICS OF INTEREST TO STUDENTS AND PRACTITIONERS.—By Leading Members of the Medical Profession throughout the world. Edited by W. T. Longcope, M. D., Philadelphia, U. S. A., with the collaboration of Wm. Osler, M. D., John H. Musser, M. D., A. McPhe-dran, M. D., Frank Billings, M. D., Chas. H. Mayo, M. D., Thos. H. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D., Richard Kretz, M. D. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Liepsic, Brussels, and Carlsbad. Vol. III, Twentieth Series, 1910. Philadelphia and London: J. B. Lippincott Company.

Volume III of the 20th series of the International Clinics is a very interesting number. It contains a large number of articles on interesting subjects of medicine and surgery by some of the best known men of this country as well as from abroad. The papers are short, practical discussions of every day conditions and cannot fail to be of interest to physicians.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

THE TREATMENT OF THE ACUTE STAGE OF POLIOMYELITIS.

H. M. McCLANAHAN, A. M., M. D., Omaha (*Journal A. M. A.*, October 22), discusses this subject in detail. He says that treatment of the acute stage has received scant consideration. If we can do nothing to modify the disease, certainly we can do something for the patient, and until specific treatment is discovered it is the duty of the physician to institute proper treatment to meet the indications in the average case. Isolation of the patient can do no harm to the individual and may protect others in the family. To my mind it is more important than rigid quarantine. The advice of the family physician is usually accepted, hence if he advises the mother at once to isolate the patient he has adopted the best measure to prevent the extension of the disease to others. If a mistake in diagnosis is made no harm can possibly

result. If during local epidemics of this disease, such as prevailed in 1909 in Nebraska and during 1910 in Iowa, physicians everywhere would adopt this course many cases might be saved from exposure.

The important principle of treatment is elimination. This includes thorough depurative action on the bowels, for which McClanahan recommends castor oil, the ingestion of a liberal amount of fluid to promote excretion from the kidneys, the use of remedies to stimulate diaphoresis, a liquid nourishing diet and proper regulation of the temperature and ventilation of the room.

If the child refuses to drink enough liquid to keep up free elimination from the kidneys, then warm salines by the bowels should be given. To stimulate the skin nothing equals a hot pack. This is also of benefit in the polyneuritic type. If properly applied this is agreeable to the child, and it is always important to have the child's voluntary cooperation. A soft, white blanket, lightly wrung out of hot water (if there is evidence of stupor it should be wrung out of mustard water), is wrapped snugly about the child. A dry blanket should be wrapped over this—not a muslin sheet which absorbs water. The child should be encouraged to drink while in the pack. Some children will drink freely of grape-juice when they will not take water. When removed from the pack they should be gently rubbed dry and placed between blankets until perspiration has ceased.

The diet during the acute stage includes milk, plain, diluted or modified; buttermilk, broths, and, if there is much gas, some of the modified cereals, sometimes a poached egg, toast when properly made and fruit juices. Toast to be easily digested should be made from bread well dried, slices cut thin and heated through.

The fever seldom requires special attention, and when it does, sponging or a cool enema most safely meets the indication. Coal-tar derivatives should be avoided entirely. As a routine treatment McClanahan recommends the use of hexamethylenamin (urotropin). It is generally well tolerated by the stomach. Certain types of the disease require special consideration. By the cerebral type is meant cases beginning in a stormy way with fever, delirium or stupor, muscular rigidity, etc. It usually happens that these symptoms subside in two or three days, and if the physician has called it cerebrospinal meningitis he begins to doubt his diagnosis. Lumbar puncture is now recognized as the only positive method of early diagnosis, but is also useful as a therapeutic measure.

In the polyneuritic type, with cutaneous hypersusceptibility, morphin may be required, at least in some cases. Relief can often be attained by the use of a suppository: Powdered opium gr. $\frac{1}{2}$, extract of belladonna gr. $\frac{1}{4}$, sodium salicylate gr. 5, oil of theobroma enough for one suppository. One suppository is to be inserted every three hours until relief is attained. Here again the hot pack, as above described, will sometimes give relief. When the stomach will retain it, sodium salicylate is of benefit.

The mortality in this disease is chiefly from the involvement of the medulla, leading to respiratory failure. I think it is well to remember that this complication will occur in any type of the disease; hence such symptoms as shortness of breath, pallor of the skin with slight cyanosis of the lips, unwillingness to talk and an anxious countenance, should warn the attendant of approaching danger. Oxygen might be of benefit. If McClanahan should again see a case of this type he would do a lumbar puncture, on the

theory that the bulbar paralysis might be due to pressure and that the withdrawal of fluid would tend to relieve this pressure.

done than in any other way and philanthropic endeavors should be thus directed.

DIETARY STUDIES.

The results of studies as to the diet of undernourished school children in New York City are given in an article by E. M. SILL, New York, in *The Journal A. M. A.*, November 26. He has followed the plan of Atwater, keeping account of the kind, composition and cost of all food materials eaten during ten days and computing the fuel value for each individual, determining the composition of each material used, by analysis, and determining its nutritive ingredients. Thirty-four East Side families, representing the average population of the district, were observed. The family income ranged from an amount not sufficient to obtain the absolute necessities of life, to an amount that should be ample for their needs and equal to what other persons live on comfortably. He compares these with other studies made previously and finds that all the dietaries studied could be improved as regards nutrition and expense, and he gives details illustrating this. The bulk of the nourishment in the diets was obtained from meat, milk and bread and rolls purchased from the bakery. It would have been better economy if they had bought the flour and baked the bread with the fire used for cooking other things. He remarks especially on the lack of proper instruction as to diet and cooking, and thinks it should be given in the schools for the benefit of future generations. For the education of mothers at the present time, something can be done by lectures, cooking classes, etc., but more can be reached through large organizations, such as the W. C. T. U., the Salvation Army and the labor organizations, as well as the press. Articles should be written setting forth, in simple language, proper diets, methods of cooking, proper nutrition and the laws of growth. A great deal can be done by individual and group talks to mothers and children in the dispensaries. The nutrition of young children is especially important for improper and unscientific feeding from the time of birth to maturity is one of the most fruitful causes, both directly and indirectly, of disease, disability, incapacity for work, susceptibility to infection and lack of resistance to disease already contracted. Many children who are put down as dullards are such through malnutrition and require nourishing food before they study books to feed the mind. The greatest field for the improvement of the poor in large cities is, he says, in education along these lines, and he gives instructions as to how much good can be done. Many families spend more than they can afford for food and yet are insufficiently nourished on account of their ignorance. When the income of the family is small, meat can be replaced to a large extent by corn meal, wheat flour and cereals in bulk, rice, oatmeal, dried beans, potatoes, whole milk and skim milk, which has a large nutritive value. A large variety of fresh vegetables is not necessary, one or two cheaper vegetables are sufficient. The cheaper cuts of beef contain more protein and fat with less waste than the more expensive ones. The cheapest source of protein is the cereals, next comes meat and the most expensive are fresh vegetables. If proper standards of feeding and of preparing food can be thoroughly taught to poor people more good will be

TYPHOID BACILLUS CARRIERS.

After referring to a former paper (*The Journal A. M. A.*, Oct. 16, 1909, p. 1253), in which he had discussed and explained typhoid immunity, W. J. STONE, Toledo, Ohio (*Journal A. M. A.*, November 12), remarks that one of the most interesting problems of typhoid at the present time is that of typhoid carriers. Nearly all these individuals are not seriously inconvenienced themselves by the presence of the infective agent in their system, and this is true of those who have become carriers through contact with the disease—contact carriers—who have not themselves had knowledge of having typhoid. Their tolerance is probably explainable by a natural immunity or by partial immunity from an earlier unrecognized typhoid infection. It is not illogical to assume that their immunity is due to those antitropic substances concerned in active phagocytosis, while lowered antibacterial substances, such as the bacteriolysins and bactericidins, permit the infection to exist for years without eradication of the bacteria. In most instances, typhoid carriers have been discovered in hitherto unexplainable endemic outbreaks. A large number have been women, who have in some way been connected with the preparation or the handling of food products. The time since the original attack has varied in the recorded cases from one to fifty-four years. The difficulty of differentiating carriers of typhoid and of other closely related bacteria, like the colon bacillus, is noted, and Stone mentions two patients under his care at present who had been considered typhoid carriers, but have since shown doubtful symptoms. He thinks, however, that one may differentiate these cases by the local reaction to autogenous vaccines. The colon vaccine is much more toxic than typhoid vaccine, though occasionally we meet with a mild strain. The typhoid-carrier problem is a perplexing one, complicating the conditions, especially in cities. It will be possible, however, for physicians to educate their patients and keep in mind the typhoid attack in connection with certain symptoms like mild cystitis or dysentery. Segregation of chronic carriers is practically impossible, and a considerable percentage of those attending typhoid cases may themselves become carriers without knowing that they have the disease. Park has estimated that probably one in every 500 adults who have never knowingly had typhoid is a typhoid bacillus-carrier. Urinary and intestinal antiseptics has not been found of value in treating these cases, but treatment by autogenous and stock bacterial vaccines seems to offer more chance of success. As has been shown by the author's previous paper, the bactericidal substances are increased four or five-fold by inoculations of typhoid vaccine. While a stock vaccine is efficient, it is probably better to use an autogenous one, and Stone reports a case treated in this way with good result. A survey of the literature, he says, citing typhoid carriers treated by bacterial inoculation, though not extensive, seems to warrant the following conclusions: "1. The time element is an important factor in the reaction of susceptibility to inoculations of bacterial vaccines in typhoid carriers. Typhoid carriers injected within a comparatively short time after their infection, will in all probability receive more benefit from properly prepared auto-

genous vaccine than from any other known form of treatment. 2. 'Contact carriers,' who never to their knowledge have had typhoid, are more susceptible to the inoculations than carriers who have had a definite attack of this disease, and who are in all probability more immune. 3. When the infection has persisted for years, it may be difficult to clear up the condition by bacterial inoculation. The effort should at least be made, since in the somewhat similar condition chronic carriers of apparently non-virulent tubercle bacilli, the bacilli often disappear from the sputum during a course of inoculations of some one of the tubercle products. 4. The immunity manifested by typhoid carriers is in all probability a partial immunity, in the sense that while these individuals are protected against the infection through an augmented phagocytic power held by their body cells, the antibacterial substances, such as the bactericidins and lysins, are lessened to a degree insufficient to exert any destructive power against the infection."

IMMUNIZATION TO NON-BACTERIAL TOXINS.

A large part of our knowledge of immunity is derived from a study of infectious diseases, but S. P. BEEBE, New York (*Journal A. M. A.*, November 12), points out that many of the theories that have made progress possible have been elaborated on the basis of experiments with snake venom, hemolytic reactions and pure proteids. All alien proteids when introduced directly into the circulation have marked toxic actions and there are some toxic substances of vegetable origin which have been used as antigens, such as Ford's studies on immunity produced against the poisonous action of mushrooms and those of Dunbar on pollen protein. The reactions of immunity are not however restricted to highly toxic proteins; as is now well known, the injection of any alien protein stimulates the formation of antibodies, the presence of which may be detected by several methods, such as the precipitin reaction or the deviation of complement, and such reactions are found to be in a high degree specific. Early in this work the suggestion was made that it might be possible to destroy unrecognizable cancer cells after an operation by a cytotoxic serum. Beebe reviews his own work on the subject and says that since the publication of his former papers, he has made many experiments with nucleoprotein serum which have confirmed his earlier view that it is possible to make a serum which will act primarily on a given organ. The evidence on which he draws his conclusion of specificity is based on precipitation, agglutination, absorption experiments, and on the effects of animal injection. He gives tables showing the reactions of different serums made against human nucleoproteids and describes also his absorption and inoculation experiments which seem to bear out his views. The bearing which these experiments have on pathology and therapeutics seems to him obvious. Serum has been developed against the human thyroid glands and used clinically in the treatment of exophthalmic goitre. Other possibilities suggest themselves. Taking up next the subject of immunity to cancer, he says that he has produced an active cytolytic serum from the nucleoproteids of a breast cancer and treated the patient from whom the tumor was removed with this serum in order to prevent a recurrence. No recurrence occurred but, as the operation was a radical one, no conclusions could be drawn. The observation by Gaylord and Clowes

that a certain percentage of mice infected with the Jensen tumor recovered and were thereafter immune was the first authentic experimental production of immunity in tumors. It is known that a certain percentage of animals is normally immune to tumors, the reason for which is unknown. It is also known that a certain percentage of the successfully planted animals recover spontaneously, the number depending on the virulence of the tumor and the resistance of the animal. The recovered animal also is immune for a long time to tumors of like virulence. Beebe refers to his experiments made with Crile showing that the transfusion of large quantities of recovered blood to an animal with actively growing tumors would cause complete absorption of the latter with the usual subsequent immunity. Further research experiments have afforded clear evidence that the regression of the tumor is an essential factor to the future immunization of the animal and transfusion of immune blood into a susceptible animal without tumors at the time would confer no immunity. There apparently must be some interaction between the tumor and the serum to start the regression. These methods however are successful only in a certain percentage of cases. Recent observations by Gaylord, Gay and others have shown that a method of vaccination is a logical procedure in the treatment of malignant tumors, but that living tumor cells must be used. Lastly he mentions the results obtained by Hodenpyl with the chylous ascitic fluid of a cancer patient which at first caused complete absorption and recovery for a time. It is of course impossible to say how this fluid acts, but the procedure seems to be a logical one and, whatever the ultimate outcome in these cases, they are suggestive for the future.

VACCINE THERAPY.

E. E. IRONS, Chicago (*Journal A. M. A.*, November 12), emphasizes certain recognized principles in the use of vaccines, neglect of which has led to criticisms of the method. He believes that, as here presented, they represent the consensus of the best opinion on the subject. The inoculation of bacterial emulsions is not a cure-all to be used to the exclusion of surgical measures, nor are all patients with infections suitable subjects for vaccine therapy. The fundamental theory of the method assumes that the body is capable of reacting to the inoculation by the formation of antibodies, and the giving of vaccines to a patient already overwhelmed with infection is theoretically wrong and practically in most cases a failure. The giving of vaccines as a last resort, though sometimes justifiable, is not to be encouraged, as harm may result. The relative value of stock and autogenous vaccines is fairly well established. All observations indicate that autogenous vaccines are best. It is hardly necessary to emphasize the importance of employing pure cultures in making vaccines. The question as to whether vaccine should be used only by specially trained persons or by practitioners generally is answered by him as follows: If a physician is a good clinical observer, has a practical knowledge of the principles of active immunization and is willing to devote sufficient time to the careful observation of his patient, over whom he must have adequate control, then he is competent to use this form of therapy, at least in the cases where it is ordinarily successful. If he is not able to meet these

conditions he had better let it alone, or trust to some one better prepared. Personal preparation of the vaccines will contribute materially to intelligent use of them. The therapeutic value of vaccines is best shown in chronic or recurrent localized infections, such as in furunculosis, acne, carbuncle. Infections of the urinary tract due to the colon bacillus have received much attention recently and the reports indicate that good may be accomplished by the inoculation of autogenous colon vaccines. About 50 per cent. of urinary affections are due to this organism and in still more it is associated with other bacteria. Colon infections of the prostate resistant to ordinary treatment have in a number of cases been benefited by vaccine. Streptococcus infections have not been so amenable as the staphylococcus ones. It is possible that it may do good in erysipelas, using autogenous vaccines. Opinion is divided as regards puerperal sepsis and in severely toxic cases one should hesitate. Localized affections about the nose, throat, and ear have been reported benefited, and it has been proposed to use prophylactic inoculations before surgical operations to prevent possible post-operative infection, but the data are not sufficient as regards the advisability of this. Gonococcus metastatic lesions of the chronic and subacute types are often greatly improved and cure hastened by inoculations, and a possible prophylactic value has been suggested. The treatment of localized tuberculosis other than of the lungs has been aided by their careful use. A striking instance of their value is afforded by the statistics of the inoculations against cholera, plague, and bacillary dysentery, and the incidence of these diseases in regions where they are endemic as well as the mortality has been in some cases largely reduced. Similar results have been obtained by the prophylactic use of typhoid vaccine in soldiers, but their value in the treatment of the disease is not determined. The prophylactic use of vaccines in scarlet fever has received much attention in Russia and remarkable immunity results have been reported. In ulcerated endocarditis the results have not been generally favorable. While the general practitioner will do well to confine the use of vaccines to localized infections, mention should be made of the recent work on the treatment of pneumonia by the inoculation of pneumococcus preparations from which the toxic portion has been removed. The work is still experimental but suggests some possibilities. More attention is deemed advisable to the local and general reactions from injection of dead bacteria and their products for diagnostic purposes. Bacterial vaccines are powerful agents for good or harm and the clinical results should be most carefully interpreted.

ENDOCARDITIS.

E. C. ROSENOW, Chicago (*Journal A. M. A.*, November 12), points out that, while the therapeutic injection of dead bacteria in certain localized infections can no longer be questioned, their value in more generalized infections, especially endocarditis, is still very questionable. The continuation of the infection in chronic endocarditis is due largely to a process of immunization or adaptation of the bacteria to the antibodies of the host. This is shown in his study of the subject by the facts (1) that the bacteria grow much more rapidly in the patient's serum than in normal serum; (2) that when grown in the patient's blood or serum, both *in vivo* and *in vitro*, they acquire

a resistance to phagocytosis and a resistance to leukocytic destruction; and (3) that they produce alterations in the serum of the patient which robs the leukocytes of something which they need to digest the bacteria when taken up. The destroying power of the patient's blood at these times is found far below that of normal blood. While the inoculations produce temporary improvement they later leave the patient worse. The destruction of the bacteria evidently liberates a toxic material that poisons the individual. Besides activating the blood, a neutralizing substance to prevent intoxication of the already overwhelmed patient, will be needed in endocarditis.

"LANE'S CONCEPTION OF CHRONIC CONSTIPATION AND ITS MANAGEMENT."

Read before the American Proctologic Society.

By A. B. COOKE, M. D., of Nashville, Tenn.

In his monograph entitled "The Operative Treatment of Chronic Constipation," Mr. Lane first defines the scope of the treatise by stating that the term, chronic constipation, as he employs it includes all those conditions which are the "consequences of the accumulation of material in the intestinal tract for a period sufficiently in excess of the normal to produce on the one hand alteration in the gastro-intestinal tract and in other viscera, and on the other hand toxic changes from absorption." The fact is emphasized that while constipation is usually marked by infrequent hard stools, there may be a daily evacuation, and in exceptional cases the motions are loose and frequent.

The two chief pathological factors in the production of chronic constipation, according to the author, are enteroptosis and acquired mesenteries or adhesions, the latter resulting not from inflammation, but being developed to oppose the displacement of viscera, the tendency to which exists whenever the erect posture of the trunk is assumed. The displacement and fixation of the several portions of the colon in faulty positions result primarily in defective drainage, and secondarily in auto-intoxication and pathologic changes both in the gut itself and in the other abdominal viscera. After describing these changes in detail, the author proceeds to discuss their immediate and remote effects, advancing the idea that in many cases diseases of the appendix, gall-bladder, stomach, duodenum, pancreas, kidneys, ovaries, etc., must be regarded as sequelae of chronic constipation. In addition the phenomena resulting from toxic absorption are graphically described and the importance of their recognition stressed.

With reference to treatment Lane states that "in no circumstances should operative interference be contemplated till the surgeon has satisfied himself that every means of treatment has failed, whether medical or mechanical." The surgery indicated depends upon the conditions present. In mild cases in which non-operative measures have failed, division of the adhesions and constricting bands may be effective. Severe cases call for more radical surgery consisting either in dividing the ileum and anastomosing it with the sigmoid or upper rectum, thus short-circuiting the fecal current, or, when pain is a prominent factor in the case, removal of the colon in addition.

The writer of the paper, after personal observation of Lane's work, regards his conception of the nature and management of the malady with much favor and thinks it entitled to serious consideration at the hands of the profession.

"A UNIQUE CASE OF LACERATION OF THE SPHINCTER ANI."

Read before the American Proctologic Society.

By Dr. A. B. Cooke of Nashville, Tenn.

On February 26, 1910, the patient, a boy, seven years old, was brought to him at St. Thomas Hospital, accompanied by his father and physician. The following remarkable history was related: About noon on the day named the boy, who lived on a farm, went out to his favorite place behind the corn-crib to attend to a call of nature. While engaged in the act, a pet dog, a hound of middle size, came up from the rear and mounting him effected entrance into the anus and became accoupled. The boy's outcries quickly brought his mother upon the scene. The dog had reversed his position and was in the same relation to the boy as is ordinarily assumed in the natural act with a bitch. The mother's excitement was naturally marked and in her frantic efforts to disentangle the two she used considerable violence and finally succeeded in separating the dog.

The family physician on his arrival found that the hemorrhage had practically ceased, but upon inspection of the bowel found the parts were badly lacerated and advised the patient's removal to Nashville for treatment.

Dr. Cooke's examination found very little evidence of external injury. Traction upon the anus, however, showed that several internal lacerations of considerable extent were present. Under general anesthesia the deepest of these was found to be in the middle line posteriorly, extending from a point two inches up the rectum through the sphincter muscles, and out upon the skin surface for a distance of approximately one inch. The external sphincter was torn in two places at this site, one tear being complete, the other partial. Anteriorly there was a second laceration, into but not through the fibers of the sphincter. In addition there were a number of minor tears in the anal margin involving the superficial tissue only.

Fourteen interrupted catgut sutures were used in repairing the posterior laceration, and four in the anterior one. The others did not require suturing. The result was entirely satisfactory. Union was prompt and complete and the patient returned home in two weeks with perfect sphincter control.

"MULTIPLE ADENOMATA."

Read before the American Proctologic Society.

By Geo. W. Combs, M. D., of Indianapolis, Ind.

An adenoma is the result of an increase in number and a crowding together of elongated and enlarged secreting follicles. It is an exaggeration of epithelial cells. This epithelium is prone to penetrate the basement membrane. When it does so and reaches the muscularis and other sub-mucous tissues it is malignant. Irritation causes the transformation from the benign to the malignant. This irritation may be through the normal function of the bowel, that

caused by parasites, or as a result of surgical removal singly. Surgical disturbance in situ of a benign adenoma, a widening experience shows, will be followed by malignancy.

A case was reported in which occurred the malignant degeneration without surgical interference. This does not necessarily show an inherent tendency of benign adenomata to malignancy, but the adenomata, through the factor of irritation, predisposes the patient to cancer. In the case to which reference is made above, one or more of the adenomata low down in the rectum had undergone the malignant transformation. On account of the extent of involvement and the extreme exhaustion of the patient, extirpation of the carcinoma was deemed inadvisable, but a left colostomy was made reaching a portion of the sigmoid above the growth limit. The tenesmus and diarrhea were at once relieved and the patient made comfortable until the carcinoma reached the cutaneous margin. Through the colostomy lavage was administered, the solutions being normal salt, boracic acid and sodium salicylate. The adenomata between the colostomy wound and the carcinoma, through functional rest of the bowel and cleanliness, disappeared.

If degeneration has not taken place a colostomy right or left, high enough to get above the growth limit, is advised and through this soothing and cleaning solutions used, rather than the removal of the whole bowel proximalward above the high limit of growth. The latter is a very serious operation for the strong and one in which the mortality will necessarily run high in these patients, as they present themselves usually late in the disease.

After malignant transformation has taken place, it would seem useless to remove the malignant portion unless the entire bowel involved may be removed at the same time.

"REMARKS UPON CECOSTOMY AND APPENDICOSTOMY."

(With exhibition of a new entero-colonic and appendiceal irrigator.)

Read before the American Proctologic Society.

By Samuel G. Gant, M. D., New York City.

Dr. Gant called attention to the remarkable usefulness of appendicostomy and cecostomy in the direct treatment of bowel diseases and made the point that the latter was preferable in this class of cases and would sooner or later supercede appendicostomy. He also exhibited a new appendiceal irrigator which could be inserted during operation and which permitted irrigation to be started immediately in aggravated cases of diarrhea and intestinal auto-intoxication.

Next he showed a new entero-colonic irrigator by means of which the large and small intestines could be irrigated separately or at the same time.

He claimed that this instrument is indicated in the treatment of all forms of enteritis, entero-colitis and the different types of ulcerative diseases of the colon and also in the treatment of typhoid fever, intussusception, peritonitis, and paratic affections of the intestine.

This irrigator he maintained was useful as well for studying the contents of the bowel, intestinal feeding, the direct employment of cathartics, enteroclysis and for many other useful and practical purposes.

*"I now specify
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Therapeutic Notes (Sept. 1910) tells of a physician who had prescribed a certain brand of A. S. and B. pills for years, under the impression that no others would give him equal satisfaction. Casually he learned of our Soft Mass Pill No. 984 (A. S. and B.). He tried it. Note what he says:

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No. 970—Cascara Compound No. 3 (Dr. Hinkle).
No. 971—Ferrous Carbonate (Blaud), 5 grs., U. S. P. Eighth Revision.
No. 975—Cholelith (round).
No. 977—Ferrous Carbonate (Blaud), Modified.
No. 981—Ferrous Carbonate (Blaud) Compound, R "C."
No. 982—Ferrous Carbonate with Nux Vomica.
No. 983—Blaud and Strychnine Compound, R "B."
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No. 994—Quinine Valerianate, 2 grs.
No. 995—Salol, $2\frac{1}{2}$ grs.
No. 996—Salol, 5 grs.
No. 997—Salol and Phenacetine.
No. 998—Warburg Tincture, N. F., representing $\frac{1}{2}$ fluidrm.
No. 999—Warburg Tincture, N. F., representing 1 fluidrm.
No. 1000—Warburg Tincture without Aloes, N. F., representing 1 fluidrm.
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NOTE.—In the soft-mass process no heat is applied, hence such volatile substances as camphor, the valerianates, the essential oils, etc., are preserved in full measure.

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THERAPEUTIC NOTES.

POPE said,

"The learn'd reflect on what before they knew."

As the winter approaches, conditions prevalent with the season will present themselves for the consideration of the physician.

At this time it might be well to recall that Antiphlogistine, applied thick and hot, will offer unmeasurable relief in those cases of bronchitis, tonsillitis, laryngitis, pleurisy and other throat and chest affections you will be called upon to treat.

Satisfactory therapeutic results invariably follow the application of Antiphlogistine and to guard against substitution, it is well to specify an original package, thus protecting your patient as well as yourself.

THE NEW HYPNOTIC CALMINE.—It is safe to say that every doctor in practice has sometime wished for a better hypnotic than the materia medica afforded. None of those available quite "filled the bill" but they have been prescribed out of necessity because that better one was not yet evolved.

Now, apparently it has appeared. Calmine is its trade name; in chemical parlance it is sodium diethylbarbiturate—a fine, white-water-soluble powder with an alkaline taste. The Abbott Alkaloidal Co., of Chicago, supply it in the form of 2½ grain tablets—twenty-five in a package.

Calmine has been thoroughly tried out by leading clinicians in this country and abroad, all of whom pronounce it an entirely satisfactory hypnotic, sleep inducer and nerve-calmer. It acts promptly. It is followed by no bad after-effects, no "head," no nausea, no tremulousness the next day. It seems to be absolutely harmless. It may be dissolved in water and given per rectum if desired. And, last of all but not by any means least, it is reasonable in price.

A well-known physician who used it in insomnia following worry, said of it: "An average dose afforded me a calm and restful sleep from which I awoke without the headache, nausea and tremulousness that succeed the ordinary hypnotic."

Calmine should prove very useful in the treatment of insomnia, nervous irritability, delirium tremens, sea-sickness, hysteria, mania, and every type of nerve-storm. It certainly acts ideally in the wakefulness that follows worry, mental overstrain, excitement and too free indulgence in coffee and tobacco.

The Abbott Alkaloidal Co., of Chicago, are sending samples on request and circular matter describing the agent in full. Every doctor should certainly send for this package.

W. B. Saunders Company now have going through their presses a three volume work on Practical Treatment, written by international authorities and edited by those able clinicians, Dr. John H. Musser and Dr. A. O. J. Kelly, both of the University of Pennsylvania.

In looking over the list of contributors we can come to but one conclusion, namely, that this work will undoubtedly take rank as the very best on treatment extant. The names of the authors carry with them the positive assurance of thoroughness. Indeed, each chapter is a complete monograph, presenting the

most recent therapeutic measures in a really practical way.

As the general practitioner is required to know certain therapeutic measures more or less of a surgical nature, leading surgeons have been selected to present such subjects. This is an important feature, and, to our knowledge, not included in any similar work.

In every case the men have been most aptly chosen for their respective tasks, and under the wise editorship of Drs. Musser and Kelly there has been produced a work on Treatment that will remain for many years the last word—a source of practical information, easily obtained and readily digested.

The work will sell for \$6.00 per volume, in sets only.

THROW BACK THE INVADING HOST.—Tubercular processes generally seize the favorable opportunity of reduced resistance following a pneumonia or other acute lung disease, to fasten themselves on the patient. In these instances the value of prevention is inestimable. It lies in so charging the tissues with added powers of resistance that tubercular infection is successfully combated. Not alone by good feeding and right living is this done. The requisite is the selection of a *suitable tissue food*, a food that is taken up quickly and that adds tone and strength to tissues. Cord. Ext. Ol. Morrhuæ Comp. (Hagee) for this purpose is not approached. It contains in easily assimilated form the very nutritious elements urgently needed by the depleted tissues to enhance their powers of resistance and give them strength "to throw back the invading host."

EXHIBITORS AT THE STATE SOCIETY MEETING.

Under this head will be given a brief description of the commercial exhibits displayed at the meeting of the State Society at St. Albans. Surgeons and Physicians Supply Company of America had prominent space filled with an interesting exhibit under the personal charge of the manager of the company, Frank W. Reeves. This firm makes a specialty of medical and surgical plasters, absorbent cotton, antiseptic dressings, sterile surgical supplies, bandages, sterile catgut, sterile silk, sterile silkworm gut, sterile silk sutures, sterile catgut sutures, rubber goods, operating room fixtures, sundries, glass syringes, office fixtures, instruments of all kinds, pharmaceutical preparations, wooden and metal splints of all kinds, porcelain and enamel ware. Henry K. Wampole & Company, Incorporated, Philadelphia, gave a very interesting display of their products under the direction of Dr. C. W. Pillohup of Boston who interested the doctors in some of the specialties of the company, some of the most prominent being bismuth hydrate comp., glycerine and colchi. menthyl capsules. Much praise was given to these preparations.


A TRIUMPH IN PILL-MAKING.

Parke, Davis & Co. confess that their soft-mass pill, which is now receiving so much favorable attention from the medical world, was for a long time a "hard nut" to crack. They had set out to produce by the soft-mass process a pill that should be a credit to their house and to manufacturing pharmacy. The task at first seemed simple enough. Here, as elsewhere, theory and practice were at variance. As a matter of fact, a good deal of experimentation had to be done. Time was consumed. Money was expended. In the end, of course, ingenuity triumphed.

In structure the soft-mass pill, as manufactured by Parke, Davis & Co., consists of a plastic mass encompassed by a thin, soluble chocolate coating. It may be flattened between the thumb and finger like a piece of putty. An important advantage of the soft-mass pill is the readiness with which it dissolves or disintegrates in the digestive tract. Another commendable feature is that, no heat being applied in the process, such volatile substances as camphor, the valerianates, the essential oils, etc., are not dissipated, so that any pill embodying one or more of these substances may be depended upon to contain just what the label says it contains.

Parke, Davis & Co. are putting out close to thirty formulas by the soft-mass process—all of them listed, we believe, in advertisements now appearing quite generally in the medical press. Practitioners under whose eyes these announcements do not happen to fall may profitably write the company, at its home offices in Detroit, for a copy of a recently issued folder on "Soft-Mass Pills," which contains titles and complete formulas of all the pills now manufactured by Parke, Davis & Co., under the process referred to, together with some other important information.

In treating ophthalmia neonatorum it frequently happens that the physician himself can not see the patient oftener than once a day and must rely on the mother to wash out the eyes and between his visits to instill whatever drops can be entrusted to her. In cases in which both eyes are infected we often find that one eye does well but the other becomes ulcerous.



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The chief cause of this condition is that one eye is well washed out and the other is not. At each treatment of the baby it is easy to open the first eye approached but after the child is hurt and starts to cry, it strongly shuts both eyes and rolls in the lids. Then even the physician finds it difficult to open the lids of the second eye wide enough to make the application efficiently.

By habit a physician is likely to begin on the right eye every time and that eye for the reason given above may get more thoroughly treated than the left eye, even from him. In a room a baby is always left lying in its crib in the same position, picked up in the same manner and the mother or nurse is likely to begin always with the same eye in treatment to the detriment of the other eye.

The remedy is obviously to instruct the woman to begin carefully with the right eye, for instance, at one treatment, and the left eye at the next treatment. When an ulcer is present on one eye she should favor that eye by beginning with it.

In opening a baby's eyes a woman is likely to place the end of her finger too far from the lid

margin or to try to open the lids while they are wet and slippery externally; or a second woman attempts to help and stretches the lids more tightly shut by keeping too far from the edge.

What is said here of ophthalmia neonatorum holds true also of course for infectious ophthalmias in all children up to an age when the two eyes can readily be opened equally.

The following instructions for school children are being pasted in the books used in the New York public schools: Never read in bad light. Always hold your head up when you read. Your eyes are worth more than any book to you. Hold your book about fourteen inches from your face. Let the light come from behind or over your left shoulder. Your safety and success depend on your eyes; take care of them. Rest your eyes by looking away from the book every few moments. Never read with the sun shining directly on the book. Wash your eyes night and morning with pure water. Be sure that the light is clear and good. Never face the light in reading.

MINUTE SAND-FLY RESPONSIBLE FOR TRANSMISSION OF PELLAGRA.—Sambon, in *Policlinico*, Rome, gives the reasons which have convinced him that pellagra is of parasitic origin and that the parasite is transmitted by a minute biting midge, a *Simulium*. The author's study of pellagra in Italy in 1900 established to his satisfaction that the cause must be sought elsewhere than in corn, and his research in London a year ago confirmed the possibility of transmission of the disease by the *Simulium*, and his investigations now being conducted in Italy have, he declares, definitely established it as a reality. Pellagra follows water courses, and only persons much in the open are attacked. The midge in question breeds in water and does not seek to enter houses. The disease is not contagious, and its peculiar incidence in families is due to the fact that those infected elsewhere return home later and are the only ones affected. When all the members of the family are exposed to the bites of the *Simulium* they are all liable to contract the disease. The writer has encountered entire families in which all the members were affected. In one family near Padua there were five children between three and twelve presenting the skin manifestations in the most pronounced form. The manifest connection with breeding places and habitats for the sand-flies, the exemption of inhabited centers, the season in which the disease appears and the prevalence of the *Simulium* in all the localities examined where pellagra is endemic, are only part of the evidence incriminating these midges.

M. Henri Dunant of Geneva, founder of the Red Cross Society, died on October 30th at Hilden, Switzerland, aged 82 years. His attention was turned toward the needless suffering in war when he took part in the battle of Solferino in 1859, and he then initiated an agitation which led to the calling of an international conference by the Swiss government in 1863, followed in 1864 by the Geneva Convention. At this convention nine articles were adopted, signed by twelve and later by forty governments "for the amelioration of the condition of the wounded in armies in the field." The Society of the Red Cross was established at this time through the labors of M. Dunant to carry out the provisions adopted by the Convention.

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SAMPLES and LITERATURE SENT ON REQUEST.

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REMOVING STAINS.—A Belgian pharmaceutical journal gives the following notes regarding the removal of stains caused by medicaments. Iodine is best removed by moistening with ammonia or solution sodium hyposulphite. Sylla recommends the following for removing silver nitrate stains from the skin: Mercuric chloride, ammonium chloride, of each 10 parts, distilled water 80 parts. Chrysarobin stains are easily taken out by means of benzine, chloroform, or absolute alcohol. If used warm these solvents act quicker. To remove the stains of picric acid soak in a solution of an alkaline sulphite, such as potassium sulphite, then wash with soap and water. Recent stains are removed by rubbing with magnesia and water. For resorcin stains a weak solution of citric acid is good. Pyrogallol stains if old cannot be removed, but if recent are best treated first with a 5 to 16 per cent. solution of ferrous sulphate, and when the stain has changed color wash and remove the remain-

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<h1 style="margin: 0;">PRUNI-HEROIN</h1> <p style="margin: 0;">(Syr. Heroin and Terpin Hydrate Comp.) For sample and literature address WYTTENBACH CHEMICAL CO. Evansville, Indiana.</p>	<p style="margin: 0;">IS SUPREME AMONG EXPECTORANTS.</p> <p style="margin: 0;"><i>The cough of laryngitis, bronchitis and pneumonia and the conditions themselves, respond promptly to Pruni-Heroin. When the formula is inspected it will be seen what a potent and well-balanced product Pruni-Heroin is.</i></p> <p style="margin: 0; font-size: small;">FORMULA: Heroin Muriate, 1/6 grain per fluid ounce with Terpin Hydrate, Ammonia Muriate, Glycerine, and a Syrup containing the medicinal properties of Wild Cherry Bark, White Pine Bark, Blood Root and Spikeweed.</p>
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ing stain with a solution of potassium binoxalate. Tar stains are best removed by an alcoholic solution of soap.—*British Columbia Pharmaceutical Record.*

OTHER PEOPLE'S HAIR.—Our lay metropolitan namesake reports information which, though fit to print, is decidedly unpleasant. It appears we have a trade with China in human hair; that the graves of paupers have been robbed in Canton by agents of hair dealers; and that the Chinese Government intends to punish the thieves. There are wild tales of leprosy contracted from wearing strange hair; but these are not authenticated. Probably marketable hair is thoroughly cleansed and disinfected; but can this always be assured? "A false front (known in the world of fashion as a rat) or a switch, may as well have been derived from a living head in thrifty Bulgaria or Connecticut as from a dead head in China. Other people's hair, when it gets into the market, is false hair; and anything that is avowedly false is open to suspicions."

THE LOCOMOTOR ATAXIA SKIRT.—The hobble skirt or "jupe à l'entrave," the skirt with fetters, has been given the unpleasant name suggestive of tabetic symptoms; it is safe to say this would not have been done had the namer been aware of the connotation.

The Ohio State Board of Health has inaugurated a campaign against ophthalmia neonatorum by sending a sterilized dropper and a quantity of silver solution, with a letter of instructions as to its use, to every registered physician in the state.

MORPHINE VICTIMS.—The Nurses' Journal of the Pacific Coast states that of a hundred investigated cases of morphine addiction fifty were found to be physicians, twenty physicians' wives and widows, ten nurses, six druggists, four dentists and ten laymen—ninety per cent. of the habitues being closely related to the medical profession.



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GLOBE MANUFACTURING CO., Battle Creek, Mich.

On October 27th seven dogs, habituated to a fish diet, were sent by the Bureau of Fisheries at Washington, D. C., to the hatcheries in the State of Maine, for use there in experimental study of cancer. The dogs will be fed on cancerous fish in the effort to determine whether fish cancer be communicable to other animals through the medium of food.

In Malden, Mass., last week in October, a patient with diphtheria who had been duly quarantined at her home, refused to stay indoors and attempted to travel on an electric car. She was promptly removed by the board of health to the local hospital for contagious diseases.

In recent issues of this journal we have noted the condemnation by the Rhode Island Board of Shellfish Commissioners of various oyster beds in that state. During the last week in October 200 more acres of beds have been condemned along the Kickomesit River near Fall River, Mass. It is stated that the sewage from that city is the source of their pollution.

Howard—"When Dr. Incision operated on me he left a pair of surgical scissors in my anatomy. Can I sue him for damages?"

Lawyer—"Better just send him a large bill for storage."—Life.

OPIMUM SANDWICHES IN CHICAGO.—A new method of evading the law relative to the sale of opium is reported from Chicago, where the proprietor of a Chinese restaurant has recently been discovered purveying sandwiches containing the drug to habitues who had difficulty in obtaining it in the more usual form.

It is reported from Cleveland, Ohio, that on Oct. 21, Mrs. William G. Clark of that city gave birth to her third set of triplets. She has been twice married. By her first husband she is said to have had two pairs of twins and one set of triplets, and by her second husband, she has had two pairs of triplets and two pairs of twins. This makes in all seventeen children in seven pregnancies. The sexes are not stated. Mrs. Clark was herself the only girl in a family of twenty-one children.

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At the Brighton slaughter-yards last week, the agents of the Boston Board of Health condemned as unfit for food 82 out of a shipment of 84 calves. Many of these animals were said to be only two or three days old. This is said to be the first instance in Massachusetts of such condemnation of bob-veal.

A most surprising report of epidemic infantile paralysis, poliomyelitis, was recently sent out from Harrisburg, Pa. It states that, according to reports received by the State Department of Health, there were 658 cases of infantile paralysis in forty-five of the sixty-seven counties of Pennsylvania. The largest number was in Lancaster County, where there were 135 cases. Philadelphia reported seventy-nine cases. Infantile paralysis was recently made a reportable disease in the state of Pennsylvania.

Too HASTY.—The old family physician being away on a much-needed vacation, his practice was intrusted to his son, a recent medical graduate. When the old man returned the youngster told him, among other things, that he had cured Miss Ferguson, an aged and wealthy spinster of her chronic indigestion. "My boy," said the old doctor, "I'm proud of you; but Miss Ferguson's indigestion is what put you through college."—*Argonaut*.

A gentleman when traveling by train noticed that a woman sitting opposite him was giving her infant small pieces of fried fish. He mildly suggested that such was not suitable for a baby. The dame, however, replied, "I'll thank you to mind your own business. I ought to know how to bring up children; I've buried eight!"

A Delightful Revelation.

¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

¶ It is the same pleasant, gentle laxative, however, which for many years past physicians have entrusted to domestic use because of its non-irritant and non-debilitating character, its wide range of usefulness and its freedom from every objectionable quality. It is well and generally known that the component parts of Syrup of Figs and Elixir of Senna are as follows:—

Syrup of Californian Figs	75 parts
Aromatic Elixir of Senna, manufactured by our original method, known to the California Fig Syrup Company only	25 parts

¶ Its production satisfied the demand of the profession for an elegant pharmaceutical laxative of agreeable quality and high standard, and it is, therefore, a scientific accomplishment of value, as our method ensures that perfect purity and uniformity of product required by the careful physician. It is a laxative which physicians may sanction for family use because its constituents are known to the profession and the remedy itself proven to be prompt and reliable in its action, acceptable to the taste and never followed by the slightest debilitation.

ITS ETHICAL CHARACTER.

¶ Syrup of Figs and Elixir of Senna is an ethical proprietary remedy and has been mentioned favorably, as a laxative, in the medical literature of the age, by some of the most eminent living authorities. The method of manufacture is known to us only, but we have always informed the profession fully, as to its component parts. It is, therefore, not a secret remedy, and we make no empirical claims for it. The value of senna, as a laxative, is too well known to physicians to call for any special comment, but in this scientific age, it is important to get it in its best and most acceptable form and of the choicest quality, which we are enabled to offer in Syrup of Figs and Elixir of Senna, as our facilities and equipment are exceptional and our best efforts devoted to the one purpose.

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