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# NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

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## EDITORIAL DEPARTMENT

### SHALL WE CONTINUE OUR MIDWINTER MEETING AT ALBANY?

IN the year 1906 the total attendance at the Annual Meeting of the State Society was 389. In 1907 418 members were present, and in 1908, 447. Before the union of the two societies, the attendance fluctuated between 350 and 400, varying somewhat according to weather conditions.

The membership of the old State Society, including both permanent members and delegates, was about 600, and after amalgamation in December, 1907, the membership had risen to the large total of 6,326. With a tenfold increase in the membership, nevertheless, the attendance at the annual meetings has remained substantially the same.

At the last meeting in Albany the attendance was but a trifle over 7 per cent. of the total membership of the Society. The State of New York is gridironed with railroads in all directions. The longest average journey which any member would have to take to attend the meeting at Albany is about 400 miles, and the total average journey is much less than this. As a matter of fact more than 50 per cent. of the members live within 150 miles of the place of meeting, and yet but 7 per cent. of the total membership ever come to Albany; 1908 was the record year for attendance, but 88 of the 447 men attending the 1908 meeting of the Society came from Albany and Troy, so that only 359 men came to Albany from the rest of the State to this meeting. Of this remainder 78 came from New York and Brooklyn.

Here it will be interesting to compare the percentage attendance of the American Medical Association with the figures before given. The total attendance at Chicago, 1908, was 6,422, and the actual membership at this time was 31,343, giving a percentage attendance of 20 per cent.

The average mileage of the individual members of the American Medical Association was far in excess of the relatively low mileage in New York State, and yet the percentage attendance was 20 per cent., as compared with the meagre 7 per cent. of New York.

Why is the attendance at Albany so pitifully small in comparison with the large membership of our Society?

Perhaps a comparison between the attendance of the great National Society and that of a State may not be strictly fair. The attractions at the meetings of the American Medical Association, undoubtedly, are more numerous than those of our State Society, yet the long distances which most of the members travel to reach the place of meeting must in some measure counterbalance the increased attendance which might be expected to follow from the greater attractiveness of the national meetings. Moreover the fact requires explanation, that with ten times the membership of the old State Society, the average attendance has not greatly increased, the actual average attendance of the last three years being but 418. This is even less than 6 per cent. of the average membership for the three years.

If, however, objection may be made to a comparison of our attendance with that of the Na-

tional Society, no objection can be made to a comparison of New York with other States.

Official data have been obtained from the secretaries of various State Societies of whom the following questions were asked, viz.:

1. What is your total membership?

2. What was your attendance at last Annual Meeting?

3. Do you time your meeting so that it is contemporaneous with the meeting of the Legislature?

4. Do you always meet at the same place?

Forty-three answers have been received. If space did not forbid, the tabulation of the results would be most interesting, but they may be epitomized as follows:

The average attendance at the meetings of these forty-three different State Societies was 29 per cent. of the total membership. No State Society plans to have its meeting contemporaneous with the meeting of the Legislature, and but four State Societies meet in the same place each year, being that of the District of Columbia, which, of course, has only one place to meet in, Massachusetts, New Hampshire and Rhode Island. All other societies meet in different parts of the State from year to year. New York, with the largest membership of any of the State Societies, has by far the smallest attendance. It is 22 per cent. below the average attendance and more than 3 per cent. below the next lowest, the State of Pennsylvania. As a matter of fact Pennsylvania has a percentage attendance 50 per cent. greater than New York, although its actual membership is 1,400 less.

This comparison leads us inevitably to the conclusion that the attendance at our annual meetings is far below the normal, and we must come to the conclusion that the cause thereof is either lack of interest or an inability on the part of members to attend. If the cause be lack of interest in the meetings then the cure rests with the Scientific Committee. We think that such a conclusion is not justified, for the programs of the meetings have always been of a high order of merit and many of the papers are written by masters in their art. We are therefore driven almost irresistibly to the conclusion that the small attendance is due to the inability rather than the unwillingness of the members to attend.

In considering this phase of the question, we are naturally led to consider the question of the time and place of the meeting as having some influence on the attendance. The Medical Society of the State of New York alone of forty-six State Societies meets in the depths of winter. Eight meet in April, thirteen in May, four in June, three in July, three in September, seven in October and one in November. Of the others named in the November 28, 1908 issue of the *Journal of the American Medical Association,* nine have no date. The preference of twenty-one out of the forty-nine is for the months of April and May, and eleven hold their meetings in the fall months.

Evidently, then, the largest number of State Societies find it of advantage to hold their meetings either in the spring or fall, and not one of the States, save New York, holds a meeting in the depths of a northern winter. It does not seem an unfair conclusion to draw that the time of our meeting therefore may have something to do with our small attendance.

What are the objections which must occur to any thoughtful member of the profession against a January meeting in Albany?

Perhaps that which will occur to every one first is the undoubted fact that midwinter is the busiest time of the year for every practitioner. Teaching in the colleges is at its height in January, and for the general practitioner, for whom the State Society exists, there is the usual rush of winter practice, the pneumonias, typhoids, and all the ills brought on our citizens by hard work, inclement weather and badly-ventilated and overheated dwellings. The members of the Scientific Committee find it increasingly difficult to secure papers for the meeting, particularly from new men. They are constantly met with the objection that it is impossible for men to get away from their practices at the time of the meeting.

It is practically impossible for the general practitioner, for whose benefit these meetings are arranged, to attend in January.

Another objection which will occur to everyone is the salient fact that it is impossible to accommodate more than the present average number of about 400 in Albany in January, since the hotels are well filled at this time on account of the meeting of the Legislature and the Court of Appeals. It is rarely possible to secure accommodations in Albany unless written for weeks in advance, and it would be out of the question to accommodate 15 per cent. of our members in January, which is not a larger at-

tendance than we ought to expect of a flourishing society. Moreover, a violent snowstorm, which is not an uncommon visitor at that time in Albany, always cuts down the attendance, particularly from the interior of the State, since it makes rapid travel impracticable and a prompt return home impossible. Both these factors are, however, important to a successful and well-attended meeting. The general practitioner who wishes to come to our meetings is thus confronted with three difficulties which are due to the season—press of professional work, the crowded state of the hotels in Albany, and usually inclement weather unfit or unpleasant for travel. These are facts which cannot be gainsaid. What then are the arguments which may be advanced in favor of retaining our midwinter meeting?

It is said that it is of advantage to meet in Albany at the same time as the Legislature because of the influence which the contemporaneous meeting of the State Society has on legislation. This is a proposition which is easily made, but difficult of proof. As a matter of experience, almost invariably all the bills which are likely to be opposed by the medical profession are now introduced after the annual meeting of the Society and are fought in committee by the Committee on Legislation. The State Society has at present so little real influence with the Legislature as to have been unable to successfully oppose recent legislation most unfair to regular medicine. Even as enlightened a governor as Governor Hughes signed the optometry bill last year in spite of our most strenuous opposition—a proceeding which practically nullified the definition of the practice of medicine as set forth in our Medical Unity Act of the year previous.

If then we have so little influence with the Legislature when our meetings are contemporaneous, why should we continue them at an unsuitable time for the meeting because of their fancied effect on legislation. Recent events show that we could not have exerted less influence on the politicians if we had met in Alaska in July.

If we met in late spring, or early fall, however, our meetings would be more convenient for members both because of professional engagements, seasonal conditions and hotel accommodations, and if our members increase in number as they should, we would then present a far more imposing front to the politicians than the comparative handful of men whom they take to be the State Society when they attend our meetings in Albany, if they ever do, which is rather doubtful.

With regard to the place of meeting, with three exceptions, all the other State Societies from which we have heard considered it of advantage to meet in different localities through the State from year to year. The secretary of the Illinois State Society in answering the query regarding the place of meeting, writes as follows:

"We have tried the scheme of meeting in the Capitol at the same time that the Legislature is in session and have absolutely derived no benefit at all by so doing. We therefore meet just about once in every three years at the Capitol and otherwise hold our annual meetings at whichever of the larger cities in the State we think it may be of the greatest benefit and satisfaction to all concerned."

In this connection it may not be out of place to quote a paragraph from the Annual Address of Dr. Curtis, who before his presidency occupied the office of Secretary for many years.

"For a century this Society has held its annual meeting at this season, and in this city. Without anticipating the report of the special committee on this matter to be made at this meeting, I reiterate the often expressed opinion that the season is the worst in the year for the annual meeting since it is the busiest for members, and the place, while central to population is remote from the geographical centre, and many seldom reach it, besides being full of other interests at this time of the year. Is a permanent meeting place desirable? In other States mostly the meeting is carried about the State, to different sections in turn. Albany appreciates its favor, but is often embarrassed to care for all that come in fitting manner. One effective meeting in the year, held in the fall, and at various points, will, I believe, best serve the interests of the Society."

If it be true that a January meeting is undesirable, why do we continue it?

The legislative argument—after the events of the past two years has no substance, and there is absolutely no other argument in favor of the midwinter session.

With reference to the place of meeting, 29 out of 31 State Societies find it of advantage to move their meeting places about the State. Why should New York stubbornly cling to an old custom to the detriment of its meetings.

The Medical Society of the State of New York is not a correspondence school. Absenteeism is as bad for a society as for a community. We ought to have an attendance twofold greater than our record attendance of 7 per cent. These are matters for the consideration of the House of Delegates. At present the Medical Society of the State of New York is at a standstill. It is for the House of Delegates, then, to take such measures as may seem fitting and best, not only to increase our attendance, but to create greater interest in the affairs of the State Society, and these are matters which seem inextricably connected with the place and time of our meetings.

A. T. B.

WITH this issue, the NEW YORK STATE JOURNAL OF MEDICINE enters upon the ninth year of its existence. Those entrusted with its management desire to extend to the members of the Medical Society of the State of New York and the medical profession its best wishes for a Happy New Year.

The Committee on Publication feels that the Society is most fortunate in having secured as Editor for the Journal Dr. Algernon Thomas Bristow, a former President of the Society and a man who needs no introduction to the profession of the Empire State.

Every endeavor will be made by the Committee and the Editor to chronicle fully the work being done by the State, District Branch and County Societies and to publish not only the papers read at the Albany Meeting, but as many others as space and the funds of the Society will permit.

To assist in making this the best of all State Journals we bespeak the hearty co-operation and help of every member of the Society.

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## THE PATHOLOGY OF THE LIVER IN CARDIAC DISEASE AND ITS CLINICAL LESSONS.

Redcliffe N. Salaman divides all the livers met with in cases of cardiac disease into three classes.

(1) Engorged Livers. In this class would be placed those livers which owing to a very recent heart failure such as may be seen in pneumonia and diphtheria have become suddenly distended with blood.

(2) Nutmeg Liver. A liver which has undergone a prolonged course of back pressure of more or less equal degree. Livers of this type are the result of auricular incapacity and tricusid incompetence rather than due to the continued influence or regurgitant blood at the pressure of the right ventricle.

(3) Cirrhotic Nutmeg Liver. This is a liver in which fibrosis—portal, hepatic and central, especially the latter two,—is found strongly developed. Such livers are small, generally pale and show a confused nutmeg appearance. They might be called the ventricular type.

The writer wishes to show that the liver acts as a safety-valve to the heart, and in order to gain some idea of the quantity of blood which may thus be withdrawn from the circulation he subjected a number of livers to pressures of one foot of water and two feet three inches respectively through the hepatic vein, the portal vein being ligated. From these experiments the following points may be deduced:

(1) Under conditions of cardiac stress the liver will draw off a large volume of blood from the right auricle.

(2) After a time certain changes take place leading to fibrosis which very materially affects the distensibility of the liver.

(3) The fibrotic process, by increasing the force of the liver's recoil, prevents the use of the latter as a reservoir in which blood may accumulate.

(4) In complete compensation there is no engorgement of the liver and no back pressure.

(5) Whilst the liver may be looked upon as a sponge-like safety-valve to the heart, continued use of this safety-valve action leads to its own abolition.

Three kinds of pain may be associated with the liver in heart disease:

(1) Referred superficial tenderness, right side, consequent on extreme distention of the liver. Generally limited to livers of Type 1, and occasionally Type 2.

(2) Tenderness of the liver itself on palpation. This is the commonest pain and is found in livers Types 2 and 3, more commonly in the former.

(3) The liver itself is painless but the whole abdominal surface is tender on deep pressure. This condition is limited to Type 3, and is due to distention from ascites and peritoneal irritation.

The ascites of heart disease may be of two types:

(1) The ascites of acute back pressure.

(2) The ascites of chronic back pressure.

The first type is always associated with livers of Type 1. The fluid is small in amount, of high color and often blood-stained.

The second type of ascites is large in amount, of a clear yellow color and is always associated with livers of Type 3.—*Lancet*, January 5, 1907.

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Our government last year appropriated $50,000,000 for the maintenance and the upbuilding of our army. It appropriated $113,000,000 for the preservation and upbuilding of our navy. It appropriated $138,000,000 for pensions for soldiers of the Spanish-American War, of the Civil War, of the Mexican War, and, I think, for a few survivors of the War of 1812. If this government is good enough to appropriate large sums along those lines, it should certainly be ready, anxious and willing to appropriate some money for the proper maintenance of an efficient health department, carrying with it a secretary of health to look after the health and the lives and the quarantine of this great and mighty nation. We are too progressive to be caught napping. We must keep moving and we must move in the right and proper direction. The people of the great American nation care absolutely nothing for expense. What they want is results and action. The last Congress appropriated the sum total of $880,000,000 and practically not one dollar directly in the interests of the health of the people of this nation.—*A. S. Barchfeld, M.D., Member of Congress, 32d Penn. District.*

## Original Articles

# DIAGNOSIS OF CERTAIN CHRONIC ABDOMINAL CONDITIONS.*

By WALTER C. WOOD, M.D.

BROOKLYN-NEW YORK.

SURGICAL interest in the abdomen first concerned itself with the diagnosis and treatment of tumors and the early triumphs of even the pre-antiseptic days are matters of surgical history.

Surgical interest in acute abdominal conditions did not become general until much later. It was originated by Fitz's pathological studies, by Frederick Treves's classical monograph on intestinal obstruction, and by the early operations of Sands for acute appendicitis and of Tait for ruptured extra-uterine pregnancy.

Books and papers on the acute surgery of the abdomen filled our attention, and the operations, at first attempted only by the leaders, became common in the hands of all, even of the younger men.

In 1898, I published a short paper in the *Brooklyn Medical Journal* entitled "The Diagnosis of Acute Abdominal Conditions". The experience of the last ten years in this type of acute surgery, I regret to say, would enable me to add but little to what was then said on the problems of diagnosis. Our treatment of these acute cases has much improved during these ten years, but mistakes in diagnosis are still too frequent. However the furor for immediately attacking all types of acute abdominal pain by surgical means has somewhat abated and more attention is given to differential diagnosis. Surgical interest in the diagnosis of chronic abdominal disease, exclusive of palpable tumors, is now gaining general attention. The work on the "Gall-Bladder" by Kehr in 1899; on the "Gall-Bladder" by Robson, in 1897 and subsequently, on the "Stomach and Gall-Bladder" by Robson, by Mayo, by Moynihan; and lastly, on the "Pancreas," by Robson and Cammidge—these and countless other articles from every surgical center have appeared during the last ten years and have stimulated our interest. The achievements of surgery in certain chronic conditions are now so satisfactory that those in general practice should give more attention to the accurate diagnosis of these conditions, in order to determine what cases should be subjected to surgical operation.

On the part of those of us who attempt to do this kind of surgery, the need of accurate diagnosis for chronic surgical lesions of the abdomen is not always appreciated. Too often is an explorative incision performed before an earnest effort has been made to solve the diagnostic problems. It is my earnest conviction that an operator does not do his best for the patient when he makes his first serious attempt to diagnose the case on the operating table. While the limits of endurance will perhaps, at times, permit much investigation before the forfeit of life is paid, no one knows better than the surgeon how incomplete such an investigation often is. Modern surgery requires small incisions and delicate manipulation of intra-abdominal tissue to ensure the best results. The operating table is not to be confounded with the dissecting, or postmortem table. A well thought out working hypothesis is a pre-requisite to a logical operation. One occasionally sees an operator open an abdomen and show plainly that he does not know what to look for, nor how to find it. Furthermore when several different abnormal conditions are found, it is not easy to determine the prime cause without time and thought. Frequently does one find more than a single lesion. Especially is this so in the upper abdomen. For example—adhesions around the duodenum compressing that organ and impeding its function, compressing the gall-ducts and leading to stasis of the bile with its attendant consequences, with perhaps an enlarged pancreas, and the whole picture complicated by general enteroptosis—will phase an operator completely unless by a painstaking previous study of the case he can determine the first cause and unravel the tangle. At the present time, patients and physicians alike have so much faith in the curative power of abdominal surgery, that even the abdominal pains of Pott's disease and locomotor ataxia, or the occasional acute abdominal pains of a pneumonia, or a lead colic, are offered for a surgical cure. This is a fact not a fancy.

Of course much can be said concerning the impossibility of positive diagnosis, and the folly of refusing surgical aid until lesions are so well developed that cure is impossible. Under acute conditions with death impending, delay is dangerous. But a few days spent in the study of a chronic case is not time wasted. I desire to emphasize the word "study." The prescribing of a placebo, the so-called expectant treatment, waiting for something to turn up—is not study. If any of us have lost prestige in public estimation—if, I say—it is due in part to the fact that we do not study our cases.

The examinations of specialists have reached a high plane, but there is a tendency to magnify unimportant details. Sometimes they see too much. Laboratory methods are now in high tide of esteem, but many a fallacious conclusion is reached by the laboratory worker, if he works alone. Much credit is due to the modern methods and there is no fear but what such credit is freely given.

The clinical history, the physical examination, and the laboratory research—these three constitute the tripod on which a diagnosis of a chronic abdominal lesion must rest. The one most neglected and the one which even to-day is, I believe, the most important is the clinical history.

*Read at the May, 1908, meeting of the Medical Society of Kings County.

When considering a case of long continued abdominal disease, one is forcibly impressed with the fact that a chronic lesion frequently manifests itself by periods of exacerbation alternating with periods of remission. Thus, although the lesion is chronic, the patient describes his troubles as occurring in attacks. This fact may confuse the examiner. The chronic indurated ulcer of the stomach acts in this way. Here the periods are long. Several weeks or often months of distress are followed by equal or longer periods of comparative comfort. In fact these quiescent periods are often considered a cure. These ulcers do heal and break out again in the same or another spot, as do ulcers of the leg. I have seen the scars of former ulceration in the stomach as well as in the intestine. A recent case illustrates this fact. In August, 1907, I opened an abdomen for a chronic indurated ulcer which was found as diagnosed. It was about one and a half inches in diameter and one-half inch in thickness, and located on the anterior wall of the stomach about three inches from the pylorus and near the greater curvature. The patient's condition was very weak and became alarming, so I closed the abdomen without doing any operation on the stomach. After three months he was well enough to go to work, but in March, 1908, a return of pain, vomiting of blood, etc., induced him to come again for operation. I then found a stellate scar at the site of the previous ulcer and a second indurate ulcer nearer the pylorus and the lesser curvature. At this time an apparently successful gastro-enterostomy was done.

Ulcers of the duodenum give their symptoms in definite, periodical attacks, lasting from a few days to several months, but during these periods the pain is daily or several times a day, three to five hours after eating. The fact that gallstones, although present continuously in the gallbladder, give symptoms in attacks is well known; these attacks being coincident with recurrent infections. It is less well known that gall stones impacted in the common duct also give symptoms in attacks, corresponding not to passage of the stone but rather to periods of complete obstruction, when a mucous membrane swollen by infection assists the stone in a total blocking of the duct.

It is hardly necessary to recall the fact that chronic inflammation of the appendix more frequently than otherwise gives evidence of its presence in attacks.

Chronic intestinal obstruction begins with periods of increasing constipation relieved at first by catharsis and later by vomiting, and only when well advanced does the chronic lesion cause chronic symptoms.

Chronic tubercular peritonitis, although somewhat constant in its symptomatology, is yet characterized by exacerbations coincident with temporary increase of fluid or accumulations of intestinal gas behind bands of adhesions.

In like manner do certain chronic kidney lesions and chronic inflammation of the Fallopian tubes manifest themselves chiefly in attacks.

The periodicity of the symptomatology of chronic inflammatory abdominal diseases is thus worthy of much consideration in arriving at a diagnosis.

The significance of vomiting is also worthy of study. While the various types of vomiting of reflex and toxic origin are well understood and do not cause confusion, vomiting in connection with epigastric pain is usually considered to indicate stomach lesion. Of course this is frequently true, as seen in chronic gastritis, cancer, ulcer, etc. Yet there are certain lesions of the digestive tract more or less remote from the stomach, that have vomiting as one of their chief symptoms. This is due to the presence of pyloric spasm which causes besides the vomiting, pain and perhaps a sense of resistance over the site of the pylorus. Occasionally also we see a case with spasm of the cardiac end of the stomach and pain in the thorax. In the light of recent operating-room pathology, pyloric spasm can not be regarded as a definite disease but rather as a symptom. Nor can it be regarded as indicative of gastric ulcer, for it is present with equal or greater frequency in duodenal ulcer, gall-stone disease, ulceration of the small intestine, and inflammations of the appendix and cecal region. This condition of pyloric spasm can be demonstrated on the operating table in connection with these diseases, and all gastric symptoms cease after the cure of lesion. Mayo has called attention to this fact, which can be confirmed by many a clinical history and should receive important consideration when making a diagnosis. His explanation is founded on embryology—in brief all of the intestinal tract derived from the primate mid gut and concerned in the absorption of food, when diseased in any part, appears to exercise some control in preventing food from reaching that part by spasmodic closure of the plyorus and vomiting.

The location of spontaneous pain is another point in the history that may be confusing. While epigastric pain is found in the various gastric diseases, functional and organic, yet by no means does epigastric pain always mean a gastric disease or, for that matter, even an abdominal disease. Umbilical pain is even more untrustworthy from the diagnostic standpoint.

The relation of pain to the ingestion of food, both in respect to the time after eating and in respect to the kind of diet that induces—or from the patient's standpoint—produces the pain, is however of diagnostic importance. For example, pain in ulcer of the stomach near the pylorus comes within an hour after eating, and is relieved by a bland fluid such as milk; while pain in duodenal ulcer is at its height three or four hours after a meal, when the acid contents of the stomach and the spasm induced thereby and the accompanying gas reach the ulcerated area.

Pain in gall-stone disease is absolutely irregular as to time in relation to eating, and is neither increased nor decreased by variety or quantity of food. Pain in intestinal stenosis is greatly increased by bulky food with cellulose in abundance, and mitigated or even temporarily abolished by a scant nitrogenous diet. Pain in chronic tubercular peritonitis, or in chronic appendicitis with adhesion, is directly induced by various incompatible combinations of food that cause intestinal flatus. Pain in nephritic or vesical lesions is developed by exertion, by jolting, by over-indulgence in nitrogenous food, or alcoholic drinks.

Other examples might be mentioned where pain indicates with some clearness a definite chronic abdominal lesion; but it must never be forgotten that chronic constipation due to lack of exercise, scant ingestion of fluids, too concentrated a diet, ineffective enervation, or other physiological causes, gives a history of chronic abdominal pain and must be considered as a proof of a chronic surgical lesion. Chronic intestinal indigestion, that old diagnostic cover for so many types of intestinal disease, although it has been trimmed in many places by modern surgical effort is still the cause of more cases of chronic abdominal pain than the perusal of some modern writings would lead us to believe.

The neurasthenics are also subjects of abdominal pain and this pain so often mimics a definite lesion, or so modifies the picture when present in connection with actual abdominal disease, that it behooves us continually to be on our guard. Gastro-enterostomy is not the ideal treatment for neurasthenia.

Chronic abdominal pain may thus indicate a local surgical lesion, a general physiological disturbance of digestion within the province of medical and dietetic treatment, or a neurosis pure and simple, or any two or even three of the classes combined, and must therefore be carefully studied if its diagnostic value is to be correctly interpreted.

Another symptom, loss of weight, according to my observation is caused more frequently by restrictions of diet employed to cure abdominal distress, than by a diseased condition. Next in frequency it seems to be caused by those chronic inflammatory processes that interfere with digestion, the formation by restricting and physiological action of the bile and pancreatic secretion. Even less frequently is it caused by malignant disease. In fact, early malignant disease in the abdominal cavity acts chiefly as a mechanical agent in the production of symptoms and does not produce symptoms of its own. A history of gas formation is frequently noted. While this may be a pure neurosis, or the result of chronic gastritis, or gastric atony, it is an early symptom of gastric and especially of duodenal ulcer, of chronic pancreatitis, of abdominal adhesions constricting the small intestine due to peritoneal tuberculosis or other low grade infections of the mesenteric glands, appendix, or pelvic organs.

The physical examination of a patient with chronic abdominal disease, without a definite tumor, is less important than a thoughtful consideration of the history. Some cases show a retracted abdomen indicative of starvation, some a distended abdomen showing a partial paresis of the intestine and tympanites. Such ascites can often be recognized by percussion and if not explained by hepatic or nephritic disease is suggestive of carcinoma or tuberculosis. An enteroptosis, general or partial, or a displaced kidney may be found.

But the chief sign of local disease of a surgical nature is always local, or point tenderness. The right upper quadrant offers the most puzzling of diagnostic problems, for the organs liable to disease lie so closely together that the location of the tenderness seldom can be depended on to make a differential diagnosis. Taken in connection with the history of the development of the symptoms and the laboratory report of the examination of stomach contents and stools, the problem can often be solved. Tenderness due to nephritic, appendical, or tubal inflammation, or to lesions in other portions of the abdomen is usually discrete enough so that the organ at fault can be recognized. Not infrequently will the findings differ from day to day, depending upon the amount of food, gas, or feces present and it is wise to confirm by a second or third examination what seems to be clear on the first. Examination of the rectum and the lower sigmoid, by the tube and light with the patient in the knee-chest position, will sometimes disclose a local lesion that has given symptoms of the general abdomen only, and no local ones.

The third leg of the tripod upon which the diagnosis must rest stands in the laboratory.

Here, as in the matter of the physical examination, it is wise to rely not on one but on several examinations. The presence of meat or fat in the diet, notwithstanding that care is used to avoid them, may be a source of error in examination of stools. Yet at the present time, it seems as if these examinations give more trustworthy information as far as the diagnosis of surgical lesions is concerned, than do examinations of stomach contents.

To distinguish between duodenal ulcer and certain obscure cases of gall-stone disease, the finding of occult blood in the stools is of prime importance. In pancreatic disease and in early carcinoma these examinations are of great value. Negative findings also enable one to differentiate between stenosis due to peritoneal conditions, and that due to lesions of the intestinal wall. The finding of gall-stones, although a matter of interest, seldom is much of a factor in determining the indications for surgical treatment.

Having reached a diagnosis with reasonable certainty, operation seems desirable in the following chronic abdominal conditions:

1. After several attacks of acute round ulcer of the stomach, although all urgent symptoms

have abated, a gastro-enterostomy will prevent other attacks with the chances of perforation to which this type of ulcer is especially liable.

2. In chronic indurated ulcer, a gastro-enterostomy with or without excision of the ulcer, depending on its location and size, will cure the ulcer and prevent a secondary carcinoma which follows this type of ulcer with amazing frequency.

3. In pyloric stenosis from adhesion, healed ulcer or early carcinoma, operation is satisfactory from the temporary standpoint at least, and if obstruction is benign the permanent results are especially good. Even in very weak patients the breaking up of the adhesions alone, which is attended by but slight risk, is often very useful.

4. In gall-stone disease, without jaundice, whenever a distended gall-bladder can be palpated. This means a cystic duct obstruction.

5. When after an attack of acute cholecystitis, tenderness remains on deep pressure over the gall-bladder. This means a chronic inflammation of the gall-bladder with cystic duct partly blocked by stone or adhesions, and sepsis still present.

6. In chronic jaundice of varying intensity, or after returning attacks in the absence of a distended gall-bladder. This means obstruction due to stone and infection still present.

7. In cases of chronic pancreatitis with or without gall-stones. Here the diagnosis rests on slight or pronounced tenderness in the epigastrium, gastric dyspepsia, chronic jaundice of moderate severity, sometimes a fullness or even an indistinct tumor, frequent bulky stools with offensive odor, light in color, greasy in appearance and usually the urinary Cammidge reaction.

8. In cases of partial intestinal stenosis. In those patients with a history of previous operations or peritoneal inflammation, adhesions will be found as the cause of the stenosis; with a history of chronic enteritis, or colitis, a stricture of the intestinal wall may be expected. Without any previous abdominal disease and a history of only a few weeks or months of increasing stenosis, carcinoma is the reasonable diagnosis.

In my experience, the presence of adhesions about the duodenum, the cecum, the Fallopian tubes, or more generally distributed, is a very frequent cause of abdominal distress of chronic type; relief of which by surgical procedure can be confidently expected.

9. After one attack of appendicitis, or even without such history, if tenderness is continually present on several examinations over the appendical area.

10. After two or more definite attacks of appendicitis, even in the absence of all local tenderness.

In conclusion, I desire to express my belief that the possibilities of surgery of chronic abdominal disease merits the attention of the internist to a greater extent than it now receives.

1276 Pacific Street.

## ADDRESS OF THE PRESIDENT OF THE THIRD DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

SECOND ANNUAL MEETING, TROY, N. Y., OCT. 27, 1908.

By HERMON C. GORDINIER, M.D.

LADIES AND GENTLEMEN:

I TAKE great pleasure in thanking all of you for the honor which you have bestowed in selecting me as your presiding officer at this the Second Meeting of the Third District Branch of the New York State Medical Society.

The address which I have prepared to present to you on this occasion is upon one of the numerous manifestations of that most common but interesting and important disease—arteriosclerosis. I refer to that variety of angiosclerosis of the extremities known as angina cruris, intermittent lameness, limping or claudication. The clinical manifestations of angiosclerosis of the vessels of the extremities are very variable and present themselves under five well defined clinical groups dependent upon the character, the location, and exact extent of the pathologic changes in the vessel walls. They are as follows: Intermittent claudication; symmetrical gangrene or Raynaud's disease; spontaneous or dry gangrene; erythromelalgia and arteriosclerotic neuritis, the latter condition being dependent upon pathologic changes in the walls of the *vasa nervorum*. Interesting as it would be to describe in detail the clinical manifestations of the various groups, above mentioned and to go into their differential diagnosis, it is my purpose to direct your attention only to intermittent claudication, a diseased condition which is not uncommon, is frequently overlooked, and whose clinical manifestations are clearly defined. If we are to judge from the scant references to this condition in our most recent text-books and from the few cases thus far recorded in American and English literature, intermittent claudication is extremely rare. Judging from the only references I can find in English literature, the disease has been until very recently completely overlooked in England. But two cases are recorded, one by Byron Bramwell in April, 1907, and the other by Parker Weber in January, 1908.

In America, however, cases have been recorded by Dana, Flinterman, Gordon, Hunt, Irish, Lovett, Patek, Putnam, Riesman, Talley, Walton and Paul, and J. C. White. I am convinced, however, that from the cases which I have seen during the past few years in private and consultation practice, that intermittent claudication is far more frequent than we are led to believe, but owing to the scant references to it, and the very meager description of it, in our best text-books and systems of medicine, it is perfectly evident that its clinical manifestations are almost unknown to the general practitioner, and hence it is very probable that many cases have been en-

tirely overlooked. It is my opinion that intermittent limping is quite as common as is true angina pectoris.

Our attention was first directed to this symptom complex by the late Professor Charcot who in 1858 described his case and gave to the affection the name of *claudication intermittente*. He had thus early noted the remarkable resemblance between this affection in man and a similar condition observed in horses by veterinarians and called by them spring or string halt. Prof. Erb of Heidelberg, in 1898, published a most exhaustive and valuable monograph upon this subject and named the condition dysbasia angiosclerotica intermittens. Since then several important papers on this subject have appeared, more notably those of Higier, Goldflam, Idelsohn, Oppenheim, Walton and Paul, and Ramsay Hunt. Higier designated this affection myasthenia angiosclerotica and Walton and Paul called it angina cruris.

*Etiology*.—Intermittent claudication has been observed much more frequently in men than in women. Patek found that of 127 cases taken from the literature 120 occurred in men and 7 in women. Of the 10 cases I have observed, 8 occurred in men and two in women. Goldflam and Oppenheim emphasize the importance of the neurotic temperament as a condition favoring its production. I have observed one typical case in a very neurotic woman 35 years of age who had no objective vascular or cardiac disease. The disease is, however, most often met after middle life, at a time when vascular changes are most commonly observed. Hence all causes which favor the production of such changes such as the infectious diseases, alcohol, syphilis, diabetes mellitus, gout, lead, tobacco and exposure to cold and wet may also be productive of this disease. Erb from a very wide experience with this affection lays particular stress upon the excessive use of tobacco and exposure to cold in its production. Mechanical compression of the iliacs or femorals by a truss, aneurisms or other tumors are said to have produced this disease. Idelsohn found flat foot present in 10 of his 22 cases and believes that there is more than a casual relation between flat foot and intermittent claudication. In three of the cases which I have observed flat foot has been associated with well marked intermittent limping.

*Pathology*.—Our knowledge of the pathology of intermittent claudication is based upon the study of the autopsies of Charcot, Elzholtz, Magrez and Erb, together with the arterial changes observed in the amputated limbs removed from cases suffering with this affection. Charcot from a study of his cases believed that the symptoms were due to arterial changes localized to the proximal trunks, such as the abdominal aorta, iliacs and femoral arteries, while Erb on the other hand, holds that the symptoms are dependent upon changes in the distal arteries of the extremities. The most constant change found in these cases was an obliterative arteritis of the vessels of the extremities which results in a gradual narrowing of the lumen of the vessels with a consequent ischemia of the parts beyond. In a later stage as the caliber of the vessels becomes narrower and the nutrition of the muscles and nerves suffer, muscular atrophy and arteriosclerotic neuritis may come on. Lastly, spontaneous or dry gangrene often occurs as a late event which may necessitate amputation and is often a forerunner of death.

*Symptomatology*.—There are five clinical characteristics which stamp intermittent claudication as a perfectly distinct clinical entity and which also serve to make the diagnosis of it very clear.

They are in the order of their import as follows:

*First*.—The intermittent character of the symptoms.

*Second*.—The absence of the symptoms while the limbs are at rest.

*Third*.—The development of painful limping on exertion.

*Fourth*.—The disappearance of all symptoms after a period of rest, to be repeated again on exertion, and,

*Fifth*.—The absence in most cases, especially during the attack, of pulsation of the posterior tibial and dorsalis pedis arteries.

Altogether the most striking and interesting feature of this affection is the intermittent character of all the symptoms. The patient while at rest is perfectly comfortable, and is able to move his limbs freely and in a natural manner. He experiences no paresthesia, heaviness, pain or cramp in the limbs and they do not feel weak. On attempting to walk any distance, however, say a few blocks, or especially if he attempts to climb a hill or walk rapidly up-stairs, he notices the appearance of numbness, tingling and weakness in his limbs, to be followed quickly by heaviness, great pain, cramps, stiffness and a disordered limping gait; all of which symptoms increase as he attempts to proceed, when his limbs feel as if they were becoming rigidly fixed, and if he attempts to go further, they feel as if they would become paralyzed and he would fall to the ground in a heap, *"abasia."* Hence he is enforced to rest either in the sitting or recumbent posture for a brief period, perhaps a half-hour or more, when all the above described symptoms gradually disappear and he again feels perfectly well and is able to go on. If, however, he attempts to walk again at his usual rate of speed and continues far enough, all the symptoms recur but with greater severity.

The objective symptoms during the attacks while somewhat variable are quite characteristic. The limbs usually feel cold, are often cyanotic and swollen or white and ashen. Sometimes they are red and deeply congested, and the patient complains during the attack of a burning pain in them. If the arteries of the feet are palpated, they either do not pulsate or pulsate very feebly. In a few instances no changes in the pulsation

of the arteries of the feet were observed. Bramwell has recently reported such a case and in one of my patients afflicted with this disease no palpable change could be observed in them.

Intermittent claudication is most often observed in both lower limbs, although it may only be confined to one. This symptom complex, however, is not necessarily confined to the lower extremities. Several observers have recorded cases of a similar character involving one or both arms, with changes in the vessels of the wrist exactly like those observed in the feet. I have observed two such cases, one involving the left arm and one recently seen in consultation with Dr. Irish who has kindly permitted me to record it, involving the right upper extremity. In both of these cases one could feel but very feeble pulsations in the vessels of the wrist.

Vascular changes with intermittent symptoms identical in nature to those of intermittent claudication have been observed in the brain, retina, kidneys, and intestines. Doubtless, all of you are familiar with the sudden but evanescent symptoms associated with cerebral arteriosclerosis, probably induced by spasm of the blood vessels of the brain, similar in every respect to intermittent claudication such as temporary blindness, unilateral, bilateral, or hemiopic in effect; aphasia, monoplegia or hemiplegia and partial or complete, unilateral sensory defects. And lastly it is very probable that true angina pectoris is a disease which is in every respect similar to angina cruris.

The symptoms of intermittent claudication are due to the sudden but intermittent withdrawal of blood from the tissues of the affected limbs during activity, the result of a sudden narrowing of the caliber of the blood vessels (from vasomotor spasm) beyond that which is normal to the parts while at rest. It is perfectly evident that in this condition during rest the blood supply though feeble is ample for the requirements of the tissues, but during activity, owing to the increased metabolic changes occurring in the tissues, especially in the muscles, the blood supply being further diminished by sudden vascular spasm, is insufficient for the extra demands put upon the tissues, and hence are induced the symptoms, weakness, numbness, pain, spasm, and limping which are so characteristic of this disease.

"Ramsay Hunt well expresses it when he states that there are three factors in the production of this disease. *First*—one constant and organic in nature angiosclerosis, narrowing the caliber of the blood vessels; and *Two*—factors functional and inconstant; the tendency to vasomotor spasm, and the increased demand put upon the circulation during activity."

*Diagnosis.*—The diagnosis of intermittent claudication will in most instances be perfectly simple if one will bear in mind the five cardinal points so characteristic of this disease and mentioned in detail under the head of Symptomatology, namely; the intermittency of all the symptoms, the absence of the symptoms while the limbs are at rest, the development of numbness, cramp, weakness and painful limping on exertion; the disappearance of the symptoms after a brief period of enforced rest and the absence of or enfeeblement of the pulse in the dorsalis pedis and posterior tibial arteries.

*Prognosis.*—Owing to the organic factor angiosclerosis, in the production of most cases of this disease, the prognosis is unfavorable. Many of the cases improve, however, under appropriate treatment and a few of the early neurotic cases without objective arterial changes get well, or are so far restored that they are able to walk in a normal manner. This has been the result in the case of mine referred to under the head of etiology, of a Jewess thirty-five years of age, without objective arterial changes but with the characteristic intermittent limping and other associated symptoms, who has so far improved that she can walk perfectly for a mile or two without the slightest discomfort or occurrence of any of the symptoms of this disease. I may state that she was seen during the height of her disease by Dr. Putnam of Boston who concurred in the correctness of the diagnosis.

*Treatment.*—The treatment of this condition may be summed up as follows: Restriction of exercise, short of bringing on the attack, or absolute rest in bed; saline baths; gentle massage and electricity, particularly the D'Arsonval current, which relieves pain and produces vasomotor dilatation; vasomotordilators, especially nitroglycerin and sodium nitrite together with small doses of potassium or sodium nitrite and general tonics, particularly the glycerophosphates, arsenic and strychnia. Tobacco and alcoholic stimulants should be prohibited. The condition of flat foot should be carefully corrected; if a syphilitic infection is suspected a systematic and thorough course of mercury and the iodids should be given.

## THE HOSPITAL AS A TEACHING INSTITUTION.

Moreover trustees may overlook one important advantage of a teaching hospital. Who will be least slovenly and careless in his duties, he who prescribes in the solitude of the sick chamber and operates with two or three assistants only, or he whose every movement is eagerly watched by hundreds of eyes, alert to detect every false step, the omission of an important clinical laboratory investigation, the neglect of the careful examination of the back as well as of the front of the chest, the failure to detect any important physical sign or symptom? Who will be most certain to keep up with the progress of medical science, he who works alone with no one to discover his ignorance; or he who is surrounded by a lot of bright young fellows who have read the last *Lancet* or the newest *Annals of Surgery*, and can trip him up if he is not abreast of the times? I always feel at the Jefferson Hospital as if I were on the run with a pack of lively dogs at my heels. I cannot afford to have the youngsters familiar with operations, means of investigation or newer methods of treatment of which I am ignorant. I must perforce study, read, catalogue and remember, or give place to others who will. Students are the best whip and spur I know.—W. W. Keen.

# CONCERNING THE TECHNIC OF SKIN GRAFTING.

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THE necessity for the development of a simple, systematically planned technic for skin grafting, which can be relied upon to give uniformly good results under widely varying conditions, must be self-evident to all, and yet there is scarcely any other procedure in surgery to-day which the average operator approaches with a less clearly conceived plan of action than he does skin grafting.

It is the object of this paper to discuss briefly the more fundamental factors which have to do with this subject, and to describe a simple technic which has given practically ideal results in the hands of my partner, Dr. McMullen, and myself. The various steps employed are none of them original with us, but the method as a whole represents an attempt to carry out in an orderly and systematic manner those procedures best calculated to give a successful result.

The subject can best be dealt with under the following heads:

1. The surface to be grafted.
2. The grafts themselves.
3. The after care of the grafted area.

## THE SURFACE TO BE GRAFTED.

Fresh skin defects, such as result from the extensive removal of malignant growths, may be grafted at once, when the only preparation necessary fo rthe surface to be grafted, is careful hemostasis, or the grafting may be postponed until granulations have had an opportunity to develop over the denuded area. Either method is satisfactory, but for the larger defects, such as result from very extensive breast excisions, we usually prefer the latter plan. Under either plan, the ultimate success of the grafts depends upon the implantation of the epithelium upon a surface of granulation tissue; and when the grafts are placed directly upon the freshly cut surface, they make little actual progress until after the granulations have had time to develop beneath them, and in the meantime, in these cases, the epithelium seems often to have lost much of its vitality.

When secondary grafting is determined upon, we dress the wound at the time of operation with thirty or forty layers of plain sterile gauze, adjusted to fit accurately over the defect, and this part of the dressing is not removed until the sixth or seventh day following the operation. By this time the sutured portions of the wound will be nearly healed, and the surface to be grafted will be found covered with fresh firm granulations; an ideal surface upon which to plant the grafts.

Unless these clean wound defects are disturbed by frequent, meddlesome dressings, previous to the time of grafting, there is practically never any suppuration of the granulating surface. If suppuration should occur, or if there is sloughing of the skin flaps in the immediate vicinity of the defect, the grafting had better be postponed until the surface can be brought into proper condition, by the moist dressings as described below.

In cases of infected wounds or ulcers, or in the case of injuries where there is more or less sloughing of tissues, as in burns, crushing injuries, etc., it is necessary to postpone the grafting until such time as a clean, granulating surface can be obtained; and for the purpose of cleaning up such infected granulating surfaces, and as a dressing during the sloughing stage, when sloughs are present, there is no method so absolutely satisfactory as the large moist boric dressing applied in the manner described by Ochsner.

As we frequently see these dressings applied, they accomplish nothing at all, and for this reason I will describe the dressing in detail.

In the first place it must be large enough to retain the moisture for a considerable period of time, and it must also be large enough to absorb all wound secretions. As a rule the larger the better, but there should always be at least forty thicknesses of gauze soaked in a saturated solution of boric acid and applied directly to the surface of the wound. Outside of the gauze there should be an abundant layer of absorbent cotton, and outside of the cotton there should be a layer of oiled muslin or rubber tissue, the whole being held in place by a suitable bandage. This dressing should not be changed more than once a day and as a rule once in two days will be sufficient. With this method of dressing the wound there is practically no danger of infecting the deeper tissues, and as the slough comes away the raw surface will be found covered with a layer of firm, bright red, highly vascular granulations, which constitutes an ideal surface upon which to plant the grafts.

Sometimes if the secretion from the sloughing surface has been particularly irritating, or if the dressings have been applied too loosely, or if the part has not been properly elevated, the granulations may be too high and soft and boggy. Under such conditions it is better to remove the granulations down to the firm underlying tissue by curetting, as originally advocated by Thiersch, but instead of grafting immediately, it is better to reapply the boric dressing for two or three days, using a rather firmly applied bandage, as in this way a more favorable surface is procured upon which to plant the grafts.

The firm, clean granulating area presenting upon the removal of the dressing is histologically an ideal surface upon which to graft, and every effort should be made to protect this surface from trauma, either mechanical or chemical. For this reason we make no further attempt, after the removal of the last dressing, to cleanse the surface of the granulations, but apply the grafts directly to this surface. In this connection it may be mentioned that any attempt to cleanse the surrounding skin should

be done in such a way as not to disturb the granulating surface. Such cleansing is unnecessary and may be harmful, for it is impossible to make such an area aseptic; and bacteria contained in the dry boric powder on the skin at one side of the wound can do no harm if left alone, while they together with the soap and water may do harm if washed over onto the surface to be grafted.

Again, in this connection, it may be noted that histological studies show that any layer of blood or serum, no matter how thin, which may lie between the grafts and granulations, when the grafts are in place, delays the growth of the epithelium for just such a time as it takes to absorb the interposed material, thus it is imperative to avoid as far as possible, procedures which might cause hemorrhage from the surface of the granulations.

### THE GRAFTS THEMSELVES.

The importance of obtaining the grafts from the person to be grafted can not be overestimated, for grafts taken from any other individual are much less likely to prove successful. The researches of recent years, concerning the antagonism of tissues toward alien cells, seem to give us a basis for understanding this well-known clinical observation and, as a matter of fact, when the grafts are cut as thin as they should be, not all of the epithelium is removed even from the site furnishing the grafts, so that the damage done is of such a trivial nature that practically every case should be able to furnish its own grafts.

One point well worth remembering is the fact that if the grafts are cut as they should be there is very little pain connected with the procedure so that, except in young children, a general anesthesia is seldom necessary. This is apparently due to the fact that the nerve endings which transmit the sensation of pain are situated at a level deeper than that reached in cutting the thin grafts. In our own cases we have been in the habit of giving 1-100 grs. of hyoscin and 1-6 grs. of morphin hypodermically a few minutes before beginning the operation, and this method has given perfectly satisfactory results, especially when combined with some judicious remarks calculated to add an element of suggestive therapy to the effect of the hyoscin and morphin.

The grafts may be cut from any convenient surface, the anterior and lateral aspects of the thigh being usually the most available. The part selected should be shaved and thoroughly scrubbed with soap and water, being careful that the soap is entirely removed at the close of the washing and the part wiped dry before beginning to cut the grafts.

In order to cut these properly, it is absolutely necessary to have a sharp cutting instrument. The writer usually prefers a razor, because the steel in it can be depended upon to take a better edge than the steel in most knives used for this purpose. As boiling tends to dull the instrument, the razor or knife should not be boiled after sharpening, but should be sterilized a few minutes in alcohol and wiped dry just before using. Not only must the knife be sharp, but the skin, while the grafts are being cut, must be held absolutely fixed; preferably by an assistant making firm traction transversely, while the operator with his free hand makes traction in the line of the incision. The method often used of holding the skin longitudinally taut with a couple of wooden blocks is unsatisfactory, in so far as it does not prevent the to-and-fro motion of the skin in the direction of the razor blade.

Without first transferring them to the salt solution, the graft should be spread directly upon the area to be grafted, for even the most carefully prepared salt solution is not entirely harmless; and it is far simpler and quicker to transfer the grafts directly, by simply carrying them over on the blade of the razor.

Every effort should be made to have the grafts completely cover the area to be grafted, for the secretions which so often cause trouble after the grafts are in place, come almost entirely from the uncovered area; and the smaller the uncovered area left at the close of the operation, the less troublesome will be the subsequent secretion from the wound.

While it is often possible to transplant the connective tissue elements of the skin along with the epithelium and have the grafts live, as is shown by the successful use of the Wolfe-Krause whole skin method of grafting, it is nevertheless a well-known fact that the epithelial tissue is the one that lends itself most readily to transplantation and, as shown by the histological researches of Noeseke and others, it is the deeper (germinal and cylindrical) cell layers of the epithelium which really live to form the basis of the successful grafts. The Thiersch method of obtaining the grafts is the method which best makes use of these germinal cell layers and is the method commonly employed by most operators, but, in order that the grafts be properly cut, the operator must have a clear understanding of just what he wants to accomplish and must use great care in cutting the grafts.

The grafts should include the deeper layers of epithelium, with as little as possible of the connective tissue of the underlying corium, and when properly cut, only the projecting points of the connective tissue papillae are included in the grafts. In practice it is not difficult to accomplish this, if one remembers that the connective tissue of the corium, when removed with the grafts, gives them a whitish opaque appearance, whereas properly cut grafts have a pinkish, translucent appearance when spread on the surface to be grafted, also that while cutting the grafts, the cutting edge of the knife should always be visible through the translucent epithelium. Although the thicker whitish grafts often live and give satisfactory results, it is these thicker grafts

which so often apparently do well for the first few days, only to undergo an autolysis and disappear a few days later.

### THE AFTER CARE OF THE GRAFTED AREA.

In planning a dressing, the following are the chief points which must be kept in mind:

1. The most troublesome factor to be dealt with, and the one which most often causes failure after the grafts are properly applied, is the presence of a more or less toxic secretion from the granulating wound surface. This toxic secretion probably owes its toxicity largely to the saprophytic bacteria which are always present in countless numbers, but, whatever the cause of the toxicity, the presence of such secretion is highly detrimental to the grafts, which if left for any length of time in contact with it, tend to dissolve and disappear.

2. The grafts must be kept absolutely at rest on the grafted area.

3. Sufficient pressure should be exerted on the grafts to insure against the collection of fluid beneath them.

4. Exuberant granulations should not be allowed to form between the grafts, for such granulations here, as elsewhere, act as an obstruction tending to prevent the growth of epithelium over the as yet uncovered surface.

After having tried all the commonly used dressings, including rubber tissue, silver foil, the single layer of gauze as advocated by La Place, and the open air method, we have finally come to use routinely a simple, plain gauze dressing as being the one best calculated to fulfill the conditions necessary to success. This dressing consists of some forty to fifty thicknesses of plain, loose-meshed sterile gauze in the form of a pad cut to fit accurately the grafted area and held in place by narrow strips of adhesive plaster. On top of this there should be a layer of absorbent cotton held in place by a rather firmly applied bandage. This thick pad of gauze serves not only to hold the grafts in place with the proper amount of pressure, but it acts as a sponge to soak up the wound secretion during the first few days; the plain gauze acting in this way alone, much better than when any less porous dressing such as rubber tissue is used, next to the grafts.

This plain gauze dressing is left in place for five days, at the end of which time it may be removed with practically no danger of disturbing the grafts, provided a reasonable amount of care be used in the procedure.

To one who has not tried it this statement may seem questionable, but if we bear in mind the progressive changes which take place in the grafted area the first five days following the application of the grafts, it is easy to understand why there is little danger of the gauze being unduly adherent when the time comes for its removal. In the first place, by this time, the essential, deeper cell layers of the grafts have become fairly well fixed, while the superficial cornified layer of the skin, which was included in the original grafts, has become separated from the living epithelium, thus making the adherence of the gauze to the superficial cornified layer of no importance. Also by this time, the fibrinohemorrhagic exudate which escaped between the grafts at the time of the application of the dressing will have become softened by autolysis so that it no longer causes the gauze to adhere. It is thus seen that at this time, the gauze may be easily removed by simply taking the precaution to brush back with the dressing forceps any adherent edges of graft as the gauze is raised from the wound.

Subsequent to the removal of the first dressing there will, usually, be for several days a rather free discharge from the uncovered parts between the grafts, and during this time it is well to redress the area with plain gauze every second day, as a rule, at first, and then, as the discharge subsides, about twice a week.

For the first week or ten days following the application of the grafts it is important to keep the grafted part as quiet as possible and if the grafting is done on an extremity, the same should be elevated, as the congestion incident to a dependent position interferes with the growth of the grafts. Even after the epithelial defects are entirely closed it is well to keep the grafted area protected from trauma and if there is any tendency for crusts to form they should be removed by frequent bathing in warm water.

Although the various steps of the procedure have been described at some length, a recapitulation will show that the method is really a very simple one with the chief steps as follows:

1. Graft either on a freshly cut, non-infected surface or on a clean, firm, granulating surface without curetting or interfering with this surface in any way.

2. Take the grafts from the individual to be grafted.

3. In the majority of cases a general anesthetic is unnecessary.

4. Spread the grafts directly upon the surface to be grafted, without first transferring them to normal salt or other solutions.

5. See that the grafts completely cover the area to be grafted.

6. Cut the grafts so as to use the deeper epithelial layers of the skin, but so as not to include the connective tissue layer or corium. Grafts cut too thick have a whitish, opaque appearance, whereas properly cut grafts have a distinctly translucent appearance.

7. Dress with forty or more layers of plain, sterile gauze held in place by narrow strips of adhesive plaster, and apply an outer dressing of cotton, held in place by a moderately firm bandage.

8. Change the dressing for the first time on the fifth day and after that as often as may be necessary to keep the wound free from purulent material.

9. Keep the grafted area at rest during the first week or ten days and if it is an extremity, elevate the same to lessen congestion of the part.

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# CHYLOUS ASCITES IN AN INFANT SIXTEEN DAYS OLD.

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CHYLOUS ascites is a very rare condition, and particularly so during childhood. Its occurrence is so rare that many of the works upon the diseases of children do not even mention it. Koplik, in "Diseases of Infancy and Childhood," page 521, says, "There is a form of ascites which occurs rarely in children, and of which I have seen one example in a boy six years of age. It is called chylous ascites, and is marked by its chronicity and the milky or fatty nature of the exudate. It is more frequent in adults, but when present in infants or children, it is found between the ages of seven and ten years. In one case recorded by Wicklen, the accumulation followed an attack of pertussis in an infant six months of age."

A careful search of the literature fails to reveal the report or mention of any other cases during childhood.

As far as I know, the following case is the youngest of which we have a report—sixteen days:

The infant was referred to my service at the Williamsburgh Hospital, having been admitted on August 24, 1908.

## FAMILY HISTORY.

M. R. Male, sixteen days old, Polish parentage.

Father is active robust man, denying the history of any previous disease, but when examined giving a doubtful, but suggestive history of syphilis.

Paternal grandparents both in good health.

Mother is in excellent health, gives a negative history, and this is borne out by examination.

Maternal grandparents died of apoplexy and heart disease, respectively.

## BIRTH HISTORY.

The infant was born at full term. Labor was normal, but rather rapid and easy. Examination of the infant showed it to be normal, as far as the attending physician could determine. There were no swellings; the infant had a healthy color and was normally active.

On the third day of life, after breast feeding had been instituted, the mother noticed a slight enlargement of the infant's abdomen. This enlargement progressively increased and the activity of the infant progressively diminished but no attention was given to it, until the sixteenth day of life. At that time it was admitted to the hospital.

## PHYSICAL EXAMINATION.

The infant is anemic and the musculature flabby. The head is normal in size and shape, but the fontanels and sutures are widely open without any tension. The oral cavity is normal, except that at the angles of the mouth there are well marked fissures.

There is a slight discharge from the nostrils which has excoriated the upper lip.

The chest measures thirteen inches. Inspection, percussion and auscultation proved negative.

The abdomen is considerably enlarged, measuring nineteen and three-quarter inches. The abdominal wall is thin, the skin smooth and no veins prominent.

The navel is entirely healed.

Palpation impracticable; percussion reveals lateral areas of dullness with small tympanitic area in the centre of abdomen. Areas of dullness change with change of position.

The scrotum is swollen evenly to about the size of a baseball. The penis is buried in the swelling and cannot be brought into view. The scrotum is soft to the feel but becomes distinctly more tense while the infant cries. There is no distinct impulse. Position has no bearing, but gentle pressure if continued, results in a gradual reduction in the size of the scrotum.

There are two small anal fissures.

The extremities are normal and without any swelling.

Directly following this examination the scrotum was tapped and fifteen ounces of a fluid which closely resembled rich milk was withdrawn. As the fluid was allowed to flow from the scrotum, the abdomen became more and more lax.

For several hours after this, the fluid continued to flow very slowly from the puncture but the amount could not be measured and was estimated as three ounces.

Upon admission, the temperature was 98.2, pulse 98, respiration 24. Twelve hours after tapping, the temperature rose to 100, while pulse and respiration remained the same.

The result of the examination of the fluid obtained follows:

Milky white fluid, alkaline, odorless; S. G. 1010. There are a great profusion of fat cells, and a few leucocytes. The fluid is undoubtedly chyle.

Urine analysis: Chemical; light amber but cloudy, heavy sediment (milk like), acid, no albumin.

Microscopical; many cells of the shape and size of red blood cells, but under high power they appear crystaline; some nucleated cells.

Tests; when heated, the cloudiness disappears, addition of alcohol has no appreciable effect on cloudiness.

Further tests impossible because of small amount of specimen.

## CLINICAL COURSE.

Following the withdrawal of the fluid, there was nothing unusual about the infant's condition, except the rise in temperature, until August 27, when the nasal discharge became suddenly very profuse. This subsided in twenty-four hours. The infant rested well, slept soundly and cried but little. The nourishment was plain whey.

At the site of the puncture a slight inflammation appeared which was treated with bichlorid dressings.

On August 29, a rash appeared upon the abdomen and legs and had the characteristics of a syphilitic eruption.

On this day (five days after the first) another scrotal paracentesis was done and eight ounces of a similar fluid withdrawn.

The infant still continued in its usual comfortable condition and as the partial withdrawal of the fluid had not caused any appreciable discomfort or disturbance, it was decided on September 5, to draw off the remainder. At this third paracentesis, twelve ounces were obtained.

The examination of this fluid was entrusted to Dr. Thurston Dexter and his report follows:

Specimen, twelve ozs., fluid obtained by puncture of scrotum. Findings, milky white fluid, odorless. S. G. 1013. Reaction alkaline faintly. Shaken up with ether and filtered, a slightly opaque filtrate is obtained.

Microscopic examination reveals a profusion of fat cells, a few cholesterin crystals and a few colored blood corpuscles (the latter, undoubtedly due to the wound of incision).

The fluid has all of the characteristics of chyle.

The urinalysis was as follows:

Reaction faintly acid; colorless, like water clouded with milk; odorless, cloudy, moderate white sediment (1-40 vol.). S. G. about 1003 (quantity not sufficient, obtained by diluting).

Urea 0.001; sugar, negative; albumen, trace; indican, negative.

Microscopical; numerous cholesterin crystals; fat cells, profuse; bacteria, very few in number.

On September 6, a double inguinal hernia was evident, which was readily reduced by posture.

At this time, we decided to make some experiments as to the influence of diet, and particularly the effect of the fats added to the food. These were started, but on September 9, the mother insisted upon removing the infant from the hospital, as she feared a possible recurrence of the tapping.

On September 20, my able assistant visiting, Dr. E. D. T. Howell, hunted up the infant at its home and was allowed to get a meager report for us. I am indebted to him for the following:

The infant is markedly anemic; more so than at any time. The muscles are flabby, the infant does not seem to have made any gain since it left the hospital, and has now, the appearance of a marasmic child.

The abdomen remains normal both in size and appearance. The mother is nursing the infant.

I am indebted to Dr. O. H. Rohde for giving me the following report of the three visits which the patient made to his office:

September 9, found child with double inguinal hernia which was not at this time reduceable. Napkin area very much inflamed and irritated.

As the mother had practically no milk in the breasts, efforts were made to force secretion through diet and medication. This was successful, as is shown later.

September 19, general appearance of infant much improved.

Abdomen soft and pliable. As infant strained at stool, sphincters were dilated and a copious stool resulted. Hernia very readily reduced to-day and held back with adhesive straps.

September 30, infant still improving; scrotal sac greatly reduced in size; slight gain in weight; stool shows perfect assimilation of food; mother has abundant breast milk for infant; hernia easily reduced and held in place by application of adhesive straps.

That chylous ascites is a condition of which we know but little is shown by the meager literature on the subject, hence this rather full report.

The etiology is obscure.

At autopsy, there has been found tuberculosis of the peritoneum, of the thoracic duct and of the deeper glands.

Traumatism and the eruptive fevers have been considered as possible factors, as has also, infection with the filaria.

Ulceration of the lacteals, obstructions of the thoracic duct from thrombi, obstruction from pressure, cirrhosis of the liver, syphilis of the liver and enlarged spleen have been found postmortem.

The diagnosis must be made from the character of the fluid withdrawn; it is impossible to determine its peculiar character in any other way.

In view of the fact that this infant exhibited symptoms of congenital syphilis, and improved when an anti-syphilitic treatment was instituted, it is reasonable to suppose that there was some specific condition in the abdominal contents.

October 31, 1908, the infant is still alive and improving.

# ARTIFICIAL HYPEREMIA IN THE TREATMENT OF PULMONARY TUBERCULOSIS, WITH ESPECIAL REFERENCE TO THE KUHN MASK.*

**By FREDERICK E. BEAL, M.D.**

Adjunct Professor of Medicine, New York Policlinic Hospital; Visiting Physician to the North Western Dispensary,

NEW YORK.

IT seems to me, that there can be nothing of greater interest to the practitioner of medicine of to-day than the treatment of tuberculosis. Perhaps nothing is holding the attention of the profession at large more than this subject, and perhaps there is none that should receive our attention more. I do not wish to detain you by a résumé of the treatment of tuberculosis in general. Volumes are being written, and by the united efforts of the various societies, both national and private, for its prevention and cure, great good is being done, and unquestionably the time is at hand when we can say that tuberculosis is a curable disease, in contradiction to the old-time idea that a person with consumption was fatally ill.

It is my pleasure to call your attention to a new method of treatment, originated and ingeniously thought out by Dr. Ernest Kuhn, of the Charity Hospital, of Berlin, following the dictates of the great Bier, who has revolutionized and made new the treatment of joint tuberculosis. Kuhn, conceived the idea of hyperemia of the apices of the lungs as a treatment for phthisis pulmonalis. He argued that in all tubercular lesions of any tissue, whether it be bone, skin, peritoneum or lung, the area involved and that immediately surrounding the involvement was deficient in blood supply. He also argued that the blood is probably our greatest physiological antagonist to the tubercle bacillus, and proved that the tubercle bacillus when introduced into the blood, even in large numbers, rapidly disappear without causing any general symptoms.

His idea, therefore, following that of Bier, was to fight tuberculosis by our best physiological weapon—namely, blood. He has experimented during the last two and a half years, and has demonstrated to his satisfaction at least, why tuberculosis in ninety-five per cent. of cases involves the apices of the lungs. He has shown as we have ourselves learned in physics, that the point of greatest suction, is nearest the force that produces that suction. In ordinary breathing, we use almost exclusively our diaphragms, which work up and down, as a piston in a cylinder. Therefore, the greatest suction is nearest the force of suction, or the diaphragm. We know also, that suction, as a force, will produce hyperemia, as illustrated simply by suction on the back of the hand which will produce a red spot.

*Read by invitation before the County of Rockland Medical Society, at the Quarterly Meeting, held at Piermount, June 24, 1908.

He showed by further experiment that there was absolutely less blood, comparatively speaking, in the upper parts of the lungs than in the bases. Gravitation may play a part in this phenomenon, but when we consider the blood supply necessary for celebration it must play a minor part. Dr. Kuhn, therefore, devised a plan whereby the point of force of suction in respiration was removed from the diaphragm to the upper air passages. He devised a mask, which by hindering inspiration, throws the muscles of inspiration into active service, causing thereby in the upper portions of the lungs more or less of a vacuum, or rather suction, thereby intending, by this suction, to increase, comparatively, the usual amount of blood in the apices.

The mask is a simple device, fitting closely over the nose and mouth. The hindrance to inspiration is graduated by a little slide placed on the nasal chamber. By two little circular valves inspiration can only take place through the nose, while expiration on the other hand is perfectly performed through the nasal and mouth chambers. It can be easily cleaned by such powerful antiseptics as phenol and mercuric chlorid solutions. Dr. Kuhn's method of using it, is to have the patient flat upon his back, clothing loosened, and wear the mask ten minutes in the forenoon and ten minutes in the afternoon. There will be only slight hindrance to inspiration at first. The time is rapidly increased by ten and twenty minutes a day, until the patient uses the mask four hours in the forenoon and four hours in the afternoon each day. The hindrance to inspiration is also proportionately increased until the accessory muscles of inspiration are brought into visible play.

A letter from Dr. Kuhn a week ago says that he is now using the mask as much as ten hours daily. As to the practical results of this treatment, I will say that I had the pleasure last summer of spending several weeks in the Charity Hospital, and watching daily, the results of this treatment. Dr. Kuhn placed at my disposal, some four hundred cases, in every stage of phthisis, together with the ward records, histories, laboratory findings, etc., and in which there was without a single exception, and I say this unqualifiedly, an amelioration, in the symptoms of each, even in the most advanced cases. Especially was noted that the cough and the fever were relieved and the patients gained in weight, strength and ambition. It was surprising to me at first that patients brought into the hospital in active hemorrhage used the mask with impunity, though at first thought one would think a mask would increase or even produce hemorrhage. Dr. Kuhn explained this to me most conclusively by the skiagraphs of each patient having hemorrhage, both before the use of the mask and during its use. And this is a most important point. While the use of the mask does increase the muscular act of inspiration, yet a moment's thought will show that because of hindered inspiration, the actual excursion of the lung is indeed lessened; therefore, instead of violently increasing the expansion of the lung, which we know in recent date to be most harmful, we have instead the lung actually put at rest.

The treatment of these patients by any measures other than that under consideration was absolutely nil. They received the regular hospital diet, with no increased fat or albumen, and they received no medicines with the exception perhaps of an occasional cathartic.

Microscopical findings were most accurately kept. Points of greatest interest being the rapid elimination of the bacillus tuberculosis, the longer persistence in the mixed infected cases of the streptococci and the staphylococci, also rapid increase of red blood cells and the decrease of the white cells. I have myself observed the increase of the red cells one million in a three hours' use of the mask. This last is explained by Kuhn on the same principle that the extra effort toward ozonation at high altitudes increases the red cells. I might add that this treatment is attracting a great deal of attention throughout Europe, and most flattering reports are found in the various journals. In this country, but two or three reports to my knowledge have been made, and they, in my opinion, were too early to be of conclusive benefit. I, myself, since the first of last November, have been trying it on now about twenty cases, and without, tiring you with detail, I will say with surprisingly good results.

In conclusion allow me to say, that the use of the Kuhn mask is but carrying out the principle originated by Bier; namely, that blood is our greatest physiological antagonist to the tubercular bacillus, and by proving as he has, scientifically, that the apices are relatively anemic, and thereby an easier prey for the invasion of this bacillus, he by his method increases the supply of blood to the weakened or involved parts. Kuhn himself, even in his recent letter to me claims absolutely nothing for his method of treatment other than the actual facts shown. It is yet experimental, as it has not been in use long enough for final conclusions.

124 West Seventy-seventh Street.

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Medical men have been sadly derelict in bringing to bear the influence on public affairs which should have been exerted by a learned and influential profession. We have tamely relinquished almost all political power and influence until, as a profession, we have almost ceased to be a factor in shaping legislation. We are largely to blame for this ourselves, as we have maintained an attitude of cold hostility toward any member of our profession who ventured to seek political preferment no matter how able and well qualified he might be. In the meantime we have begged favors when we should have been in position to have dispensed them. We should not submit to being relegated to a subordinate position. We should take a lesson from the legal profession on this subject.—*Dr. Geo. T. McWorter.*

# Medical Society of the State of New York

17 West 43d Street, New York.

JANUARY 9, 1909.

The regular Annual Meeting of the House of Delegates of the Medical Society of the State of New York will be held on January 25, 1909, at 8.30 P. M., in the Common Council Chamber, City Hall, corner Maiden Lane and Eagle Street, Albany, N. Y.

ARTHUR G. ROOT, *President.*
WISNER R. TOWNSEND, *Secretary.*

JANUARY 9, 1909.

The Annual Meeting of the Medical Society of the State of New York will be held on January 26, 1909, at 9 A. M., in the Common Council Chamber, City Hall, corner of Maiden Lane and Eagle Street, Albany, N. Y.

ARTHUR G. ROOT, *President.*
WISNER R. TOWNSEND, *Secretary.*

## PROVISIONAL PROGRAM.

PROVISIONAL PROGRAM FOR THE SCIENTIFIC MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, JANUARY 26 AND JANUARY 27, 1908, IN THE COMMON COUNCIL CHAMBER, CITY HALL, ALBANY.

TUESDAY, JANUARY 26TH, 9 A. M.

President's Address, Arthur G. Root, Albany
Address: The Modern Hippokrates,
Abraham Jacobi, New York
The Serum Treatment of Cerebro-Spinal Meningitis,
L. Emmett Holt, New York
Discussion opened by Simon Flexner, New York.
Scarlatina, H. A. Fairbairn, Brooklyn
Physical Training of Children,
F. W. Sears, Binghamton, N. Y.
Glandular (Pfeiffers') Fever.
W. B. Garlock, Little Falls, N. Y.
Improvements in the Technique of the Extraction of Cataract, Lucien Howe, Buffalo
Mellers' Operation for the Removal of the Tear Sac with report of cases, A. E. Davis, New York
Ophthalmia Neonatorum, Julien A. Gehrung, New York
Intra-muscular Injections in the Treatment of Syphilis, Victor C. Pedersen, New York
Some of the Problems relating to Prostatectomy,
L. Bolton Bangs, New York
Some further Observations on Prostatectomy based on one hundred Cases, J. Bentley Squier, New York

2 P. M.

Untoward Results from Diphtheria Antitoxin,
H. F. Gillette, Cuba, N. Y.
Title to be announced later, W. M. Polk, New York.
Trauma as an Etiological Factor in the Production of Spinal Cord Tumors, William C. Krauss, Buffalo
Epilepsy, W. H. Kidder, Oswego, N. Y.
Short Duration Typhoid Fever,
Warren Coleman, New York
X-ray Treatment of Leucaemia,
W. J. Schuyler, Utica, N. Y.
The Present Status of Roentgenology,
E. W. Caldwell, New York
Voluntary Patients in State Hospitals,
Albert Warren Ferris,
President State Commission of Lunacy
Voluntary Patients in State Hospitals from a legal standpoint, Hon. John Lord O'Brien, Buffalo, N. Y.
Discussion opened by R. H. Hutchings, Ogdensburg, N. Y.

8 P. M.

Symposium on Infections of the Middle Ear of Interest to the General Practitioner:

THE PURULENT DISEASES OF THE MIDDLE EAR.

(*a*) Etiology and Pathology,
J. E. Sheppard, Brooklyn, N. Y.
(*b*) Modern Non-Operative Methods of Treatment,
Edmund P. Fowler, New York
(*c*) The Indications for and Results of Operative Treatment, Including the Simple and Radical Mastoid Operations,
Wendell C. Phillips, New York
(*d*) The Treatment of Meningeal, Sinus and Labyrinthine Complications,
S. MacCuen Smith, Philadelphia, Pa.

Discussion by:
Arthur G. Root, Albany; Henry A. Alderton, Brooklyn, N. Y.; T. Passmore Berens, New York City; Lefferts A. McClelland, Brooklyn, N. Y.; James F. McCaw, Watertown, N. Y.; Samuel J. Kopetzky, New York City.; Charles N. Cox, Brooklyn, N. Y.; Philip D. Kerrison, New York City; H. C. Haskin, New York City; Wendell C. Phillips, New York City; T. H. Halsted, Syracuse, N. Y.; T. H. Farrell, Utica, N. Y.; J. A. Kenefrick, New York City; R. Johnson Held, New York City.
Rabies and the Prevention of Hydrophobia,
Herbert Pease, Albany
The Nature of Foot and Mouth Disease,
Veranus A. Moore, Ithaca, N. Y.

WEDNESDAY, JANUARY 27TH, 9 A. M.

The Problem of Efficient Nursing of Persons of Moderate Income, W. O. Stillman, Albany
Report on a Case of Scleroderma with Exhibition of the Patient, Samuel B. Ward, Albany
The First Interview with the Patient,
W. S. Ely, Rochester, N. Y.
Relative Aortic Incompetency of Muscular Origin,
J. M. Anders, Philadelphia, Pa.
The Relation of Ocular and Cardio-vascular Diseases, Arthur J. Bedell, Albany
Lessons from Physiology and Treatment of Cardio-vascular Diseases, W. M. Gibson, Utica, N. Y.
Angina Pectoris, G. R. Butler, Brooklyn
Baths and Exercise in the Treatment of Heart Disease, Louis F. Bishop, New York
Discussion opened by Jno. A. McCorkle, Brooklyn.
"Acute Anaemia," George W. Crile, Cleveland, Ohio
Therapeutic Value of Blood Transfusion,
W. F. Campbell, Brooklyn, N. Y.
Discussion opened by W. G. Macdonald, Albany, N. Y.
"Report of a Series of Cases of Gastro-enterostomy; with remarks,"
E. A. Vander Veer, Albany, N. Y.
Some Surgical Considerations on the Treatment of Acute Hemorrhagic Pancreatitis,
C. G. McMullen, Schenectady, N. Y.
"Some Congenital Abnormalities of Cervical and Spinal Origin,"
Nathan Jacobson, Syracuse, N. Y.
Report of a case of Thorax Transfixion,
E. M. Hyland, Utica, N. Y.

2 P. M.

SYMPOSIUM ON FRACTURES.

Fractures of the Skull and their Surgical Treatment,
H. G. Cushing, Baltimore, Md.
Some points in the Diagnosis and Operative Treatment of Fractures, Lewis A. Stimson, New York
Fractures of the Neck of the Femur,
Royal Whitman, New York.
Compound Fractures, Martin B. Tinker, Ithaca, N. Y.
Remote Results following Excision of the Shoulder Joint for Trauma and Disease,
Charles L. Scudder, Boston, Mass.
Discussion opened by Joseph D. Bryant, New York.
Volkmann's Ischaemic Paralysis and Contractures,
R. H. Sayre, New York
"A Case of Leukemia with Unusual Blood Findings," H. G. Webster, Brooklyn, N. Y.
New Plastic Operation for Cicatricial Palato-Pharyngeal Contractures and Adhesions,
John O. Roe, Rochester, N. Y.

## MEETING OF THE COUNCIL.

A meeting of the Council of the Medical Society of the State of New York was held at the Hotel Hampton in Albany on Saturday, December 5th at 8.30 P. M.

*Present*—Dr. A. G. Root, President in the Chair; Dr. Wisner R. Townsend, Secretary, and Drs. E. H. Bartley, W. A. Moore, W. M. Gibson, L. H. Neuman, S. W. S. Toms, W. J. Nellis, C. Stover and Frank Van Fleet.

Minutes of the last meeting were read and approved.

Dr. S. W. S. Toms presented the following for the Committee on Publication:

"The Committee on Publication begs leave to report that the JOURNAL has been regularly issued during the year and that the cost to the Society will be about the same as in previous years. Estimates have been secured from reliable printers which show that the cost to the Society for transactions would be greater than the cost of the JOURNAL and the value of the JOURNAL is very great as a means of keeping the profession regularly informed as to what is going on in the State Society, District Branches, and the county organizations, besides affording the Committee on Legislation an opportunity of informing the profession of matters affecting it that may come before the Legislature.

Beginning with the January issue, the Committee has decided to omit the cover. This will reduce the cost and will also diminish the bill for postage as the JOURNAL will weigh less.

The tenth volume of the Directory has been issued on time and is believed to be more accurate and complete than any of the preceding volumes.

Full particulars of the work of the Committee and the cost of the publications of the Society will be presented in the annual report which cannot be compiled until the close of the fiscal year, December 31, 1908."

(Signed) J. C. BIERWIRTH, *Chairman.*

Moved, seconded and carried, that it be received and placed on file.

The Secretary presented the following report:

"The Society moved to 17 West 43d Street on October 1st in quarters supplied for them by the Committee on Finance, acting under the resolution of the Council passed at the May meeting. The new quarters are much better arranged; the light is better, and the facilities for doing the work of the Society expeditiously and economically are superior to those in the old rooms. The Academy of Medicine being central and known to all physicians makes it a particularly desirable place for headquarters, and it is hoped that the various members of the State Society, when they visit New York, will make themselves at home in the State rooms."

The Secretary recommended that the Council urge upon the House of Delegates to request County Societies to repeal the following section in their By-Laws:

"When a member removes from the State of New York permanently, he shall cease to be a member of the society and shall forfeit all right and title to any share in the privileges and property of the society, the District Branch and the Medical Society of the State of New York."

The number of non-resident members is necessarily very small, and if a member who has been in good standing for years, removes from the State and desires to keep up his affiliation, it does not seem desirable to forbid him so to do, providing he is willing to pay all dues and assessments.

The Council, by unanimous vote agreed to the same.

The following amendments to the Constitution and By-Laws proposed at the meeting in January, 1908, were discussed and approved:

Amend the Constitution, Article III, by adding a new Section 2, to read as follows:

"All officers shall assume office at the close of the annual meeting of the Society."

Section 2, Article III, of the present Constitution will then become Section 3.

Amend the By-Laws, Chapter IV, Section 1, by striking out Section 1, and substituting therefor the following:

SECTION 1. The Council shall meet at the close of the annual session of the Society, to organize for the ensuing year.

It shall meet once during the months of May and December of each year, the time and place to be selected by the President, and it shall meet at such other times as occasion may arise, upon the request in writing of five members of the Council, or upon the call of the President.

It should be noted that the Council has omitted the words "and outline the work" from Section 1.

And by adding:

SECTION 2. Seven members shall constitute a quorum.

Section 2 then becomes Section 3, and Section 3 then becomes Section 4.

The Council recommends to the House of Delegates that all amendments relating to Council and Committee on Publication be disapproved as they conflict with the Constitution and they believe the appointment of a new standing Committee undesirable, especially as the Committee on Publication, under present amendment would elect its own Chairman, where the House of Delegates elect all other Chairmen.

The present plan of a Committee to be appointed by the Council, and under its immediate control is believed to be superior to that proposed in the amendment. These amendments are as follows:

Amend the By-Laws, Chapter IV, Section 2, by striking out the following:

The Council shall provide for and superintend all publications and their distribution and shall have authority to appoint an editor and such assistants as it may deem necessary.

The report shall also specify the character and cost of all publications of the Society during the year, and the amount of all property belonging to the Society under its control.

Amend the By-Laws by adding to Chapter VII, Section 1, after the words "A Committee on Arrangements the words "A Committee on Publication," and a section to read as follows:

SECTION 6. The Committee on Publication shall consist of five members: The Secretary and Treasurer of the Society, and three other members. The members of the Committee, except the Secretary and Treasurer, shall be elected to serve three years each, and at the first election held after the adoption of this By-Law, one member shall be elected for three years, one member for two years, and one member for one year, and thereafter each year a member shall be elected to serve for three years.

At the first meeting held after the adjournment of the annual meeting of the Society, the Committee shall select one of its members to act as chairman and he shall serve for one year, or until his successor is elected.

The Chairman of the Committee shall be entitled to a seat in the Council.

The Committee shall provide for and superintend all publications and their distribution, and shall have authority to appoint an editor and such assistants as it may deem necessary, and to fix their salaries.

All moneys of the Society received by the Committee from any source shall be promptly paid to the Treasurer.

It shall hold regular meetings and keep minutes of the same, and make an annual report to the House of Delegates, specifying the character and the cost of all publications of the Society during the year, and the amount of all property of the Society under its control.

The proposed amendment to the Genesee County By-Law as follows: That Section 4 of Chapter IX, be so amended as to read "Five members shall constitute a quorum," was referred back for further information.

Dr. Neuman, Chairman of the Committee on Scientific Work reported progress and that the preliminary

program would be published in the January issue of the JOURNAL.

Dr. Van Fleet reported for the Committee on Legislation: That the coming session of the Legislature will see a new bill on Anti-Vivisection, and asked for suggestions.

Dr. Heffron, who was unavoidably absent sent the report for the Committee on Public Health:

"I find I am unable to attend the meeting of the Council this evening. The attorney for The Onondaga County Medical Society sent me a very large number of documents which had to do with the prosecution of the illegal practitioners in Syracuse. I am sorry to say that since the new law has come into effect we have secured only one indictment, and that was in a case so manifestly bad that no jury could fail to see it. In all the other prosecutions the reporters have written it up as if it were a comic opera and no jury has agreed upon a verdict in our favor.

On the other hand, I am very glad to say that there are very few illegal practitioners in the County of Onondaga at present. We are endeavoring to do everything in our power to purify the practice of medicine but find the difficulty, which I presume every county has, of not having sufficient funds at our disposal for the successful prosecution of these cases.

The attorney for the county society is out of town but has promised to send a special delivery report on the subject. If it comes early enough to get it to you, I shall certainly do so."

Dr. Nellis reported for the Committee on Arrangements that the 1909 meeting would be held as usual in the City Hall, and the Dinner at the Ten Eyck.

Drs. Stover, Gibson, Toms, Moore and Bartley reported on the subject of quacks and illegal practitioners in their respective Districts and all recommended that the State Society assist the local organizations in their efforts to suppress them.

Moved, seconded and carried that the motion passed at a previous meeting, to have a three days' session, be reconsidered.

Moved, seconded and carried that it is the sense of the Council that the Committee on Scientific Work be instructed to arrange a program for all of Tuesday and Wednesday and that no session be held on Thursday.

The President presented the following Resolution, which was unanimously adopted:

It is with the utmost regret that the Council of the Medical Society of the State of New York, now assembled, have learned of the death of Dr. John T. Wheeler of Chatham, N. Y., the Second Vice-President of this Society, and we desire to express our high esteem for our late friend and extreme sorrow at the termination of so useful a life. It is therefore,

RESOLVED, That the President appoint a committee of three members of the Society to draft a suitable memorial, the same to be printed in the NEW YORK STATE JOURNAL OF MEDICINE and a copy sent to the family.

The President appointed Drs. F. C. Curtis, Albany, S. V. Whitbeck, Hudson and H. C. Gordinier, Troy.

It was also moved, seconded and carried that Dr. Neuman represent the Council at the funeral.

Moved, seconded and carried that the President appoint a committee of three to make the annual report, which shall include a list of the meetings and the recommendations in regard to the amendments to the Constitution and By-Laws, and the recommendation in regard to the repeal of Section 8, Chapter II of the County By-Laws. And that the report of the Committee on Publication be included in that of the Council.

The President appointed Drs. E. H. Bartley of Brooklyn, Alexander Lambert of New York, and Wisner R. Townsend of New York.

There being no further business, the minutes of the meeting were read and approved. The Council then adjourned to meet on the night before the Annual Meeting, unless called together before then by the President.

WISNER R. TOWNSEND, *Secretary.*

## DISTRICT BRANCHES.

### FIRST DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

SECOND ANNUAL MEETING, POUGHKEEPSIE, OCT. 21, 1908.

*Program.*

BUSINESS SESSION.

Amendment to By-Laws offered at the last meeting, November 8, 1907, were read and adopted: "Thirty members to constitute a quorum at a meeting for business purposes.

Dr. Ernest Schmid of White Plains moved that the attention of the Westchester County Society be called to the alleged abuse at its Westchester County Alms House at East View. Carried.

Dr. H. J. Boldt, of New York, moved that the First District Branch approve of its action of the American Medical Association to bring to the notice of the medical profession the abuses arising from negligence, resulting in Ophthalmia Neonatorum, and further moved that a committee be appointed by the President of the First District Branch, having a representative from each County, to inquire into the plan for the prevention of Ophthalmia Neonatorum. Carried.

A Committee was also appointed to co-operate with the State Department of Health in Albany in a plan now under consideration by the Division of Communicable Diseases.

The President appointed the Secretary of each County in the First District Branch as a member of this Committee.

The following officers were elected: President—Chas. E. Townsend, Newburgh; Vice-President—Theodore D. Mills, Middletown; Secretary—Charles E. Denison, New York City; Treasurer—James E. Sadlier, Poughkeepsie.

SCIENTIFIC SESSION.

Dr. S. W. S. Toms, President, read the opening address.

Dr. H. E. Schmid, of White Plains, referring to the paper of Dr. Toms, spoke of the excellent sanitary inspection work done in White Plains.

"A Successful Demonstration of the Problem of Obtaining Sterile Cow's Milk," John T. Howell, Newburgh.

"A Campaign against Tuberculosis," S. E. Getty, Yonkers.

"Some Observations on the Expert in Insanity," H. E. Schmid, White Plains.

"The Control of Ophthalmia Neonatorum," John T. Wheeler, Chatham.

"Anterior Poliomyelitis," M. W. Barnum, Ossining.

"The Sequelae of Peritonitis and Post operative Sequela"—The Importance of Correcting and preventing both, Joseph Price, Philadelphia, Pa.

"Some Nose, Throat and Ear Symptoms of Significant Interest in General Practice," D. S. Dougherty, New York.

"The Prevention and pre-operative Treatment of Mastoiditis," W. S. Bryant, New York City.

"The Detection and Treatment of Abnormal Blood Pressure," L. F. Bishop, New York City.

"The Prognosis and Treatment of Abnormal Blood Pressure," Egbert LeFevre, New York City.

# COUNTY SOCIETIES.

## RICHMOND COUNTY MEDICAL SOCIETY.

ANNUAL MEETING DECEMBER 9, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected for the coming year: President—Eugene J. Callahan, West New Brighton; Vice-President—Walker Washington, Tottenville; Secretary and Treasurer—C. E. Pearson, Tompkinsville; Censors—William Bryan, George P. Jessup and Ernest E. Hillyer.

Delegate to State Society—William C. Walser.

Delegate to Second District Branch—D. P. MacGuire. Alternate—A. H. Thomas.

## MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

REGULAR ANNUAL MEETING, DECEMBER 8, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected: President—H. G. Hughes, Schenectady; Vice-President—Wm. P. Faust, Schenectady; Secretary—L. A. Gould, Schenectady; Treasurer—G. V. Johnson, Schenectady.

SCIENTIFIC SESSION.

President's Address: "Preventative Methods in Medicine," W. W. Goddard.

## MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

ANNUAL MEETING, KINGSTON, DECEMBER 1, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected for the coming year: President—James L. Preston, Kingston; Vice-President—Thomas Keator, Accord; Secretary—Mary Gage-Day, Kingston; Treasurer—E. E. Norwood, Kingston; Censors—Adelbert Mambert, Mark O'Meara, Aden C. Gates, Daniel Connelly and Albert H. Palmer.

Delegate to the State Society—Elbert H. Loughran.

Alternate—A. A. Stern.

Delegate to the Third District Branch—Frank Keator.

Alternate—Joseph Bongartz.

Delegate holding over, having been elected for two years at the previous meeting—Henry Van Hoevenberg.

Alternate—Geo. W. Ross.

The Delegates to the State Society were instructed to vote for the continuance of the Directory.

SCIENTIFIC SESSION.

Annual Address, Aden C. Gates.

The Eye Yesterday and To-Day, Prof Francis Valk.

"Mastoiditis," J. J. Thomson.

A very enjoyable dinner was served after the Meeting.

## TOMPKINS COUNTY MEDICAL SOCIETY.

ANNUAL MEETING, ITHACA, TUESDAY, DECEMBER 15, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected:

President—I. M. Unger, Ithaca; Vice-President—Homer Genung, Freeville; Secretary—H. I. Andrews, Ithaca; Treasurer—W. Wilson, Ithaca.

SCIENTIFIC SESSION.

"Body Temperatures," Sutherland Simpson.

"Osteopathy," H. B. Besemer.

"A Conundrum," Luzerne Coville.

"Ectopic Gestation," H. I. Andrews.

## OTSEGO COUNTY MEDICAL SOCIETY.

102ND ANNUAL MEETING, ONEONTA, DECEMBER 8, 1908.

*Program.*

BUSINESS SESSION.

The Secretary reported that there were 83 physicians in Otsego County, two more than last year.

A Committee of five was appointed to make a special effort to increase the membership of the Society.

At the afternoon session an obituary was read by Dr. Cutler, of Oneonta, of Dr. Chas. E. Parish, of Maryland, N. Y., in which a fitting tribute was paid to the doctor as a man and a physician.

The meeting was well attended, and the scientific papers, which were of a most interesting character, were as follows:

Rare Surgical Cases, H. W. Boorn.

Successful Treatment for some Forms of Skin Diseases, D. B. Manchester.

"Ether Gas Anesthesia," C. R. Marsh.

After the meeting the members dined at the Central Hotel.

## SCHOHARIE COUNTY MEDICAL SOCIETY.

ANNUAL MEETING, COBLESKILL, DECEMBER 8, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected:

President—C. S. Best, Middleburgh; Vice-President—E. E. Braman, Livingstonville; Secretary—Carolyn L. Olendorf, Cobleskill; Treasurer—Le R. Becker, Cobleskill; Censor—W. T. Rivenburgh.

An interesting paper on "Infant Feeding" was read by J. J. Beard and a discussion followed by C. S. Best, J. J. Miller and C. L. Olendorf.

## THE SUFFOLK COUNTY MEDICAL SOCIETY.

ANNUAL MEETING OCTOBER 29, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected for the coming year:

President—Marcus B. Heyman, Central Islip; Vice-President—S. Busby Allen, Riverhead; Secretary—Frank Overton, Patchogue; Treasurer—Barton D. Skinner, Greenport; Censors—E. S. Moore, P. B. V. Fowler and C. E. Wells.

Two new members were elected.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

ANNUAL MEETING.

The One Hundred and Third Annual Meeting of The Medical Society of the County of New York was held at the New York Academy of Medicine on Monday evening, November 23, 1908. Besides the scientific session the business of the evening consisted in the election of Officers, Censors and Delegates. The following were elected:

Total number of votes cast for President, 360, of which H. Seymour Houghton received 359.

Total number of votes cast for First Vice-President, 360, of which John E. Wecks received 359.

Total number of votes cast for Second Vice-President, 360, of which Joseph Brettauer received 359.

Total number of votes cast for Secretary, 360, of which John Van Doren Young received 220 and A. Ernest Gallant, 110. Defective votes, 30.

Total number of votes cast for Assistant Secretary, 360, of which J. Milton Mabbott received 180, and George D. Scott, 146. Defective votes, 34.

Total number of votes cast for Treasurer, 360, of which Charles H. Richardson received 359.

Total number of votes cast for Censors, 360, of which J. Riddle Goffe received 230; Charles G. Kerley, 156; Henry M. Painter, 155; Nathan E. Brill, 95; Frank H. Daniels, 75; Frederic Bierhoff, 70; Samuel A. Brown,

61; George B. McAuliffe, 60; Albert W. Ferris, 29; Edward Emory Tull, 19. Defective votes, 22.

Total number of votes cast for Delegates, 360, of which Egbert Le Fevre received 273; Floyd M. Crandall, 261; H. Seymour Houghton, 255; Walter Lester Carr, 254; Abraham Jacobi, 251; Charles H. Richardson, 249; J. Milton Mabbott, 244; John A. Bodine, 234; E. Eliot Harris, 233; Arnold H. Knapp, 227; H. M. Silver, 224; Ward Bryant Hoag, 220; Edward M. Foote, 210; Edmund Prince Fowler, 209; Michael C. O'Brien, 206; Frank S. Fielder, 187; Frederic R. Sturgis, 185; Chas. G. Child, Jr., 183; Richard G. Wiener, 166; William S. Gottheil, 162; Henry Heiman, 139; Sigmund Pollitzer, 133; Emil Mayer, 120; Herman Grad, 103. Defective votes, 56.

Reports were received from the Officers, Special and Standing Committtees and Counsel. All were of unusual interest and showed that the year had been one of marked activity in all the branches of work in which the Society is engaged. The report of the Treasurer is as follows:

## CONDENSED SUMMARY OF ACCOUNTS FOR THE YEAR ENDING NOVEMBER 19, 1908.

### Income and Expenditure Account.

*Receipts.*

| | | |
|---|---|---|
| Balance on hand Nov. 20, 1907.. | | $263.75 |
| Dues from Members..... | $12,117.00 | |
| Initiation Fees ..... | 1,616.00 | |
| Fines for illegal practice..... | 2,200.00 | |
| Milk Commission ..... | 4,701.65 | |
| Miscellaneous receipts ..... | 22.97 | |
| | | 20,657.62 |
| | | $20,921.37 |

*Disbursements.*

| | |
|---|---|
| State Assessment (arrears for 1907)..... | $531.00 |
| State Assessment (1908)..... | 6,069.00 |
| Salaries and Disbursements of Counsel (Sturcke & Andrews)..... | 1,771.51 |
| Salaries and Disbursements of Counsel (Whitman & Vandiver) ..... | 2,619.19 |
| Milk Commission ..... | 4,428.68 |
| Collations ..... | 480.00 |
| Rent of Academy of Medicine..... | 375.00 |
| Expenses of Administration..... | 3,746.34 |
| | $20,020.72 |
| Balance on hand Nov. 19, 1908..... | 900.65 |
| | $20,921.37 |

Charles H. Richardson, in account with the Medical Society of the County of New York. Balance Sheet for the Year Ending November 19, 1908.

*Liabilities.*

| | |
|---|---|
| Balance, Income & Expenditure Account.. | $900.65 |
| Amount of Deposit in Knickerbocker Trust Co. (October 22, 1907)..... | 4,917.46 |
| Interest ..... | 169.67 |
| | $5,987.78 |

*Assets.*

| | |
|---|---|
| Cash in Lincoln National Bank..... | $900.65 |
| Cash in Knickerbocker Trust Co..... | 2,041.97 |
| Deferred Payments Knickerbocker Trust Co. ..... | 1,559.73 |
| Surplus Certificate ..... | 1,485.43 |
| | $5,987.78 |

We hereby certify that the above balance sheet is correct as shown by the books.

(Signed) William L. Stowell,
Edward F. Hurd,
John W. Draper Maury,
*Auditing Committee.*

The report of the Counsel, Mr. Almuth C. Vandiver, was most interesting and among the cases reported was that of the John H. Woodbury Dermatological Institute; the important question in this case was whether or not a corporation could practice medicine or advertise to practice. The Court of Special Sessions, before whom the case was tried, found the defendant guilty. Justice Duel held that the license to practice medicine was an individual one and could not be granted a corporation, and that, therefore, a corporation could not practice or advertise to practice medicine. This was upheld by the Appellate Division of the Supreme Court and, upon further appeal to the Court of Last Resort this fact was also indorsed and the conviction affirmed. The Counsel also reported that steps are being taken to revoke the license of six practitioners of medicine, each of whom has heretofore been convicted of a crime in the County of New York. He stated that an effort had been made to have deterrent prison sentence inflicted upon medical criminals instead of fines as heretofore, and that the aggregate number of years of imprisonment imposed in cases prosecuted by him had been eight years, seven months and twenty-five days.

The Committee on Legislation reported that 324 bills and amendments to bills relative to medical subjects had been introduced into the last Legislature. They referred to the Optometry Bill as representing unusual and unjust class legislation. They also called attention to the necessity of fighting the Anti-Vivisection Bill which had been defeated last year and which will probably come up next year.

The Comitia Minora reported that eight meetings of the Society had been held with an average attendance of 257; that there had been 65 dropped for nonpayment of dues; 19 resignations; 26 deaths; the active list at present embraced 2,262 members; a net increase during the year of 29, not including members elected at this meeting.

The Special Committee on New Members, Dr. Victor C. Pedersen, Chairman, made its report, which demonstrated very clearly the value of such a Committee to work in conjunction with the Committee on membership; 155 new members having been brought into the Society during the year through the efforts of this Committee.

The report of the Milk Commission showed that 15,000 quarts of milk dispensed daily in New York, are under the supervision of the Commission, either as certified or inspected milk, an increase of 4,000 quarts per day since last year.

### Scientific Session.

A Symposium on Tuberculosis; arranged as a Part of the Introductory Exercises attending the Opening in New York of the Exhibit of the International Tuberculosis Congress at Washington.

1. The Lessons of the recent International Tuberculosis Congress. By Woods Hutchinson, M.D.

2. The Incidence of Tubercular Bacilli in New York City Milk, with the Study of its Effect on a Series of Children. By Alfred F. Hess, M.D.

*Discussion*—By Henry Koplik, M.D.; Rowland G. Freeman, M.D.

3. The Relative Importance of Human and Bovine Types of Tubercle Bacilli in Human Infection. By William H. Park, M.D.

4. The Methods Employed to Differentiate the Different Varieties of Tubercle Bacilli. By W. H. Woglom, M.D. (By invitation).

*General Discussion*—During the evening Mr. Nathan Straus spoke very graphically in relation to the practical utility of pasteurization of milk. His enthusiasm on the subject was based on 19 years' experience both in Germany and New York City.

John Van Doren Young, *Secretary.*

## MEDICAL SOCIETY OF THE COUNTY OF MONROE.

ANNUAL MEETING, ROCHESTER, DECEMBER 15, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected for the ensuing year: President—T. A. O'Hare, Rochester; Vice-President—C. E. Darrow, Rochester; Treasurer—R. R. Fitch, Rochester; Secretary—C. R. Witherspoon, Rochester; Censors—W. S. Ely, E. H. Howard, R. M. Moore, J. W. Whitbeck and C. D. Young.

Delegates to State Society—J. O. Roe, E. H. Howard and William M. Brown.

Alternates to State Society—C. O. Boswell, N. D. McDowell and C. R. Witherspoon.

Delegates to Seventh District Branch—J. W. Whitbeck and W. B. Jones.

Alternates to Seventh District Branch—M. L. Casey and F. W. Seymour.

Five applicants were elected to membership.

The following amendments to the By-Laws were adopted:

(*a*) Chapter II, Section 4—"one week" be changed to "three days."

Chapter IV, Section 6—"fourteen" be changed to "seven."

Chapter IX, Sections 2 and 3—"ten" be changed to "five."

(*b*) Chapter VII, Section 1, be amended by the addition of "Milk Commission." And a new Section: "Section 5. Milk Commission—The Milk Commission shall consist of six members to serve for three years, two members to be elected each year. At the first election following the adoption of this By-Law, two members shall be elected for one year, two for two years, two for three years. Thereafter, two members shall be elected each year to serve for three years.

"This Commission shall examine such milk as may be submitted to it, and shall certify to such as may meet the requirements adopted by the Commission as its standard for certified milk.

"The Commission shall make an annual report at the Annual Meeting of the society covering the work of the preceding year.

"Any or all members of the Commission may be removed for cause, by a majority vote of the members present at any regular meeting. Such action may be taken only when notice of such intention has been given at a previous meeting, and has been published in the announcement of the meeting at which such removal is to be considered."

(*c*) Chapter VII, Section 2—"The Comitia Minora shall recommend to the society nominations for all elective offices. Nothing in this By-Law shall be construed to limit the right of the society to make independent nominations. The Comitia shall bring before the society at each meeting such matters as shall seem to be of interest or importance to the society."

(*d*) Chapter X, Section 1—Dues.—"One" to be changed to "two."

At the end of the session an address was given by the President, C. D. Young, Rochester.

## MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

REGULAR MEETING, ALBANY, DECEMBER 16, 1908.

*Program.*

After the business meeting, demonstrations in Medical and Surgical Cases, and Gastro Enteric Diseases were given by Henry Hun, E. K. Winne, Jr., A. T. Laird, S. B. Ward, Erastus Corning, L. H. Neuman, E. A. Vander Veer, J. H. Gutmann and A. J. Bedell.

At the close of the meeting a lunch was served at the Albany Hospital.

Next regular meeting will be held Wednesday evening, January 13, 1909.

## ROCKLAND COUNTY MEDICAL SOCIETY.

ANNUAL MEETING, NEW CITY, DECEMBER 9, 1908.

*Program.*

BUSINESS SESSION.

The following resolution was passed:

*Resolved,* That the Rockland County Medical Society instruct its delegates to the State Society, to vote for the continuance of the Medical Directory of New York, New Jersey and Connecticut as it is now published.

The following officers were elected for the coming year:

President—M. J. Sanford, Suffern; Vice-President—E. H. Maynard, Nyack; Secretary—J. C. Dingman, Spring Valley; Treasurer—A. K. Doig, Nyack; Censors—G. T. Blauvelt, John Sengstacken, W. R. Sitler, Ralph De Baun and J. H. Crosby.

Delegate to State Society—J. W. Giles.

A very enjoyable dinner was served after the Meeting.

## MEDICAL SOCIETY OF THE COUNTY OF CHAUTAUQUA.

ANNUAL MEETING, JAMESTOWN, DECEMBER 8, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected for the coming year: President—M. N. Bemus, Jamestown; First Vice-President—Edgar Rood, Westfield; Second Vice-President—E. A. Scofield, Jamestown; Secretary and Treasurer—H. A. Eastman, Jamestown; Censors—E. M. Scofield, J. W. Morris, A. W. Dods; Delegate to State Society—Walter Stuart; Alternate—W. M. Bemus; Delegates to Eighth District Branch—G. E. Smith and H. A. Eastman; Alternates—J. R. Sackrider and N. G. Richmond.

The President appointed the following committees:

Committee on Legislation—L. Hazeltine, V. D. Bozovsky and G. L. Hunter.

Committee on Public Health—H. W. Davis, G. E. Smith and W. D. Wellman.

Next meeting will take place in Fredonia, the last Tuesday in May.

## RENSSELAER COUNTY MEDICAL SOCIETY.

SPECIAL MEETING, TROY, WEDNESDAY, DECEMBER 9, 1908.

Two hundred doctors were present, invitations having been sent to all members of the Counties of Rensselaer, Albany, Saratoga, Schenectady and Montgomery, and to all physicians residing in Bennington, Vermont.

*Program.*

SCIENTIFIC SESSION.

Lantern Slide demonstration of Neurological Diseases, La Salle Archambault.

1. Cerebral Palsy of Childhood (including Athetosis).
2. Infantile Paralysis.
3. Syringo-myelia (including Hydromyelia).
4. Tabes Dorsalis.
5. Muscular Dystrophies.
6. Achondroplasia.
7. Neurofibromatosis.
8. Thomsen's Disease.

The General Practitioner and the Functional Nervous Diseases, Joseph Collins.

At the close of the meeting a very enjoyable lunch was served at the Troy Club.

## MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.

ANNUAL MEETING DECEMBER 8, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected: President—H. W. Carey, Troy; Vice-President—C. B. Sprague, Troy; Secretary—J. H. F. Coughlin, Troy; Treasurer—O. F. Kinloch, Troy; Censors—J. T. Flynn and J. A. Barnes.

Delegate to State Society—E. R. Stillman.
Delegate to Third District Branch—Hiram Elliott.

*Scientific Program.*

"A New Method for Radical Cure of Inguinal Hernia," C. F. Kivlin.

## MEDICAL SOCIETY OF THE COUNTY OF WYOMING.

ANNUAL MEETING, MCNAIR HOSE ROOMS, WARSAW, OCTOBER 13, 1908.

*Program.*

BUSINESS SESSION.

Officers elected for January, 1909, are as follows: President, J. S. Wright, M.D., Warsaw, Vice-President, Z. G. Truesdell, M.D., Warsaw; Secretary and Treasurer, L. H. Humphrey, M.D., Silver Springs; Censors, L. H. Humphrey, P. S. Goodwin and G. S. Skiff.

SCIENTIFIC SESSION.

"Laboratory Aids in Diagnosis, C. C. Mann, M.D.
"Adenoid Growths," L. M. Andrews, M.D.
"Insomnia," P. S. Goodwin, M.D.

## MEDICAL SOCIETY OF THE COUNTY OF CHEMUNG.

ANNUAL MEETING, SOCIETY ROOMS, FEDERATION BLDG., DECEMBER 15, 1908.

*Program.*

BUSINESS SESSION.

The meeting was called to order by President A. W. Booth.

Minutes of previous meeting read and approved. Minutes of meeting of Comitia Minora read and approved.

Resolutions were read from the Medical Society of the County of Genesee, and the Medical Society of the County of New York, regarding the publication of the Medical Directory.

Moved by Dr. Wey that the Delegate of this Society to the State Convention be instructed to vote for the continuation of the Directory of physicians for two years. Seconded by Dr. Fisher. Carried.

Report of the Treasurer was made and accepted as made.

The following officers were elected: President— A. M. Loope, Wellsburg; Vice-President—LaRue Colegrove, Elmira; Secretary—E. T. Bush, Horseheads; Treasurer—G. V. R. Merrill, Elmira; Censors—H. D. Wey, C. W. M. Brown, A. W. Booth.

Delegate to State Society—R. P. Bush; Alternate Delegate to State Society—H. D. Wey; Delegate to District Branch—R. G. Loop.

*Scientific Session.*

President's Address, by A. W. Booth, Elmira.

"The Present Opportunities of Elmira Physicians in the treatment and management of Tuberculosis, with special regard to the proposed Tuberculosis Hospital."

Discussed by Drs. Westlake, Jennings, Brown, R. G. Loop, Wey, Fisher, Baker, Squire, Stuart, and Bush.

During the discussion the following motion was made by Dr. Brown:

*Resolved*—That it is the sentiment of the Chemung County Medical Society that the Board of Aldermen of the City of Elmira, should accept the proposition of certain persons offering money and equipment for the establishment of a Hospital for cases of Tuberculosis; and *Resolved*—That this resolution be read at the next meeting of said Board of Aldermen.

Seconded by Dr. Wey. Carried.

The President appointed Dr. C. W. M. Brown to present such resolution.

"Arthritis Deformans" with report of a case, J. A. Westlake.

Discussed by Drs. Post, Wey, Brady and Baker.

"Hydatidiform Mole," report of case and specimen presented by F. B. Green.

"Enterolith," specimen presented, which came from the wound some time after an operation for Appendicitis, by Charles Erway.

## OBITUARY.

### JOHN T. WHEELER, M.D.

DR. JOHN T. WHEELER, Vice-President of this Society, for its first two years, President of the Third District Branch Society, an eminent member of the medical profession, a conscientious, public spirited citizen, a kind and courteous gentleman, died at his home at Chatham, Columbia County, after an illness of but a few days from pneumonia, on the third of December, 1908, at the age of fifty-eight.

He was born in Albany, the only son of Joseph T. Wheeler and Mary A. Backus, but from the age of five years has been a resident of Chatham, his collegiate training was principally at Yale, his medical at Bellevue, where he graduated in 1875; he entered at once on the practice of medicine at Chatham, where for the rest of his life he continued, becoming the leading physician not only for the village but for a wide territory about. Few communities have been favored with a man who so completely fulfilled the ideal of a good citizen, for he not only gave the people invaluable service in his calling and in the place of a trusted counsellor which the intimate relation of a family physician of wisdom and good heart admits, but he was devoted unselfishly to the interests of his village, with high-minded devotion to secure for it the best things. If he had lived out the tenth term for which he was elected a member of the Board of Education, as he recently told one of us somewhat humorously but with manifest pride and reminiscence of work and accomplishment, he would have served in that body for a period of thirty years. His literary tastes and exacting ideals fitted him to this educational work as he realized what a good school meant to a developing generation, and there was built an edifice, a model of fitness and dignity in which work was done which gave it an extended fame. Through his kindly, persistent effort moreover a public library has been established, and no one can have a living, enduring monument to his life work of better quality than this group of buildings standing in the midst of his home community. In other ways he served the people officially, as director of a bank and as trustee of a church; but in the capacity of the private citizen he made himself more felt towards making the town, set in its environment of the foot-hills of the Berkshires, better to live in, more sanitary, more moral, with more education and manners for the growing children, and he had enough persistence in his character, and enough kindly humor to make his force felt and to carry his way. On the morning of his funeral day his body lay in one of the school buildings, and five hundred school children and his fellow citizens took a last look, while during the funeral hours all business places were closed out of respect for the sad occasion.

He was an active promoter of the interests of his county medical society as every man ought to be. He became a member of the State Medical Society, and was chosen to inaugurate the work of the Third District Branch Society, which was important. He was its president for the first two years and brought the organization into being in an acceptable way. This current year he has been vice-president of the State Society.

Men of worth are selected to serve in office, but office-holding is easy of recital and yet but a meagre measure of a man. Moral fibre, mental attainment, personal characteristics, demeanor, determine effectiveness and are not dependent on official position to come to expression. A kindly, intelligent, sensitive face looks out from his faithful portrait. His figure was tall and erect. His manner was one of interest and not of self-concern.

He was firm in his convictions but deferential to the opinions of others, gentle yet forceful.

He was intelligent about his profession and kept himself conversant with its current material by reading, attending the society gatherings, and contact with other men. He had, as noted already, an extensive practice, that of the general practitioner. In earlier years an invalid himself he was thereby a sympathetic physician. To his associates he was an important man, and was looked to of the men of his region to guide opinion, to realize the public mind, and to give counsel in the polity of his profession. He was sincere, conscientious and concerned. He had wisdom and intuition. He was an occasional contributor to current medical literature, and had a style of remarkable felicity. He was devoted to sanitary work and for the last one or two years has found a wider scope for this in filling the position of director of the division of communicable diseases in the State Department of Health. The larger interests of the profession outside the sick room had their place with him. He had the culture, tastes, and the spirit of an idealist, that made him more than a clever craftsman and widened his life beyond that of routine professional duty.

The medical profession is always enriched by the life of every good man in it. Sorrow universal and profound stirred all hearts when the life so full of activities, in the prime of its usefulness, was abruptly taken away. But it cannot fail to live in cherished memories of a noble character and as an inspiration to all with whom he came in touch and made a wide circle of companions and friends.

Deputed by the Council of the Medical Society of the State of New York to make this memorial we present this tribute to our late associate, Dr. John T. Wheeler.

FREDERIC C. CURTIS,
SHERWOOD V. WHITBECK,
HARMON C. GORDINIER,
*Committee.*

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## ANDREW JAMES McCOSH, A.M., M.D., LL.D.

The medical profession of New York has met with a great loss in the sudden death of Dr. A. J. McCosh, Clinical Professor of Surgery at the College of Physicians and Surgeons, and Surgeon of the Presbyterian Hospital of New York.

He was the grandson of Dr. Alexander Guthrie, for years a prominent surgeon of Edinburgh, and the son of President James McCosh of Princeton University. He was born in Belfast in 1858 and came to this country in 1868, when Dr. James McCosh was called to Princeton. He graduated with honor from Princeton in 1877, and from the College of Physicians and Surgeons in New York in 1880. After two years' service at the Chambers Street Hospital he went abroad and studied in Vienna under Billroth, at that time the greatest Surgeon in Europe. On his return he became associated with Dr. T. Gaillard Thomas, and for eleven years worked with him.

In 1888 he was appointed an attending Surgeon to the Presbyterian Hospital, and this position he retained up to the day of his death. Three days in the week, from two to six o'clock he operated continuously, meeting serious emergencies as they arose, facing grave responsibilities as they were presented, undertaking new and original procedures with courage and skill, and accomplishing results of great importance, and so recognized by the surgical profession the world over.

In the Presbyterian Hospital he held his Clinics, as Professor of Clinical Surgery for the New York Polyclinic; a Post-graduate School of Medicine until 1895, and from 1895 to the time of his death as Clinical Professor of the College of Physicians and Surgeons.

As his experience grew he began to contribute to Medical and Surgical literature, to publish the reports of rare and unusual cases. From 1889 to 1908 no year passed in which he did not publish an important article in the Surgical Journals. Some of these articles, like those upon "The Surgical Treatment of Brain-Tumors" and of "Epilepsy"—upon "Acute Peritonitis," upon "Appendicitis," upon "Gall Stones," upon "Spinal Surgery," and upon the "Surgical Treatment of Exophthalmic Goitre" attracted wide attention and were translated abroad into several languages.

His address before the Congress of American Physicians and Surgeons in Washington in 1897, and his address before the International Congress of Surgery in Brussels in 1905, both on the subject of Peritonitis, won for him world wide fame.

In the New York Academy of Medicine, and in the Clinical and Practitioners Societies, of all of which he was an active member, his papers and discussions were listened to with interest and respect. On the subject of "Abdominal Surgery" and of "Brain Surgery" he was an authority, and in the latter field he was known as an original inventive operator, skillful and successful.

That his position as a leader was accepted by the members of the profession is attested by the fact that for two years he held the position of President of the New York Surgical Society. In 1904 in recognition of his work, Columbia University conferred upon him the Honorary Degree of Doctor of Laws, and in 1906 Princeton gave him the same degree.

But aside from his professional reputation, Dr. McCosh had attained a recognized position in New York City as a man of high character, of wide sympathy and of many social and philanthropic interests. His charity was shown in his constant willingness to give his services freely without any regard for the pecuniary returns, and the large majority of his operations were done for the poor without pay. The records of the hospital show 1,600 such operations for appendicitis alone. In a city where financial success is regarded too highly he was known to be a man of moderate fees and one whose first thought was the good of the sufferer and not his own profits. In many cases known to the writer, he has never asked for any payment after successful operations, because on learning more about his patient he found that the fee might embarrass him. It is possible that this liberality was at times abused, but he never grudged it, as he found his greatest satisfaction in the good done. And withal his extreme modesty, his unwillingness to put himself forward and his cordial appreciation of the work and merits of others, even of the young members of his house staff, at the hospital, added to the devotion of his associates and friends.

During the past year he made it a point to gather at his office, on one evening in every month, the younger men connected with the hospital in order to have an informal talk and discussion of the most recent discoveries in Surgery, thus coming into closer contact with the staff and with the men who had recently left the hospital service and were starting out in practice. Thus he kept in touch with the young surgeons, many of whom had been his students or had been studying abroad under his direction, for by his personal acquaintance with the foremost surgeons of Great Britain and the Continent, kept up by his yearly summer trips abroad, he was able to send these young men to the Clinics of Europe and secure their admission to many privileges not opened to the crowd.

The devotion of these men was shown during his illness, when the hospital was crowded by anxious inquirers, all eager to offer their services to watch night and day by his bedside, and at his funeral, when there assembled in the Church one of the largest bodies of medical men ever brought together in this City.

If it is the greatest reward of a surgeon to advance his science, to secure the admiration, respect and love of his associates, to win the devotion of his grateful patients, poor and rich, and to be cherished in the hearts of all who knew him, Dr. McCosh certainly received his reward.

## DEATHS.

Frank Russell Baker, M.D., of Brooklyn, N. Y., died December 12, 1908.

Samuel Gluck, M.D., of New York City, died December 17, 1908.

David Clarence Lewinthal, M.D., of New York City, died December 14, 1908

Andrew J. McCosh, M.D., of New York City, died December 2, 1908.

John T. Wheeler, M.D., of Chatham, N. Y., died December 3, 1908.

## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Ballenger. Genito Urinary Diseases and Syphilis (Allen & Co.).

Coakley. Diseases of Nose and Throat. 4 Ed. (Lea & Febiger).

Jordan. General Pathology (Saunders).

Penrose. Diseases of Women. 6 Ed. (Saunders).

De Lee. Obstetrics for Nurses. 3 Ed. (Saunders).

Davis. Obstetrics and Gynecologic Nursing. 3 Ed. (Saunders).

Beck. Reference Handbook for Nurses. 2 Ed. (Saunders).

Da Costa. Physical Diagnosis (Saunders).

Woolsey. Applied Surgical Anatomy. 2 Ed. (Lea & Febiger).

Emerson. Clinical Diagnosis. 2 Ed. (Lippincott).

Index Catalogue of the Library of the S.G.O. 2 Ser. Vol. 13 (Gov. Ptg. Off.).

Medical Review (London). Analytical Index to Vols. 1 to 10.

Cooke. Obstetric Technique. 6 Ed. (Lippincott).

Vaschide. Les Hallucinations Telepathiques (Bloud & Cie).

Viollet. Le Spiritisme.

Lubomirska. Les Prejudices sur la Folie (Bloud & Cie).

Marie. L'Audition Morbide (Bloud & Cie).

Vaschide & Meunier. La Pathologie de L'Attention (Bloud & Cie).

Laures. Les Synesthesies (Bloud & Cie).

Warfield. Arteriosclerosis (Mosby).

Munro. Suggestive Therapeutics (Mosby).

Findley. Gonorrhoea in Women (Mosby).

Med. Assoc. Greater City of N. Y. Year book for 1908.

U. S. Public H. & Mar. Hosp. Serv. Trans. 6 Ann. Conference Health Officers.

Hutchison. Applied Physiology (Longmans).

Neef. Practical Points in Anesthesia. (Surgery Pub. Co.)

Keen. (Editor.) Surgery: Its Principles & Practice. Vol. 4 (Saunders).

Bellevue & Allied Hospitals. 6th Annual Report.

Amer. Med. Editors' Association. Proc. 38th Annual Meeting, 1907.

Practitioner's Visiting List. For 1909 (Lea & Febiger).

Mackenzie. Diseases of the Heart (Saunders).

Ball. Diseases of the Rectum (Saunders).

Report of the Commissioner of Education for 1908.

American Proctologic Society. Transactions.

Emerson. Essentials of Medicine (Lippincott).

International Clinics. Vol. 4, 18th series (Lippincott).

Transactions, 10th Annual Meeting, American Proctologic Society.

Transactions, Maine Medical Association. Vol. 16, Part 2.

Osler (William). An Alabama Student and Other Biographical Essays. Oxford University Press.

Ball (Sir Charles B.). The Rectum: Its Diseases and Developmental Defects. London, H. Frowde.

Mackenzie (James). Diseases of the Heart. London, H. Frowde.

## BOOK REVIEWS.

Diseases of the Eye. By M. Stephen Mayou, F.R.C.S. London, Henry Frowde, 1908. xii, 388 pp. 12mo. Price: Cloth, $1.50, net. Oxford Medical Publications.

This manual of diseases of the eye covers about 370 pages and was written especially for the use of students and general practitioners. It is clear and concise in style as a good manual should be. All but a small portion of the book is devoted to general diseases of the eye and pathology receives a generous and proper share of attention. The illustrations are exceptionally good, many of them having been made from photo-micrographs of the author's own specimens prepared in the laboratory of the Central London Ophthalmic Hospital.

The press work is good, but the paper is heavy and too highly glazed.

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Diseases of the Ear. By Hunter Tod, M.A., M.B., B.C. (Cantab.), F.R.C.S. (Eng.). London, H. Frowde, 1907. xiv, 317 pp., 18 pl. 12mo. Price: Cloth, $2.00. Oxford Medical Publications.

In this book, one of the "Oxford Medical Manuals" it has been the aim of the author "to give a short and practical account of the Diseases of the Ear, and while it is specially intended for those who have not had the opportunity of devoting much time to the subject, "I hope," says the author, "that it may be of some service to the more experienced practitioner." The illustrations are for the most part original.

It seems to the reviewer that the writer's aim has been to a considerable extent accomplished—he has certainly given "a practical account of the Diseases of the Ear," which is in the main satisfying; but can a book of over 300 pages be called "short"? Whatever disappointment arises from perusing the book will probably be due to the fact that it is not either longer or shorter —enough longer to be a little more full in some of the chapters, or enough shorter to be more definitely classed among the handbooks.

However, the book seems to us well arranged, sound in most of the otologic questions still under discussion, and will, we doubt not, appeal to the class for whom it is intended.

J. E. Sheppard.

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Pulsating Exophthalmos. Its Etiology, Symptomatology, Pathogenesis, and Treatment.—Being an Essay Based Upon an Analysis of Sixty-nine Case Histories of This Affection. By George E. de Schweinitz, M.D., and Thomas B. Holloway, M.D. Philadelphia and London, W. B. Saunders Co., 1908. 124 pp., 8vo. Cloth, $2.00, net.

The authors have, in this essay, elaborated a paper previously read before the College of Physicians of Philadelphia. They present in tabular form the case histories of 80 patients and compare the therapeutic measures, both medical and surgical, which have been employed in the treatment of these cases. Especial consideration has been given the subject of orbital operation for the relief of pulsating exophthalmos. The subject matter of the essay covers a large field, but is admirably concise in form. Type and paper are excellent.

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Diseases of the Heart. By Prof. Th. V. Jürgensen, of Tubingen; Prof. L. V. Schrötter, of Vienna, and Prof. L. Krehl, of Greifswald. Edited with Additions by George Dock, M.D. Nothnagel's Encyclopedia of Practical Medicine. Philadelphia and London, W. B. Saunders Co., 1908. 848 pp., 4 pl. 8vo. Cloth, $5.00, net.

This book is divided into five parts. The first, by Von Jürgenson, treats of cardiac insufficiency in general. It tells of the various causes, both intra and extra-cardiac, which produce this condition; of the various symptoms of cardiac insufficiency, and of its treatment. The second, on endocarditis, is also by Von Jürgenson. The author does not consider it cor-

rect to regard endocarditis as a separate entity; he thinks "pancarditis" will be the diagnosis in the future. He says that "an exposition of our knowledge of endocarditis must be based on the following principles: First. That endocarditis is always part of a general infection, the severity of which determines the clinical course. Second. That the endocardium is never affected alone, but also the entire heart. The work of the heart may be interfered with by insufficient closure of the diseased valves, or as a result of the narrowing of their orifices, but also as a consequence of the loss of power in the heart muscle following lesions which affect this structure directly, and which arise from either inflammatory or degenerative processes." The third part of the book, also by Von Jürgenson, deals with chronic valvular disease.

Von Jürgenson draws freely on his very extensive clinical experience, and the numerous case reports given are not the least valuable portion of his text. He gives a great mass of information, but his manner of presentation and his style, as seen through the translation, lack occasionally in clearness. He is rather hard reading. But whoever takes the trouble to read him through carefully will be amply rewarded. The general practitioner will probably regret that so much space is taken up with pathology and symptomatology and discussion of controversial points, and so little, comparatively, with treatment. But what is given on treatment is good. We note with pleasure that the author, unlike most, recommends strophanthus in what we have long considered to be near the correct dosage.

The fourth part of the book, on diseases of the myocardium and nervous diseases of the heart, by Krehl, is particularly to be commended not only for the wealth of valuable information it contains, but also for the lucid manner and readable style in which the various subjects are presented.

The fifth part, by Von Schrötter, is on diseases of the pericardium. The author condemns blistering of the precordium for the purpose of promoting absorption of the exudate, and advocates diuretin as the best diuretic.

E. E. CORNWALL.

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STATE BOARD QUESTIONS AND ANSWERS. By R. MAX GOEPP, M.D., Philadelphia and London, W. B. Saunders Co., 1908. 684 pp. 8vo. Price, $4.00, net.

As the title tells the whole story of this publication there is little for the reviewer to add, beyond a word as to its purpose and scope. Dr. Goepp has systematized between the covers an abundant selection from the questions asked by the Examining Boards of a number of states in past years, and has appended a concise answer to each. Physics, chemistry, physiology, anatomy, hygiene, materia medica and therapeutics, practice of medicine, surgery, obstetrics, gynecology, pathology and bacteriology are all abundantly covered. The arrangement, selection, material and presentation of the various subjects calls for favorable comment. It should prove of decided service to the student as a quiz compend as well as a useful method of review not only in preparation for state examinations but for reference later. To the man who has grown rusty in his elementary subjects and who has to face the problem of removal to another state the book will be invaluable.

HENRY G. WEBSTER.

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GYNECOLOGY AND ABDOMINAL SURGERY. Edited by HOWARD A. KELLY, M.D., F.R.C.S. (Hon. Edin.) and CHARLES P. NOBLE, M.D., S.D. Vol. 2. Philadelphia and London, W. B. Saunders Co., 1908. iv, 862 pp. 4to. Cloth, $8.00, net.

In abdominal surgery the work of the gynecologist and the general surgeon must of necessity somewhat overlap, but because of the intimate physiological and pathological relation of the female pelvic organs of generation with the other organs and tissues within the rest of the abdomen, the whole field of abdominal surgery in woman belongs without question to the gynecologist. No gynecologist of to-day is worthy of the name unless he is equipped with the necessary knowledge to enable him to attack on the spur of the moment any complication that may arise either in the upper or in the lower abdomen when he opens it for what at first seemed to him to be the simplest character of an operation; nor should the general surgeon operate within the female abdomen unless he is well grounded in the best technique of gynecologic operations; hence to meet the needs of just such operators, this compilation by Doctors Kelly and Noble has been brought out, each department having been written up by men who have developed special aptitude along those particular lines of work. The first volume previously reviewed is devoted more to gynecology proper, while this, the second volume, deals with the surgery of the entire abdomen, the female breast, and hernia.

On looking over the names of the different writers, as the eyes fall on those of Murphy of Chicago, who wrote the chapter on Intestinal Surgery; Ochsner, who wrote on the subject of the gall-bladder and liver surgery; B. G. A. Moynihan of Leeds, England, on the stomach; Eugene L. Opie of New York, on the pancreas; as well as others of equal ability, and especially those of the compilers themselves—such names should convey to the reader a sufficient guarantee of the real merit of this estimable work.

FREDERIC J. SHOOP, M.D.

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ADENOMYOMA OF THE UTERUS. By THOMAS STEPHEN CULLEN. Illustrated by HERMAN BECKER and AUGUST HORN, Philadelphia and London, W. B. Saunders & Co., 1908. xiii, 270. 4to. Cloth, $5.00, net.

Adenomyoma is so rarely met and even more has been so rarely recognized, perhaps owing to our meager knowledge of the subject—call it ignorance—that Cullen's protean monograph really opens up a new chapter in gynecological diagnosis.

To the large majority of surgeons, adenomyoma of the uterus is an unknown lesion. It was due to the author's careful inspection one day, of a suspicious uterus (presumably diagnosed as a fibroid?), which had been removed, that his thoughts were directed towards a careful and painstaking study of later oblated uteri for the occurrence of adenomyoma. The second adenomyoma was not discovered till a few months later. Since then the author has encountered over ninety specimens, showing that the lesion probably exists more frequently than is supposed. Many of us have undoubtedly encountered such a case, but thinking it a fibroid and not recognizing the pathological character of the growth, passed it by. Cullen has gone exhaustively into the subject of the probable origin and believes that the uterine mucosa is responsible for the growth of the glands. He determined to present also a clinical picture of the growth so that it could be easily recognized. The chapter on "Symptoms" shows that adenomyoma has a definite clinical history and that in the majority of cases it can be diagnosed with almost positive certainty.

One interesting feature of the book is that each of the numerous cases is tabulated, with an account of the patient's present condition, the examination, diagnosis, operation, and histological examination of the specimen. The volume is profusely illustrated with full page plates in which the artistic work of Becker and Horn faithfully portrays the pathological pictures of adenomyoma. The type is easily legible and the whole book reflects the printer's art.

It is a distinct contribution to medical literature and a notable addition to the scientific advance of gynecology.

CLARENCE R. HYDE.

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MEDICAL GYNECOLOGY. By SAMUEL WYLLIS BANDLER, M.D., Philadelphia and London, W. B. Saunders Co., 1908. 676 pp. 8vo. Cloth, $5.00, net.

That there is a non-operative side of gynecology is evidenced by the publication of text-books on medical

gynecology. This phase of women's diseases could well be termed *conservative* treatment. It plans to accomplish much for those numerous conditions in which operation has long been regarded as *dernier ressort*. Many factors such as physiological processes, heredity, predisposition, mental disturbances, the emotions, marital relations, all these have an important bearing on pelvic conditions. Many minor operative possibilities can be eliminated by medical treatment, and even so ameliorated that operative procedure is an unnecessary choice. Movable retroversion, menstrual affections, neuralgias, constipation, nervous phenomena, leuchorrhea, and even uterine bleedings often respond to intelligent medication and office treatments.

The book is profusely illustrated with original drawings, while the subject matter is presented in an interesting and readable style. The author has as collaborators several well known specialists who have written exhaustively in their own particular field.

CLARENCE R. HYDE.

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HEART DISEASE AND THORACIC ANEURYSM. By F. J. POYNTON, M.D., F.R.C.P. London, H. Frowde, 1907. Col. front., x, 310 pp., 17 pl., 12mo. Cloth, $2.00, net.

This treatise on diseases of the heart is well suited to the needs of the general practitioner who desires the essentials of the subject clearly but concisely presented. Although compendious it is much more than a simple digest, and reflects the individuality of the author. A noteworthy feature is a full and comprehensive account of rheumatic disease of the heart. This account is enriched with several microphotographs of the diplococcus rheumaticus, which seems to be the long sought specific cause of rheumatic fever.

E. E. C.

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AUSCULTATION AND PERCUSSION. Together with the Other Methods of Physical Examination of the Chest. By SAMUEL JONES GEE, M.D., *Fifth Edition*. London, H. Frowde, 1907. xviii, 325 pp., 12mo. Cloth, $2.00, net.

This choice little book presents the essentials of physical examination of the chest in a masterly manner. It is divided into two parts. In the first, the various physical signs are explained and described so that they can be identified, and in the second, the signs belonging to the different diseases are grouped together so as to bring out their differential diagnostic significance.

E. E. C.

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THE DISEASES OF CHILDREN. A Work for the Practising Physician. Edited by Dr. M. PFAUKDLER and Dr. A. SCHLOSSMANN. English Translation Edited by HENRY L. K. SHAW, M.D., and LINNAEUS LA FÉTRA, M.D. With an Introduction by L. EMMETT HOLT, M.D. In Four Volumes. Philadelphia and London, J. B. Lippincott Co., 1908. 4 vols., 4to. Cloth, $20.00, *net per set*.

As an addition to the library of the specialist in pediatrics, the four volumes before us are of much value. As a part of the library of the general practitioner, they are of less value. Despite the fact that much greater interest is shown in pediatrics to-day than a few years ago, the subject of the diseases of children must be presented to the average practitioner in an attractive and concise way.

For instance, the 200 pages devoted to symptomatology is of doubtful value, as there is no attempt to place definite values. This is followed by the section on "Prophylaxis," which is of large value and is well worth a careful study.

The bulk of the work is good. But there is here the same criticism which applies generally to all books worked out upon a system-marked evidence of contradiction and lack of unity.

It is particularly unfortunate that with the 2,100 and odd pages comprising the four volumes, less than 21 pages are given to the general index. In a work of this bulk, the chief value is as a work for reference, and that necessitates a full index. With complete indexing, the usefulness and value of the four volumes would be greatly enhanced.

The illustrations are carefully selected, well executed and of considerable value for instruction. The general make up of the set is a credit to the publishers.

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THE READY REFERENCE HANDBOOK OF DISEASES OF THE SKIN. By GEORGE THOMAS JACKSON, M.D. *Sixth Edition, Thoroughly Revised*. New York and Philadelphia, Lea-Febiger, 1908. 737 pp., 8vo.

Nothing can be said in criticism of a work that has gone into the sixth edition. The success of Dr. Jackson's elaborated dermatological encyclopedia speaks for itself. The reviewer has had the honor of reviewing a number of the other editions, and can only repeat that this is without doubt the best alphabetically arranged work on dermatology that has ever been published.

The sixth edition has been greatly improved by the addition of much new matter. The work will appeal to any one who wishes some concise directions regarding any skin affection.

J. M. W.

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THE SKIN AFFECTIONS OF CHILDHOOD. By H. G. ADAMSON, M.D., M.R.C.P. London, H. Frowde, 1907. Front., xvi, 287 pp., 11 pl., 12mo. Cloth, $2.00, net.

The title "Skin Affections of Childhood" is unfortunate, for this little work is a complete and concise treatise upon the commoner skin diseases; and on account of the convenient size, clear description of the diseases and the accurate directions regarding treatment, it could be recommended to the general practitioner as a ready reference book upon cutaneous diseases.

J. M. W.

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SYPHILIS: A Treatise for Practitioners. By EDWARD L. KEYES, Jr., A.B., M.D., Ph.D. New York and London, D. Appleton & Co., 1908. xxix, 577 pp., 7 col. pl., 2 pl., 8vo. Cloth, $5.00, net.

The name Keyes on the title page of a work on syphilis goes a long way to guarantee its worth.

The book under review is a complete treatise on syphilis crowded in one volume of some 575 pages. It would seem that the subject of syphilis could not be properly considered in so limited space, but Dr. Keyes has succeeded in making a book that will appeal to the busy practitioner, for it covers most if not all of the important points in syphilology.

The next edition could be benefited by a free use of the blue pencil, for it would seem that some subjects could be more concisely stated, and the work would be greatly improved if it was pruned of its superlatives.

J. M. W.

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FUNCTIONAL NERVOUS DISORDERS IN CHILDHOOD. By LEONARD G. GUTHRIE, M.A., M.D., F.R.C.P. London, H. Frowde, 1907. x, 300 pp., 1 pl., 8vo. Cloth, $3.00, net.

It is unfortunate that with our present limitations in the study and understanding of disease we are still compelled to use the word "functional."

And it is such volumes as the present one under review which will materially aid in doing away with instead of perpetuating the need of the word. A clearer insight into functional nervous disorders in children will stimulate the studies and investigations of those who will soon discover the real basis for such.

This volume will do much in this direction. It is a stimulant to thought, it adds much to our present knowledge of these conditions.

The contents are chiefly lectures or addresses which have been delivered from time to time but that does not detract from their value.

LEGRAND KERR.

## LEGISLATIVE NOTES.

The Committee on Legislation herewith presents the list of members of the Senate and Assembly for the year 1909. Members of the Society can refer to this list at any time that it may seem advisable to write to their Assemblymen or Senators in regard to legislative matters and all are requested to look it over so that if among those represented there are any men known to them personally they can write them, if requested by the Committee on Legislation to assist or oppose any bills before the Legislature.

In the next issue of the Journal it is hoped to be able to print the Committees, which had not been appointed when this issue went to press.

Horace White, Lieutenant-Governor and President of the Senate, Albany. Home Post Office, Syracuse.
John Raines, President Pro. Tem., Canandaigua.
L. B. Gleason, Clerk, Delhi.

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*Re-elected.

#### RECAPITULATION.

| | |
|---|---|
| Republicans | 35 |
| Democrats | 16 |
| Total | 51 |

### ASSEMBLY.

Speaker, J. W. Wadsworth, Geneseo.
Clerk, Ray B. Smith, Syracuse; salary, $3,500.
Assemblymen are elected every year. Salary $1,500 per year and mileage.

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# New York State Journal of Medicine

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# NEW YORK STATE JOURNAL OF MEDICINE

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Vol. IX. FEBRUARY, 1909 No. 2

## EDITORIAL DEPARTMENT

### RENEWAL OF THE OBJECTIONABLE ATTEMPT TO RESTRICT "VIVISECTION."

THE practitioners of medicine in the State of New York are urged hereby to oppose by all legitimate means Senate Bill No. 170 (Introduction number, 168), introduced on January 21, 1909, by Mr. Davis of Erie, and entitled (like its predecessor of 1908) "An Act to prevent cruelty by regulating experiments on living animals." This bill has been referred to the Judiciary Committee of which Senator Davis is Chairman. The most effective way to oppose it is by a personal letter to one's own representative in the Senate and in the Assembly.

This bill of 1909 fulfills its purpose of "regulating" experiments upon living vertebrate animals "of a nature calculated to cause pain to such animal" by forbidding such experiments to be done, under penalty of imprisonment or fine, except subject to "restrictions" as to who may do such experiments, where they may be done, how they may be done, and for what purposes they may be done. The folly and danger should be realized of causing the State to withdraw from qualified men the complete discretion which they now possess as to what they may do experimentally to animals for the good of mankind. They possess now, and will continue to possess unquestioned, complete discretion as to what they may do to human patients for the good of the said patients. It is against common sense to give to a qualified man a freer hand as to patients than as to animals; and every one knows that it would be madness for the State to meddle by law with the technical details of the ever advancing practice of medicine. So would it be to meddle with the technical details of experimental medicine and biology. The wise attitude now taken by the State toward both practitioner and experimenter, does not place either above the law more than any other citizen. If a surgeon abuses his discretion by withholding an anæsthetic from a patient, not for medical reasons, but from indifference or neglect, he offends against the law regarding malpractice. If an experimenter abuses his discretion by withholding an anæsthetic from an animal, not for medical reasons, but from indifference or neglect, he offends against the criminal law relating to cruelty to animals, quite as much as does a carter who misuses his whip. In the City of New York two young men have recently been convicted, under Section 655 of the Penal Code, of a misdemeanor consisting of cruelty to animals, due to unjustifiable "vivisection," and thus the view of eminent lawyers has been substantiated in court, that no special law is needed to protect animals from improper practices at experiments.

No forms of words can be devised by the most learned to define, "restrict," and fix by law in advance, the activities of swiftly moving sciences. Such forms of words would speedily become antiquated and dangerous to the rightful interests of those who had enacted them. This is concisely illustrated by comparing, at a certain point, the bill of 1909 with its forerunner, the

so-called "Davis-Lee bill" of 1908. The list of procedures which may lawfully be done without anaesthetics is headed with these words in the bill of 1908: "a. In tests of foods or of drugs;" and, in the bill of 1909, with these words: "(a) In tests of food, drugs, or serums." Should the bill of 1909 become a law, and should it become necessary, in 1910, for the good of mankind, to test on an animal, without anaesthetics, something which is neither food, drug, nor serum, such a test would be punishable by imprisonment or fine.

Equally foolish and dangerous are the collective clauses relating to anaesthesia; the clause relating to teaching; and the clause relating to the purposes for which experiments may be done. This last is a tissue of solemn folly, and can accomplish nothing but the raising of questions about which "loose constructionists" and "strict constructionists" will disagree—questions which a court could settle, in an actual case, only by the advice of men of the very kind against which the clause is directed.

The bill of 1999, unlike that of 1908, contains, as "Section IV," a prodigious clause which would make it possible for a professor's or doctor's servant, discharged at one end of the State, to go with a malicious tale to the other end of it, and return with all the members of an "Anti-vivisection Society" at his back, armed with the legal right to enter and scrutinize from top to bottom the laboratory or office or private house of his late employer and whatever should go on therein, at any hour of every day "during the period named in the order." Such a proceeding would be followed, perhaps, by a trial on frivolous charges, and an acquittal; the whole constituting, despite the acquittal, the serious punishment of an innocent man.

Perhaps physicians and men of science in the State of New York may dissent from the demure categorical statement of the promoters of this bill, that it "does not interfere with legitimate scientific research."

The bill contains other objectionable features not referred to in this article; but the foregoing may suffice to indicate that it should be opposed by every one, whether physician or layman, who desires the unimpaired maintenance and progress of the science and art of medicine in the State of New York.

J. G. CURTIS.

## The Annual Meeting

The 103rd Annual Meeting of the Medical Society of the State of New York was notable for two important movements, one to bring about much needed reform in the matter of expert testimony; the other to permit the Society to change the time and place of its Annual Meeting, at present a matter of statute law.

The bill to regulate expert testimony which was approved by the joint committees of the State Bar Association and State Society is to be found reported in full in another place.

It passed the House of Delegates unanimously, after some debate, and the Buffalo meeting of the Bar Association approved of it by a large majority. Never before in any state has any measure of reform in this important matter ever been approved by a State Bar Association.

Whether the present bill, which now has the approval of both state bodies will become a law or meet defeat in the legislature, no one can predict, but whatever its fate, a distinct advance has been made in the mere fact of the agreement of the two societies on any measure. The bill is by no means ideal. Reforms are always gradual. It is better that this should be so. No radical measure of relief would have the slightest chance of becoming a law, but it is hoped that this very moderate bill will recommend itself to fair minded men as entirely reasonable, feasible and constitutional.

For a long time there has been a growing sentiment in favor of changing the time of meeting of the State Society from mid-winter to a more convenient and pleasant season of the year. There are not a few members who also believe that it would be profitable occasionally to meet in some other city than Albany.

The House of Delegates by a unanimous vote instructed the Committee on Legislation and the Counsel of the Society to procure legislation permitting the House of Delegates to fix the time and place of meeting. This would not commit the Society to any fixed time or place, and seems conservative.

The Directory and JOURNAL were both continued by the Council to whom the matter was referred by the Society, after a somewhat prolonged debate in the matter of the Directory.

The weather during the two days of the meeting was unusually mild and pleasant, nevertheless but 440 members registered, being 7 less than last year, and less than 7 per cent. of the total membership. This fact is worth attention and reflection. With weather unusually propitious and an excellent and attractive program and a somewhat increased total membership, there was yet a falling off in the attendance.

A. T. B.

# Original Articles

## THE ONE HUNDRED AND THIRD ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

### ADDRESS BY THE PRESIDENT.

DR. ARTHUR G. ROOT.

### THE PHYSICIAN AND LAW MAKING.

To those who make a study of the statutes that are annually produced by the law-makers of the State of New York, the most cursory examination must prove convincing that in their preparation there is a painful lack of an intimate knowledge necessary to make them effective. Drawn from all classes of life, of varying degrees of intelligence, totally unfamiliar with the evils sought to be remedied, the framer of the provision introduced is too often incompetent, and the result is a body of statute law requiring judicial interpretation and construction to ascertain its intent before even an attempt can be made at its enforcement.

In striking contrast to the class of legislation already referred to, is the result of the efforts on the part of the medical profession to put in operation reforms redounding to the public good. Unlike so much of the substantive law, which seems to be designed purely for the relief of corporations, or individuals, and of "personal" character, if such a term may be used, are the provisions introduced and pushed to a consummation by the medical profession which are all designed to effect "the greatest good to the greatest number."

In the enumeration of the inalienable rights of every American citizen, "life, liberty and the pursuit of happiness," the preservation of existence is naturally and logically placed first. For the accomplishment of this it is necessary that the class of public statutes, commonly known as "health laws," should have a prominent place in the body of our laws. The incontrovertible fact that the longevity of mankind shows a decided increase is due to the fact that such laws have been wisely framed.

This follows from the circumstance that the medical profession of the State of New York has steadily and consistently applied itself to the study of hygiene, and to bringing before the legislature each year enactments calculated to promote a proper understanding and application of the rules that appertain to this important subject. Proper sanitation is vastly more important to the public weal than the protection of property rights.

Technical knowledge of the subject is absolutely necessary to a proper construction of a statute intended to accomplish its object and to be effective in protecting the life of the individual. The wisdom of the law-makers in referring this important subject to the medical profession must be apparent to the most casual observer.

As a single instance of an apparently insignificant health ordinance, which in its results is far reaching, reference may be had to the law making it a misdemeanor to expectorate in public places. The spread of tuberculosis is thereby checked, and the "great white plague" of America pauses in its onward progress through the land.

Other instances of the far reaching benefits derived by the public from the medical law-makers might be found in the laws standardizing drugs and foods known as the "pure food" and drug laws; laws compelling vaccination of the public school children thereby contributing largely to the prevention of epidemic from smallpox; laws preventing the pollution of streams and protecting public water supplies. It is not necessary that I should weary you with a long enumeration of the many public benefits which have been brought about by the medical law-maker. Those already cited suffice for examples.

It is inconceivable that a politician, elected to serve the private interests of capital, should conceive and carry into execution such measures.

The laws looking to the suppression of contagious diseases, providing for isolation, quarantine and fumigation have robbed the dread diseases of smallpox, scarlet fever and diphtheria of much of their terror. These laws have been the direct result of study and effort on the part of the medical profession. No one but a physician of training and practice would have been competent to frame them, and no class of men other than the physician would have been so inspired by "pro bono publico" as to sacrifice time and effort to the extent necessary to place them in the body of our laws and bring about their rigid enforcement.

That the individual who practices the learned and responsible profession of medicine should be properly equipped, has been the steady aim of the society of doctors of the State of New York. With the lives of countless numbers entrusted to his care, no breadth of understanding nor extent of technical knowledge can be too great for the physician who is properly equipped to practice his profession. Recognizing this, the standard of requirements for a license to practice medicine has been steadily and consistently raised. No one can deny that the proper judges of these matters are the medical men themselves. And not alone is the comprehensiveness of the preparation an essential, but a uniformity of knowledge as well. To this end, the medical fraternity of this State has at last succeeded in securing a uniform system of examinations that places all aspirants upon an equal footing. Thus the public is protected from such as have a knowledge of only a particular method of healing, and to whom all other means are closed doors. While liberty is given to all who are duly qualified, the ridiculous claim that each school, or system, of alleged medicine should have its separate examination has been definitely and finally disallowed.

and the public permanently protected. Again has the medical profession not only preserved its own high standard, but has protected the individual from useless and dangerous experimentation.

Probably no class of individuals are as susceptible to an appeal to human sympathy as the physician, yet medicine demands heroism as well as sympathy. Experience has demonstrated the absolute necessity of experimentation upon living animals. Vivisection has proven the only method by which this can be accomplished. The resultant good to mankind is almost beyond calculation.

In the great and growing domain of lawmaking, the physician is the only natural and logical referendum for the subjects which affect health and life. His training and experience have educated him for this application of his talents. Even a cursory examination of what he has thus far accomplished must convince the most skeptical. Politics should play no part in either the furthering or retarding of his energies in the direction of proper legislative measures, and yet to some of the lay minds this is not apparent; and year after year sentimental and misguided people are asking for legislation which would compel us to take a long step backward and ere long prevent the giving to humanity much of rich blessing in truths which are as yet hidden from us. To a medical body such as this it would seem entirely unnecessary perhaps for me to emphasize the importance of this branch of my subject, but as one whose duty to this Society has been for many years, that of familiarizing myself with medical legislation, it has become apparent to me that if we as medical men are to maintain our position in the ranks of science and are to continue to discharge our full duty to the public, it is incumbent upon us to see to it that a clear understanding of this subject be brought to the minds of our neighbors in the community and our elected representatives. We must not become content with having succeeded in preventing legislation already attempted, but must be prepared to meet whatever demands may be made in future.

Is it not logical to assume that the patient who trusts his life to the skill of his physician should be content to trust him with the framing of laws designed to improve upon the condition of mankind, and is it not just for the physician to expect the loyal support of the public in his fight for the enforcement of laws made for his protection, and should not the public hold up his hands in the fight for their enforcement?

It is my belief that the right always comes out victorious in the end, and I believe that in the struggles of the future, as in the past, that the Medical Society of the State of New York will maintain its position as leading in medical advancement, a body of fair minded gentlemen working together, unselfishly for the good of all.

## PNEUMONIA IN THE AGED.*

By HENRY L. ELSNER, M.D.

Professor of Medicine, Syracuse University.

WHEN the renowned clinician Charcot was asked to define pneumonia he said "it is that great enemy of old people and one of the principal causes of death at the Salpetriere." Experience soon teaches the clinician that old age has its special immunities, and pathologic conditions which are unknown to the younger adult.

The reaction and resistance to disease as we enter the senile period has been noted by physicians from time immemorial to be completely transformed. When we consider the number of far reaching pathologic changes, and the way in which these are borne by the aged we are once more reminded of Nature's compensatory efforts and of man's enormous and fortunate resistance.

In old age the organs become more independent of one another than during early life. "They suffer separately and the various lesions to which they may become subject are scarcely echoed by the economy as a whole." It is not infrequently found that the most serious disorders of the aged have either passed unnoticed or have given but few marked symptoms. In old age the latency of disease is often surprising, and not infrequently the post-mortem table reveals conditions unsuspected by the diagnostician. The truth of this statement is furnished by the statistics of large hospitals and by pathologists of experience.

Croupous pneumonia in the aged may exist in the absence of general symptoms; indeed death may be sudden and unexpected in people who were about, attending to their affairs as if there were nothing the matter with them. The memoir of Hourman and De Chambre may be quoted to emphasize this fact. "Old women," say these authors, "do not even complain of malaise; no one in their dormitories —neither among attendants, house-maids, nor neighbors—notices any change in their condition. They get up, make their beds, walk about, eat as usual, and afterwards, feeling a little tired, they totter to their beds and expire. That is what in the Salpetriere is called 'sudden death.' The cadaver is opened, and a large portion of the pulmonary parenchyma is found suppurating." Changed anatomic conditions are not to be ignored if we would correctly interpret these anomalies.

In the aged the lung is rarified; there is an increased lightness; the air cells are dilated, often ruptured; elasticity is reduced; large numbers of capillaries are obliterated, while other histological changes modify the pathol-

*Symposium on Diseases of the Aged, read at the meeting of the Fifth District Branch of the Medical Society of the State of New York, held at Utica, October 15, 1908.

ogy of the organ. The change in the size of the air cells and the reduced vital capacity are important factors. The rate of diminution has been computed to be one and one-half cubic inches each year. Exhalation of carbonic acid is enormously reduced; consequent excess of venous blood in the aged with pulmonary embarrassment and infection are of grave import. These conditions reduce the reflex excitability of the bronchial mucous membrane; bronchi become blocked and inflammatory change is promptly favored.

In 1898 the writer reported 150 cases of pneumonia, of which 14 were over 50 years of age. Of these, 4 were between 51 and 55 years of age; 2 between 56 and 60; 3 between 61 and 65; 2 between 66 and 70; 1 between 71 and 75, and 2 over 75.

Among the last 2,240 cases of internal disease seen by the writer there were 90 cases of pneumonia: 51 of the croupous type, 24 bronchopneumonias, 11 chronic interstitial pneumonias, 2 tubercular pneumonias, and 2 migratory pneumonias. Included among the 51 cases of croupous pneumonia there were 13 between the ages of 50 and 75; of the 24 cases of bronchopneumonia one-half were above the age of 52. These figures show conclusively the greater frequency of broncho or secondary pneumonia in the aged.

Bronchopneumonia is of secondary origin. If this symposium serves no other purpose than to emphasize the fact that this form of pneumonia is in truth the last stage of an inflammation extending downward along the air passages into the pulmonary lobules it will have answered its purpose; and if we still further emphasize the fact that the development of bronchopneumonia in the young as well as in the aged is dependent very largely upon the amount of impurity in the air breathed, and sanitarians act upon this information, we shall have made great progress in its prevention.

In the aged, not only in the pneumonias, but with other grave infections, there is a striking lack of the usual co-relation between the local lesion and constitutional disturbances. In childhood, on the other hand, the reaction is just the reverse: "It is exaggerated, tumultuous, and the violent derangement of the functions is very far from proving a serious danger. In old age on the contrary, the organism remains impassive, so to speak, in the face of the gravest changes. It may be that reaction is defective even to the extent of total abstinence, the knowledge of which must lead the physician to remain circumspect that he may appreciate the slightest symptoms, unless he wishes to be surprised by completely unforseen occurrences."

In a recent publication, entitled Medical Lectures and Clinical Aphorisms, by Gee, I note the following paragraph:

"The pneumonic part of bronchopneumonia is a post-mortem disease, or, in other words it can seldom be detected with certainty during life. In severe progressive capillary or suffocating bronchitis which threatens the patient with death we may assume that lobular pneumonia is present inasmuch as it is the last stage of the disease. Neither symptoms nor physical signs help us much; the patient is too ill to bear prolonged examination; nor does it matter in the least whether we detect the pneumonia or not, for our treatment is the same in both cases." This statement is extreme, there is, however, some truth in it.

Rules which in adult life control the relations between symptoms and lesions are completely uprooted in the aged. The number of latent and undiscovered pneumonias of the aged which we have unearthed in our pathologic studies in Central New York in patients dying with marked symptoms of acute infection or chronic disease has been surprising. Thus with chronic nephritis, with acute pulmonary infection, added sometimes influenza, we have had a few hours of suggestive symptoms; the absence of chills, early increase of blood pressure, only slight febrile movement, subsequent rapid lowering of arterial tension, increasing restlessness, marked lividity, evidence during an hour or two before death of suffocating catarrh, associated edema of the lungs (the patient drowning himself in his bronchial secretion, which is thrown out so rapidly that he cannot relieve himself) and extreme asthenia soon lead to death in many cases. We are not to conclude, however, that all senile pneumonias are fatal. We have had recoveries in a fair number of these, both croupous and catarrhal. Extreme conditions may yield to treatment. The vitality and resistance of these patients is often surprising in the presence of profound changes in many vital organs.

Pneumonia of the aged allows of no classical description yet the majority of cases show great similarity of behavior. I may be pardoned for offering in this connection a clinical history selected from the number already mentioned, which serves as a basis for discussing the leading features and vagaries of pneumonias as we see it in the aged within the limits of this association. A study of pneumonia in other sections and abroad has convinced me that there are features and vagaries which are materially influenced by local conditions.

Mrs. B., seen with Dr. Carpenter, of Oneida, on September 27, 1908; aged 75, a large plethoric woman, well preserved, housewife, of good habits, one child, no specific history, splendid resistance, family history excellent; has for years had troublesome bronchial asthma with frequent acute exacerbations. Last year she had an acute bronchopneu-

monia. During the past summer she lost 28 pounds and had less asthma than ever before. During the past few weeks she has coughed and wheezed more than during the early summer months. Three days ago she thought she "caught cold," felt more tired than usual and ached considerably. She had no chill; two days ago felt colder than usual, "too cold," she said, "considering the warm weather." She was up yesterday when the doctor saw her though she showed marked evidence of serious illness, including malaise, aching, increasing apathy. There were no positive physical signs when the doctor saw her, save abundant rales, large and small, over both lungs; evidence of disseminated bronchitis; there was no area of dullness, her temperature was 102, pulse 120, respirations between 36 and 44. Her symptoms increased with alarming rapidity, while there was but scant evidence of secretion in expectoration; before night fall there were symptoms and physical signs of rapidly progressive edema of the lungs, dilatation of the right heart and associated heart weakness. The following day it was evident that the patient was drowning herself in her excessive secretion because of her inability to unload, though occasionally there was some rust-stained and bloody sputum which was caught at the base of the tongue after violent paroxysms of coughing. I saw her the following day. During the early morning hours her temperature reached 104½, pulse 136, respirations 48. At 4.30 P. M. temperature 102 8-10, respiration 38 to 44, pulse 120 to 136. The physical signs showed enormous dilatation of the right heart, disseminated rales, large, moist, crepitant and subcrepitant, distributed equally throughout both lungs. In both interscapular spaces posteriorly there were areas of flatness. Besides the adventitious sounds mentioned there was exaggerated and bronchial breathing with increased vocal fremitus over these. The abdomen was somewhat distended, there was but little delirium, she answered questions promptly, and recalled my visit to her brother made a number of years ago. The urine was scant, concentrated, of normal specific gravity, contained neither albumin nor sugar, casts or blood elements. We had no time for a blood count but in similar cases when made we have invariably found moderate leucocytosis ranging from 12,000 to 20 000 and, as a rule, albumin has appeared at sometime during the course of the disease. What has recently been offered to the profession in connection with the study of the blood of pneumonics, and the conclusions concerning prognosis with associated leucocytosis may in a general way receive approval in connection with the study of the senile types.

This is the average history of pneumonia as we see it in aged subjects. There are some facts in connection with it which are striking. The previous history accentuates the conclusion already reached; that the disease is secondary in this case to preceding bronchitis and asthma, also the fact that these cases are prone to repeated acute exacerbations with lobular invasion in one of which, as resistance fails and infection becomes more malignant, with increasing cardiac insufficiency, the patient is likely to yield. It is important to note that these cases rapidly assume the asthenic form. Old age is by no means to be associated with the virile or sthenic type of the disease. The majority of senile pneumonias are without chill; without symptoms which show the exact time of inception. This is equally true of the pneumonia of infancy. Old age and infancy may be said in their diseases to bear close resemblances to each other. This is not true, as we have already tried to emphasize of the reaction which follows infection in these extremes.

Dilatation of the heart, particularly of its right side, is a frequent complication of senile pneumonia. This sometimes precedes the infection; is due to the existing primary disease, particularly asthma, emphysema and bronchitis, but it is promptly aggravated and increased by pneumonic infiltration or disseminated bronchiolitis. In early life, I refer particularly to children under 15, dilatation of the heart is more extreme than it is in the aged. The prompt development of pulmonary edema and congestion are among the most annoying, threatening, and disheartening complications which we meet in these types of pneumonia; the more enfeebled and the older the subject, the more of cardiovascular anomaly preceding, the more likely is this to be present. We are not to be misguided by a period of improvement after chill, or other marked initial symptoms when present in pneumonia. It is not uncommon to find "momentary improvement," the temperature may fall more than a degree and a half, the patient experiences relief, and the attendants are thereby encouraged. This lull is deceptive for within a few hours, often that same evening or the next morning, pneumonia marches onward uncontrolled. With or without chill it must be remembered that in bronchopneumonia the temperature rises slowly, rarely reaches the height noted in croupous pneumonia in which disease the high temperature is established early. The inspection of the thermometric tracing may often *alone* enable us to distinguish between the two types of the disease, a differentiation at times exceedingly difficult.

In the aged either bronchopneumonia or secondary croupous pneumonia may be associated with, or follow other infections when the first and only suspicion of the added disease is a marked increase of the already existing fever, with, what is most important, increasing fre-

quency of respiration. In such cases positive physical signs may be absent for from one to three days; symptoms of primary infection may be intensified; there may be a typhoid condition with or without characteristic sputum. Whatever the associated symptoms, hurried respiration, unexplained by other subjective or objective symptoms, associated with existing disease, must at once lead to a suspicion of pulmonary invasion whether the temperature or pulse show material change or not. In the majority of cases, however, pulse and temperature are changed.

Occasionally we meet a type of pneumonia in the aged which has been characterized as migratory. A large number of these when bacteriologically studied are found due to streptococcus infection, or to mixed infection; the streptococcus in the ascendancy. These cases are frequently associated with repeated chills. The chills are repeated as fresh islands of the lung are invaded. In this connection we might with profit associate the clinical histories and the bacteriology of these types.

I quote West in diagrammatic form:

| Clinical History. | | Bacteriology. | |
|---|---|---|---|
| | 1. Gradual onset, tendency to relapse. Fever hectic, markedly remittent, of long duration, with gradual fall. | Streptococcus chiefly and others. | Secondary Broncho pneumonia after bronchitis, measles, whooping-cough, diphtheria, etc. |
| Broncho pneumonia, lobular, patchy, disseminated. | 2. Gradual onset with sudden aggravation, in other respects same as above. | Streptococcus, etc., associated probably with pneumococcus. | Primary broncho pneumonia. |
| | 3. Sudden onset, no tendency to relapse. Fever high, not markedly remittent, of short duration with sudden fall. | Pneumococcus chiefly. | Croupous pneumonia. |
| Croupous pneumonia, lobar massive construction. | Similar in all respects to the last. | Pneumococcus chiefly. | |

A careful study of these facts proves that pneumococcus infection is the cause of primary pneumonias, more particularly the sthenic types, while the streptococcus and mixed infection leads to the secondary or bronchopneumonia which interests us most in this symposium, and are usually asthenic.

Central pneumonia without chill, marked gastric symptoms, slight jaundice, abdominal distress and pain, becomes exceedingly puzzling; requiring a number of days for positive diagnosis. Abdominal pain with senile pneumonia is not infrequent. This, in a number of cases, has been referred to the region of the appendix. A few cases have commenced with symptoms of profound cerebral disturbances, including coma and hemiplegia; in some the symptom complex of acute meningitis was present without a single physical sign or subjective symptom of lung invasion. These conditions have occasionally preceded for two to three days the active symptoms of senile croupous pneumonia, or have persisted until lysis or crisis. A number of these patients have made perfect recoveries.

The asthenic variety of senile pneumonia rarely terminates in recovery before the eleventh or thirteenth day, usually by lysis. Muttering delirium, with typhoid condition, and carbonic acid poisoning, including heart weakness, are often in evidence during the active period.

I have the notes of three cases of *afebrile croupous senile pneumonia* in patients aged respectively 65, 67, and 74 years. In the first of these there were no prodromata, no chill; physical signs of the disease were present. The lower lobe of the right lung was invaded; there was rusty sputum. This patient had suffered many years from interstitial nephritis accompanied by polyuria, a moderate amount of albuminuria, tense pulse, and arteriosclerosis. The disease terminated favorably by crisis on the sixth day, although the crisis was followed by an alarming condition of the patient, which continued, with profuse perspiration, almost twenty-four hours; the patient ultimately rallied, living six or seven years after his recovery and finally died of uremia.

The subject of the second case was also an albuminuric, with less marked arteriosclerosis, but with evidence of secondary contracted kidney. The patient died on the fifth day of the disease. The diagnosis was confirmed by autopsy. One-half of the left lung was found to be completely consolidated. The heart was hypertrophied in all directions, and the kidneys had undergone secondary contraction.

The third patient had been previously healthy, had no evidences of renal or cardiac disease, but had been subject to nervous strain and was in a very much reduced mental and physical condition during the two or three weeks preceding the onset of the disease. The case terminated favorably by lysis.

There seems to be an antagonism between the pneumococcus toxins and blood which is surcharged with urea, or changed as the result of chronic nephritis.

Several years ago I was so impressed with

the importance of this matter that I prevailed upon Dr. Crockett, now of Oneida, to take a number of control experiments for me. We surcharged the blood of rabbits with urea and then inoculated these with cultures of pneumococci, watching their resulting temperatures carefully. We found that the usual reaction was inhibited in these animals; their temperatures remaining as a rule normal.

I am fully convinced that both croupous and bronchopneumonia in the subjects of arteriosclerosis with associated interstitial nephritis may, because of these complications and attendant chronic uremic poisoning, run a completely afebrile course. A peculiar behavior of the pulse in subjects of arteriosclerosis, with or without manifest renal complication has occasionally been noted. During the first two or three days the pulse remains tense, often slow, rarely above 80 per minute; the blood pressure high. After this period the tension is promptly lowered; the pulse becomes irregular, intermittent, very rapid; the patient yielding to the disease with evidence of cardiac asthenia on the fifth or sixth day. A slow pulse in subjects with arteriosclerosis during the early days of pneumonia is not uncommon. It is almost invariably followed by a sudden lowering of arterial tone, and death.

The malignant type of senile pneumonia is often exceedingly infectious. I have seen as many as three cases in one family at a time.

Post pyrexial delirium or mania has been a very alarming, and at times a long continued complication. Most of these patients had but few mental symptoms during the active period of the disease; the majority recovered.

It has already been suggested that physical signs referable to the lungs may be absent or obscured. This is particularly true of cases with chronic emphysema. Some of our patients have been in such extreme asthenia that it was impossible or considered unwise to disturb them for a thorough examination of the dependent parts of the lung. In the majority of cases, however, thorough physical examination will, after the third day, offer sufficient data to clear the horizon. Empyema as a complication of senile pneumonia is exceedingly rare. The nature of the infection in these secondary pneumonias accounts for this fact.

The possibility in the aged of far reaching bronchopneumonia, with characteristic disseminated physical signs, and associated croupous infiltration, must be borne in mind. The majority of senile pneumonias I believe to be preventable; this being true, it becomes the duty of the physician to conserve the strength and energies of the aged; to place them in a favorable environment, and to guard against the baneful influences of sudden changes, particularly in the case of those suffering from respiratory abnormalities.

## ACUTE TOXIC INSANITY DUE TO DRUGS.*

By MARY GAGE-DAY, M.D.

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IN our county of late there have been some conspicuous examples of insanity, which have made considerable trouble for the physicians in attendance; and it seemed that this might be a timely subject for discussion to-day.

The classification of insanity is changing constantly as new facts bearing on the nature and cause of the malady are discovered. And some authorities claim that insanities due to drugs are not true insanities at all, but it is well known that there are several drugs, which on account of the idiosyncrasy of the patient or through excessive use may cause what may be termed a "drug psychosis." Of such drugs, alcohol, opium and cocaine are conspicuous examples. Chloral, cannabis indica, somnal, sulphonal, paraldehyde, ether, chloroform, antipyrin, phenacetin, trional, chloralamid, iodoform, belladonna, hyoscyamus, salicylic acid, quinin, the preparations of lead, arsenic, mercury, and the bromids may occasionally produce psychoses, and White states that, "The mental effects of poisoning from all of these is in the main an acute hallucinatory delirium with more or less confusion. If recovery is not complete a paranoid state may persist."

Probably, every physician present is more or less familiar with the psychosis of alcohol usually known as delirium tremens. In a case of insanity occurring in the lower part of our county two physicians committed a man, who was accustomed to the use of alcohol, to Middletown Asylum and after getting there he very rapidly recovered and was dismissed. He promptly sued the two doctors for malpractice in committing him. I understand that they settled and paid some damages.

In another instance, two of our local physicians committed a patient to the same hospital. This man was also known to be addicted to the use of alcohol. He was kept in the Institution only a short time and one of the first things which he did after getting out was to sue the two doctors for fifty thousand dollars damages for committing him to the Asylum. One of the physicians who committed him told me that when he was called to the house to see this patient, he was so violent that he smashed some of the furniture and threatened to kill his wife and child. This case is still in the courts†

There are many safeguards thrown around the personal liberty of sane people and *justly so.* The laws vary in the different states, but in this as you all know, it takes two physicians, who have the proper qualifications and registration to examine the patient, and to fill out the special

*Read before the Third District Branch of the Medical Society of the State of New York, Troy, N. Y., October 27, 1908.

†The day after this paper was read in Troy this patient committed suicide in White Plains.

papers declaring a person insane, and then the county judge or surrogate examines the papers and if satisfied of their correctness, formally commits the person to the asylum. It requires all this to declare a person insane, but it seems to be very easy for them to be considered sane again. The authorities in the hospitals for the insane seem to exercise their own judgment pretty largely in the matter.

I once had a man consult me in regard to a distant relative, who had attempted to kill her husband and was in the asylum at the time; but she seemed better and wished to go home. The asylum authorities were going to let her go provided any of her friends would give bonds to the amount of five hundred dollars for her conduct. The relatives had common sense enough to hesitate about assuming the responsibility and upon being consulted I said, "If you wish to risk five hundred dollars on what any lunatic, who has tried to kill her husband once, will do in the future (when the specialists in the asylum do not seem very sure that she is well) do so; but I should take no such risk." They decided to leave her under restraint. This was not a case of drug psychosis; but it illustrates the ease with which it has been possible for patients to be dismissed from hospitals for the insane.

Physicians are frequently blamed for the increase of the drug habit, and patients often claim, whether true or not, that their taste for drugs was acquired through the prescription of their attending physician. Such a patient came to me some years ago, saying that she had a very bad habit, which she acquired by her physicians giving her some medicine for the relief of nervousness. This medicine worked so well that she soon found that she could not get along without it and then to her horror she discovered that she was taking morphin. At the time she consulted me, she was taking thirty-two grains of morphin daily to keep her comfortable. She begged me to help her to stop it. The gradual withdrawal of the morphin was begun, but her system was so habituated to drugs and her craving so great that I soon found that she was substituting a large amount of whiskey each day for the morphin. It is stated by the authorities that the psychic symptoms are much more likely to develop upon the withdrawal of opium than during the continuance of it; and it certainly proved so in this case; for the patient began to lose mentally and physically. She was violent and unreasonable in all of her demands, her heart was weak, she was trembling and unsteady in all of her muscular movements, she had no appetite for food and had a troublesome diarrhea. After a few weeks, I was sent for in haste as she had taken with suicidal intent, thirty nitro-glycerin tablets 1-100 grain each at one dose. To my surprise it did not seem to affect her much. I cautioned the nurse to watch her more closely. Four days later while the nurse was at her meal she demanded some whiskey of her husband and as he did not get it quickly enough to suit her, she sprang out of bed, grabbed the jug and in the effort to raise it to drink fell back dead. Since this experience I have been firmly convinced that the safest cure of the opium habit consists in not forming it and if it is once formed, it is utterly useless to attempt its treatment in private homes. The only proper place for such people is in a hospital planned for their care.

A psychosis due to other drugs was caused in the following instance: While away on my vacation one of my patients (aged seventy-two, with marked arteriosclerosis) had occasion to consult another physician for sleeplessness, which has been a very troublesome condition of hers for many years. She said that she explained to him that many of the drugs, which were usually given for this, disagreed with her very much, and he assured her that he would give her something "which could not possibly hurt her and which would make her sleep." The first trial failed, but the next was more successful, and she slept, but she soon began to complain of staggering gait when she walked, and she had a queer noise in her head. She slept on one occasion almost continuously for two days and the physician thought that she had taken too much of the medicine. A few days after this she became very talkative, tried to go out on the street without her clothing on, saw strange people in her room, who were planning to give a private theatrical for her benefit; and during the time she was so distressed, she thought that the little dead baby lying in the house for burial could not be gotten ready for the casket. Sometimes she thought that she was in the Episcopal Church. Another physician (who had seen this patient with me on previous occasions) was called in consultation and the two physicians concluded that the patient had developed senile dementia. A day or two after this I saw her, but before seeing her I learned from the physician who had attended her that she had taken as a sleeping medicine, a chloral mixture, Bromidia. She was very glad to see me and related all of these dreadful experiences which she had been having in my absence. Upon examining her, it seemed that there was a possibility of its being a drug psychosis instead of senile dementia, as I had discovered in nine years of experience with her that she had more real idiosyncrasies against drugs than any patient whom I had ever had. This opinion was stated to the family, and also that it would only take a short time to settle the question and it was decided to hold the legal proceedings in abeyance for a few days. Treatment was begun by giving two grains of calomel in divided doses followed by citrate of magnesia, full doses of strychnin, morphin and atropin to make her sleep (I knew from past experience that morphin did agree with her). She became quieter and began to improve at once and on the third day she looked up and said, "Doctor, don't tell about any of these queer things, which have

happened here; for I am not *just sure* that any of them really happened." This as you all know is a hopeful sign of recovery when patients begin to doubt their own delusions. In less than a week she was as clear mentally as ever, resumed charge of her large business affairs, and has not shown the slightest trace of mental trouble since. An interesting point in this patient's history was related by her daughter. While she and her mother were traveling abroad some years ago, the mother became very tired and they decided to rest in Paris a few days. A physician was called who gave her chloral to make her sleep, but instead of sleeping she was delirious all night. The physician called in the morning and said the medicine did not agree with her and changed it. The same result followed the administration of chloral at a well known sanitarium in this country, but in both instances the physicians recognized the unsuitability of the drug and stopped the administration of it before any serious results occurred and probably the combination in Bromidia of chloral, cannabis indica, hyoscyamus and bromid, modified somewhat the action of the chloral.

While it may be comparatively easy for the skilled alienist to make a correct diagnosis of cases of mental aberration of the type considered in this discussion, it does not seem at all easy for most of us who are not alienists; and the general practitioner is the physician most likely to see these cases first and if he is so unfortunate as to commit a person to an asylum who recovers quickly, apparently there is no protection for him from legal attacks by the patient prompted by the ever ready, unprincipled lawyer who takes cases for percentage of damages recovered.

This seems like an unjust and cruel position for us to occupy and for our own protection it seems wise to keep in mind all the drugs which have ever been known to produce these psychoses with their physiological and occasional toxicological action, for it seems to me the two most important diagnostic points to be kept in mind to help us to avoid mistaking this for some other form of insanity are: 1. History of the administration of some of these drugs preceding the illness. 2. The confusional type of the insanity.

Outside of the large cities the physicians are seriously handicapped by the lack of proper place and facilities for the care of such cases if they are fortunate enough to make a correct diagnosis, for as a rule, the smaller hospitals do not have psychopathic wards. The physicians in large cities are more fortunate and I cannot help congratulating the physicians of Albany that they have such fine facilities. In one small hospital with which I am connected, the patients suffering from alcoholic insanity were put in the general ward and no other place was ever provided, until after one of these patients knocked down the woman superintendent and kicked one of her kidneys loose, as a result of which her health was so impaired that she gave up her position. The woman who succeeded her as superintendent, while attempting to keep another such patient from jumping out of the window, was so seriously injured by him, that she had to have the whole breast amputated. After this she refused such cases admittance to the city hospital, and there was much contention over the matter until finally a public-spirited citizen built a small addition to the male ward, which contained two rooms, with barred windows and other facilities suitable for such cases. This is an improvement over the first plan; but it does not seem to me that it is enough. Every small city should have at least one psychopathic ward in connection with a good general hospital well equipped for the treatment of all drug insanities and perhaps of some other forms and it should be possible for physicians to place persons requiring such care in these wards, without running the risk of being sued for malpractice by the patients after they recover. It seems to me that when the people are educated, so that they realize what this means and how desirable it is for their own good, there will be no difficulty in getting these wards established, for as one authority states: "It must be admitted that the fact of commitment to a hospital for the insane does affect the business and social status unfavorably, although this prejudice is often very unjust and unreasonable." Probably many patients could be saved from ever being entered in the insane asylums, if there were accessible well-equipped psychopathic wards in connection with general hospitals where they could receive proper care.

This, we hope, will come in the future. In the meantime we may any of us be called to see such a patient any day and be obliged to act under conditions as they are, and what shall we do? It is the bounden duty of every physician, regardless of personal risk, who is so unfortunate as to be called to such a case, to do what in his judgment is the best thing for the protection of the patient himself, his family, and his friends. I believe with all my soul in the noble ideals of the ethics of medicine which have come to us from antiquity and which have been so beautifully expressed by Weir Mitchell in the following lines in "The Physician."

"To give what none can measure, none can weigh.
Simply to go where duty points the way;
To face unquestioning the fever's breath
The hundred shadows of the vale of death;
To bear Christ's message through the battle's rage
The yellow plague, the leper's island cage,—
And with our noblest 'well to understand
The poor man's call as only God's Command'
Ay, under every century's changing sky
Shall the Greek masters' triple signal fly,
Faith, Honor, Duty—Duty calmly done,
That shouts no self praise o'er a victory won,
One bugle note our only battle call
One single watchword—Duty—That is all."

While I do most thoroughly believe in ideals I also believe, that as a body of physicians we should evolve some plan of saving ourselves from such miserable persecutions, while we are trying to work out our ideals.

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## RABIES IN NEW YORK STATE.

By VERANUS A. MOORE,

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THERE is no other definite cause of death among man or beast that has been more often or more strenuously denied the distinction of being a specific disease by physician and layman alike than rabies. Although its existence has been questioned so frequently, its history is an epitome of a specific infection. It was first described by Aristotle in these words: "Dogs suffer from a state of madness which puts them in a state of fury, and all animals they bite when in this condition become also attacked by rabies." Allusions to it are found in the writings of Virgil, Horace, Ovid and Plutarch. The name hydrophobia was given to rabies in man by Cornelius Celsius in the first century. Galen gives various special remedies for it. Baulins, in 1591, mentions the transmission of rabies by wolves to man. In 1604 there was a severe epizootic of rabies in Paris. In the eighteenth century Italy, France and Germany suffered from it. Between 1779 and 1807 it came to America through the West Indies and Peru. A little later it spread over all Europe. Recently it has become a like scourge in the United States and Canada. Thus we find through the history of more than twenty centuries tracings of its appearance exemplifying the essential characters of a specific infectious disease.

With other infections it has been the object of much misunderstanding relative to its true nature and means of dissemination. It has been exceedingly difficult for the masses to grasp the true conception of what a specific disease is. There are still many people and not a few practitioners of human and comparative medicine who deny the infectious nature of malaria, diphtheria and tuberculosis. If the demonstrated facts concerning these more common diseases are not accepted, we must expect that there are still those who are not convinced of the specific nature of a disease like rabies, vast as is the evidence to the contrary. It was formerly believed that rabies could originate from the influence of great heat, thirst, nervous excitement, anger, jealousy, and a host of other conditions. In 1854 Virchow called attention to the error of this supposition. Before this Hertwig had published the results of experiments on the transmission of rabies. Among the large number of leaders in the medical and biological sciences who have added to our knowledge of this affection are Sir John Hunter in England, Virberg in Copenhagen, Waldinger in Vienna, and Pasteur in France. Without detracting from the valuable work of other investigators we may say that to Pasteur and his co-worker, Emil Roux, we owe much of our knowledge of the nature of rabies and the discovery of a specific preventive known as the "Pasteur treatment."

If one reads the history of rabies and follows carefully the course it runs, he is forced to recognize that the term circumscribes a fearful phenomenon in nature, which can exist only in the presence of some definite cause.

It would be interesting, if time permitted, to dwell longer on the history of rabies. However it differs only in details from that of smallpox, scarlatina or yellow fever. These recognized epidemic diseases are still as little understood as rabies, yet we recognize their specific nature and the necessity of taking definite measures to prevent their spread.

When considered in the light of modern scientific medicine, rabies is an acute infectious disease transmitted from animal to animal and from animal to man by the bite of the rabid individual or by direct inoculation. It is not known to be contracted or transmitted in any other manner. It is characterized by a long and variable period of incubation, followed by symptoms referable to the nervous system, lasting from one to ten days and ending in paralysis and death, without recognizable gross morbid changes. The dog is the animal most commonly affected, and the canine and feline races seem to suffer from rabies more than other species. All warm-blooded animals are susceptible. An explanation for its greater frequency among dogs is found in their tendency to bite. In civilized lands a very large percentage, in fact nearly all cases of rabies in man and in the domesticated animals are caused by inoculation from the bites of rabid dogs.

Notwithstanding the fact that rabies has been known for centuries to be a communicable disease, it was not until Pasteur recorded the results of his own investigations that the main locus of the virus in the infected individual was determined. The most striking character of the disease is the absence of recognizable morbid changes; the microscopic changes are not always found, especially in animals that are killed during the early stages. The changes described by Babes and Golgi are often difficult to recognize. This is true of the ganglion alterations described by Van Gehucten and Nelis. The diagnosis, therefore, is not possible at the post-mortem and, like certain other specific infections, requires the aid of definite laboratory methods.

The etiology of rabies is still in question. Pasteur showed that it was always present in the central nervous system. Its presence in the saliva had previously been demonstrated. It has

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been reported in other organs of rabid animals, but its best development is in the brain and spinal cord. Although many supposed causes have been described, the bodies found by Negri in 1903 in the cells of the central nervous system are very generally accepted as either the specific cause or a specific degeneration. In either case they are of recognized value in diagnosis. In our laboratory we have made many inoculations from brains containing these bodies and always with positive results. We have also inoculated many rabbits with the brains in which we could not find those bodies and thus far with negative results. I believe, however, that the Negri bodies may escape detection in a microscopic examination and the brain still contain the virus of rabies. In other laboratories a very few rabbits and guinea pigs inoculated with brains giving negative results microscopically have developed rabies and died. I have no doubt but that we shall have a like experience. The papers by Negri, Williams and Lowden, Frothingham, Remlinger, Standfuss, and others on the studies of Negri bodies are very instructive.

The diagnosis of rabies is restricted to the symptoms of the suspected animal; the changes described by Babes and Golgi; the cellular proliferation in the plexiform ganglia; the subdural or intraocular inoculation of animals with the suspected brain; and the finding of Negri bodies. The diagnosis on symptoms is very difficult in many cases and impossible in some. Coakley has recently called attention to the pathognomonic eye symptom which consists in a pinpoint contraction of the pupil which is not influenced by the light. Porcher found in the study of experimental rabies a marked glycosuria which in some cases appeared a few days before the symptoms of the disease. These, however, are evidences not likely to be very definitely ascertained by the practitioner who is dealing with suspected cases of rabies. The symptoms are so different from those popularly entertained to be characteristic of the disease that those not familiar with them are liable to error. Difficulty in swallowing, partial paralysis, restlessness or unusual docility are very suggestive manifestations in this connection.

The changes pointed out by Babes and Golgi are often difficult and occasionally impossible to find. The observations of Van Gehucten and Nelis that the cells in the plexiform ganglia undergo atrophy with the invasion and destruction of the ganglion as a result of new-formed cells evidently from the endothelial capsule have been verified. These changes, however, do not appear early in the course of the disease, so that they are very unreliable for diagnosis when dogs are killed. They are on the other hand very trustworthy when the animals have been allowed to die from the affection.

The presence of Negri bodies has been found a very convenient and rapid method of diagnosing rabies. As they appear within the large cells of the hippocampus they can be readily found in most cases in smear preparations. Occasionally sections are necessary in order to locate them, but even by this method a few hours is sufficient to make the diagnosis. In those cases where Negri bodies cannot be found, sections of the ganglia are called for, and if they are negative animal inoculations are resorted to.

The diagnosis by animal inoculation is perhaps the most certain, but the time necessary to obtain results is so long that rabies may develop in the persons or animals bitten before the inoculated rabbits or guinea pigs develop the disease. The usual method, therefore, for diagnosing rabies in the laboratory is to search for Negri bodies. If these are found the diagnosis is considered positive. If they are not found the ganglia are examined and if they are negative experimental animals are inoculated.

There seems to be some questioning relative to the extent of rabies in this state, and I might say country. The occurrence of isolated cases of this disease seems to be difficult for some people to understand. They are, however, in perfect harmony with the nature of the disease and easily explained. A rabid dog is liable to, and often does, travel from twenty to forty miles during the course of the disease. It may return home after a day or two of absence or it may die on the way. As many of these dogs are homeless they are not missed. Some time since, a rabid dog came to Ithaca from Owego. I have several records of their traveling for long distances during the attack, biting dogs and other animals, and in some cases people. The result is that isolated cases of rabies in dogs, cats, horses, cattle, sheep, pigs, and men do occur, and at the present time they are liable to appear at almost any place within the state.

That rabies is on the increase in New York is readily seen from the available statistics. In a paper recently published by Dr. Williams, pathologist of the New York City Health Board, we have these figures:

Average death from human rabies in New York City per year before 1906..... 4
Deaths during 1906..... 12
Deaths during 1907..... 28

The number of animals sent to the Research Laboratory for diagnosis during the last seven months of 1906 was 95, of which 63 were positive and 32 negative. During the same period in 1907 there were 157, of which 117 were positive and 40 negative. The work in the New York City Board of Health has been practically duplicated in my laboratory, as the following table will show:

EXAMINATIONS FOR RABIES IN THE NEW YORK STATE VETERINARY COLLEGE.

In 1899 there was 1 examination, which was negative.

In 1900 there was 1 examination, which was negative.

In 1901 there were 11 examinations, 8 positive and 3 undetermined.*

In 1902 there were 8 examinations, 1 positive, 1 negative, 6 undetermined.

In 1903 there were 3 examinations, 2 positive, 1 undetermined.

In 1904 there were 36 examinations, 24 positive, 5 negative, 7 undetermined.

In 1905 there were 26 examinations, 16 positive, 4 negative, 6 undetermined.

In 1906 there were 32 examinations, 16 positive, 3 negative, 10 undetermined.

In 1907 there were 63 examinations, 36 positive, 18 negative, 9 undetermined.

In 1908 to August 31 there were 190 examinations, 100 positive, 60 negative, 30 undetermined.

During the last 30 days we have received 41 heads, of which 28 were positive, 9 negative and 3 undetermined.

An analysis of the above table shows that there have been more cases for examination during the last eight months than there were during the preceding nine years. It also shows that about 30 per cent. of the cases sent us for examination are negative. This was the experience in the New York City Board of Health Laboratory.

Of our total of 371 examinations for rabies to September, 1908, 306 were in dogs, the remainder in horses, cattle, sheep, pigs and cats. The extent of rabies in this state may be more fully appreciated by the fact that the total number of outbreaks of rabies caused by stray dogs as given by the chief veterinarian of the Department of Agriculture was 45 from January, 1906, to September, 1908. There was a total of 36 quarantines laid because of rabies. There have been nine places in which rabies has been diagnosed in which quarantine was not laid by the Department of Agriculture. In several, if not all of these the local authorities took the necessary precautions to prevent the further spread of the disease.

The Pasteur treatment has prevented many deaths from rabies that otherwise would have occurred. The benefit from it has been greatly increased since methods for a rapid diagnosis have been introduced. When people wait for a diagnosis by animal inoculation there is too often not time enough for the treatment. In one case in my experience, a lady, although advised by her physician to take the treatment, refused to do so because she was sure that her dog was not rabid. The rabbits inoculated with the brain of the dog died on the sixteenth and seventeenth days after inoculation and the lady showed symptoms of rabies in fourteen days and died a horrible death on the sixteenth day.

In the Annales of the Pasteur Institute in Paris I find statistics which speak of the great good done by the antirabic treatment. Indeed, since its inauguration in 1886, there have been treated in the institute at Paris 29,261 cases, and of this large number there have been only 94 deaths, counting both those that have died during the treatment and those that have died of rabies afterwards. The highest mortality was .94 of 1 per cent. at the beginning and the lowest was .18 of 1 per cent. in 1902.

At St. Petersburg, I see in the annual report for 1903 that 1,442 persons applied for treatment at the Imperial Institute for Experimental Medicine. Of these 230 were refused treatment, and it was not considered necessary. Of those that were treated only 1,023 had been bitten by rabid animals, the balance, 419, could have been left without being treated. The majority of persons who received the injections came from rural districts. Adult men were in the majority, then came children and finally women. The bites were received from dogs, cats, wolves, horses, cows, pigs, sables, rabbits and rats. There were 12 deaths.

Concerning the prophylactic work in the New York City Board of Health I quote the following table from Dr. Williams' paper:

HUMAN CASES TREATED AT THE NEW YORK CITY BOARD OF HEALTH RESEARCH LABORATORY.

| Year. | Resident. | Non-resident. |
|---|---|---|
| 1904 | 30 | 47 |
| 1905 | 33 | 83 |
| 1906 | 98 | 229 |
| 1907 | 71 | 422 |

A large number of cases are treated at the Pasteur Institute in New York City in addition to these.

The results of the Pasteur treatment are very satisfactory as already indicated. It has reduced the mortality from 16 to 20 per cent. to a fraction of 1 per cent. In cases where the bites are about the face and hands the mortality is much higher, being variously estimated at from 50 to 80 per cent. In this class of cases the fatalities are much higher than the average. In taking the treatment it is considered that two weeks are necessary after the treatment is completed for immunity to be established. All deaths that occur during the course of the treatment or within two weeks thereafter are not chargeable to the failure of the treatment, but as cases in which the method is not applicable.

Nitsch has recently made the following statement relative to the Pasteur treatment: It has been shown already that the Pasteur method decreases very considerably the percentage of mortality in persons bitten by rabid dogs. On the ground of numerous statistics it can be accepted that without treatment with this method over 10 per cent., and perhaps more, of those bitten perish. On the other hand after treatment with the Pasteur method only about 1 per cent. die. If we follow the development of this method from the beginning we mark that step by step with its perfecting, that is, with the use of stronger injections, the results constantly im-

*These were cases where the tissue had decomposed to such an extent that a diagnosis was impossible.

prove. Examples of this are found in the institutes of Paris, Odessa, Warsaw and Turin.

A new procedure known as the simultaneous method, consisting of a serum from immune animals and the virus, is being tested, and by some considered with much favor. It has given good results in a few cases after the symptoms of the disease have appeared. This method is still in the experimental stage and cannot yet be generally recommended.

As the prophylactic treatment is the only promising procedure for those who have been bitten by rabid animals at present it is very important that the period of incubation should be considered. The observations of Bauer on 447 fatal cases of human rabies are very instructive. Of these cases there died after the bite in from

| | | | | | |
|---|---|---|---|---|---|
| 12-25 | days | 33 | persons, i. e., | 7.38 | per cent. |
| 26-30 | " | 27 | " | 6.04 | " |
| 31-35 | " | 35 | " | 7.83 | " |
| 36-40 | " | 35 | " | 7.83 | " |
| 41-50 | " | 71 | " | 15.83 | " |
| 51-60 | " | 40 | " | 8.95 | " |
| over 60 | " | 206 | " | 46.09 | " |
| Total..... | | 447 | | 100.00 | |

The facts which must be recognized are that rabies is rapidly spreading in this country generally and in New York State particularly. The question before us is, how can it be checked? As rabies spreads in civilized countries almost entirely by bites from rabid dogs, the problem narrows itself at once to the proper control of dogs. Some years ago rabies became so prevalent in Berlin that there was a case in man every day. The enforcement of what is known as the chain and muzzle ordinance promptly eliminated the disease. The ordinance consisted in not allowing a dog on the street without a muzzle and being led by a chain. With the steady and rapid increase in the amount of rabies we must either submit to many deaths from it or eliminate the homeless dogs and take care of the others. This should be done not only to protect our children and domesticated animals such as cattle, horses and swine, but also to protect our dogs. The kindest and most humane thing to do for our dogs is to protect them from this horrible and deadly disease. Just how the worthless and homeless dogs are to be exterminated and what regulations shall be enforced concerning the care of other dogs is not agreed upon. It seems, however, that a heavy tax, with proper restrictions as to the freedom of home dogs will be the only method for eradicating rabies. Australia has been kept from this disease by imposing a six months' quarantine on all dogs coming to the continent. Great Britain has practically eliminated rabies by the enforcement of a proper muzzle regulation. Berlin and Paris reduced it to a minimum by the chain and muzzle acts. Whether a better method can be devised for our State is an open question and one which every lover of dogs should carefully consider. We cannot afford to allow the continuance of the awful suffering imposed alike upon dogs and the human family by rabies.

## CASES OF STRICTURE OF THE MEMBRANOUS URETHRA.

By EDWARD L. KEYES, JR., M.D.

NEW YORK.

PATHOLOGICAL investigation stimulated by the advances made in the operative study of prostatic hypertrophy has extended the territory of the gonorrheal or inflammatory stricture of the urethra. Up to the end of the last century, the gonorrheal stricture was confined to the anterior urethra. According to the best authorities, such strictures might be found as deep as the bulbo-membranous junction, but no deeper. Reported exceptions to this rule, if not laughed out of court, are considered as so rare as to merit no notice; but the practice of perineal prostatectomy by many surgeons has familiarized them with the variations of size and distensibility of the prostatic urethra and has called to their attention the fact that inflammatory strictures at the neck of the bladder, while by no means so frequent as those in the anterior urethra, may, nevertheless, be clinically recognized and pathologically verified. Inflammatory stenosis of the whole prostatic urethra has even been reported, though this is the exception.

But the operative technic has not been such as to call attention to conditions in the membranous urethra, exception made for the case reported by Bazy. Thus the membranous urethra now enjoys the distinction of being the one portion of that canal supposedly exempt from sclerotic infiltration. Why this should be the case is not clear from the pathological point of view, for not only is the membranous urethra supplied with glands of Littré, but it will be remembered that Littré, in describing the glands which bear his name, speaks of them as exclusively confined to this region. It is, therefore, a good field for that gonococcal penetration into the tissues which is the foundation of gonorrheal stricture. But clinical investigation has not been directed to the study of these strictures simply because when the membranous urethra is opened in perineal section, this is done with the sweep of the knife, and before thorough investigation is made with the finger, or else the prostate is attacked behind the membranous urethra, whose caliber is therefore not explored.

I have had occasion in the last three months to perform median perineal section for the relief of stricture, three times in the bulbous urethra and once at the neck of the bladder upon patients so debilitated by sepsis, age, or alcoholism, that it seemed wiser to perform the operation under local anesthesia.

In one of these cases the operation was un-

eventful. Having opened the bulbous urethra and divided the stricture there, one could with very little stretching of the tissues pass the finger directly back into the prostatic urethra.

In a second case, with a stricture of large caliber of the whole of the anterior urethra and chronic complete retention of ten years' standing from contracture of the neck of the bladder, the membranous urethra required division with the knife before the finger could be introduced. Yet it was large enough to take a 28 F. sound introduced from the perineal wound, and one could scarcely feel justified in saying that it was actually a stricture, though our lack of precise knowledge as to what should be called chronic inflammation and what stricture is of course more marked for the membranous urethra than for any other portion of the canal.

But leaving aside these two cases, the other two showed very marked stricture of the membranous urethra, and, therefore, seem worthy of detailed recital.

Case 1.—E. Y., 24 years of age, gave a history of alcoholism and sexual excess for a number of years past; he had a constant urethral discharge for some five or six years, but this was a matter of no concern to him until the present attacks began.

In July, 1907, he was suddenly seized with a severe pain in the right hypochondrium and right lumbar region; temperature 104; pulse 140; vomited repeatedly. On the fourth day of this attack, the temperature remaining high and the kidney being impalpable by his physician, his appendix was removed, and the surgeon stated that it was gangrenous. The next day the temperature dropped to normal and the pain was relieved. His convalescence was uninterrupted; but two days after leaving the hospital all his symptoms relapsed, and during the six months intervening between his first attack and the time when I saw him he had four more attacks, each of them lasting from one to two weeks, coming on, as a rule, after exercise, and relieved by a gush of urine containing a great deal of pus. Between the attacks the urine was said to be quite clear, and during attacks there was oliguria; the pain did not radiate into the pelvis, but remained confined to the upper quadrant of the abdomen. He had to take morphin by hypodermic in every attack. During all of this time he never passed blood or stone; never had any difficulty in urination. He lost 13 pounds.

I examined him first on January 4, 1908, and found an extensive urethral stricture. A 20 F. bulb stopped at two inches; a filiform stopped in the bulbous urethra; the prostate was lumpy; the right loin extremely tender and rigid, but no tumor palpable in it.

The urine was full of pus, contained one-eighth per cent. of albumin by weight, and showed a specific gravity of 1,010. He went home, had another attack, lost five pounds more and returned on January 13th for operation.

I performed perineal section with a guide under cocain. The urethra being opened, a probe readily entered the membranous urethra, and upon this I cut him widely for about an inch—almost to the apex of the prostate, but even at this point nothing larger than a grooved director would enter the urethra. I therefore administered a whiff of laughing-gas and cut down the last band precisely at the apex of the prostate and inserted a perineal tube.

The rest of the history, though not intimately related to the point in question was extremely interesting. The perineal tube was left in a week, the kidney urines were then separated and a marked deficiency of the right side was noted both in quantity and quality.

Only the left ureter could be catheterized; the catheter stopping at a depth of about 1 c. m. in right ureter.

As soon as he got out of bed his temperature rose to 104 degrees with a chill and the lumbar pain relapsed. The kidney was therefore cut down upon, the pelvis found not kinked, but greatly crumpled by adhesions running from the lower pole of the kidney and surrounding the pelvis and upper end of the ureter. These were freed, retrograde catheterization of the ureter performed and the kidney sutured in place, after which convalescence was uneventful. He remained well and had gained 20 pounds when last seen three months after the operation.

Case 2.—N. B., 36 years of age, had been for eleven years under the care of Dr. Chetwood for chronic urethritis and extensive urethral stricture. The patient had syphilis in 1900, but this proved mild in spite of the fact that he was threatened with delirium tremens a number of times before and since. He dodged treatment of his urethra as far as possible and since an internal urethrotomy in 1897, after which a 31 F. sound could be made to enter the bladder, he had no satisfactory attempts made at dilatation.

On February 17, 1908, Dr. Chetwood, being out of town, the patient came to me with acute retention. I introduced a Banks bougie and he urinated some 500 c. c. of urine. Seven hours later he returned unable to urinate and I aspirated a like amount suprapubically. Eight hours later he was still unable to urinate, but a small catheter (7 F.) readily entered and drew about 700 c. c. Ten hours later as he was still unable to urinate, the psychological moment for operation seemed to have arrived.

Perineal section under cocain revealed a dense stricture in the bulbous urethra extending into the membranous urethra. This portion of the canal would take nothing larger than a 10 F. bougie. A whiff of ethyl chlorid was administered and the membranous urethra divided. The prostatic portion of the canal seemed to be normal, and the patient's condition so unsettled that it seemed wise not to touch the very tight stricture of the anterior urethra.

The perineal tube was removed in thirty-six

hours and the convalescence was thereafter uneventful, all danger of delirium tremens disappearing as soon as the patient got out of bed. A week later Dr. Chetwood opened the anterior urethra and the patient's convalescence was uneventful from this operation.

These two cases suggest that ancient neglected strictures of the bulbous urethra may often involve the membranous urethra as well. The presence of stricture in the membranous urethra appears to add no danger or symptoms to that of the bulbous urethra. A more frequent use of local anesthesia will probably disclose the frequency of this condition. Its importance appears to be purely pathological. Not only does the free division of a strictured membranous urethra not cause any disturbance of urination or leave any subsequent incontinence of urine, but dense and tight stricture of that region may exist and cause symptoms so slight as to concern the patient not at all, as in Case 1.

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## REPORT OF THE PRESIDENT

To the Members of the HOUSE OF DELEGATES of the Medical Society of the State of New York.

*Gentlemen:*

In convening this executive body of our great Society it is a source of extreme pleasure to your President to be able to report that during the past year we have been both progressive and successful. Meetings have been held by all of the various district branches, at some of which it has been my privilege to have been present. At most of these section meetings the attendance has been gratifying and the scientific programs have been of perhaps unusual excellence. It seems to your executive that much of the success of our Society depends upon the success of the district branch meetings, and I would urge upon the members of this body the necessity of impressing upon the medical gentlemen in their various localities the extreme importance of giving substantial assistance at the district branch meetings.

I fancy that it is expected by this body that certain recommendations at this time might properly come from your executive officer. Pursuant to this thought I would suggest that a special effort be made in order to increase the membership of our Society. On the 31st of December of the year just past our membership was 6,595. The number of delinquents dropped on that date was 374, leaving a membership of 6,221. Since January 1st 60 new members have been added. Some are reinstated; many others are new. The net gain for 1908 has been 241. The percentage paid up in 1908 was 95 per cent. In 1907 it was 94.5 per cent., consequently it will be observed that we have made a considerable net gain during the past year. Notwithstanding the fact that these figures carry with them considerable encouragement, it still remains that there are thousands of physicians throughout the State who are not yet affiliated with our body. Many of them are desirable and should be within our ranks, and it seems to me a matter of the utmost importance that every effort possible be made to bring every reputable physician practicing within this State into our Society. In so doing we not only strengthen ourselves financially but vastly increase our value as a scientific body; and it does seem to me if the physicians throughout this State could realize what the Society brings to them no man would feel that he could afford to be without membership in our organization. Our yearly dues are extremely small when one considers the advantage of belonging to a scientific body like ours, the protection of malpractice defense, and a share in our publications. No man can attend our meetings without receiving renewed inspiration for greater achievement and better work. The scientific fellowship sends every man back to his home with a better understanding of his own limitations and an uplifting inspiration to do better work, consequently your executive would recommend a committee on membership consisting of three, whose duty shall be to prepare a statement and mail to all physicians throughout the State in good standing not yet affiliated with the Society, setting forth the desirability of membership and impressing upon them their duty to join; such committee being allowed sufficient money to carry on the work.

It has come to the knowledge of your executive that there is at present some difference of opinion concerning the publications of our Society, and after having given this matter considerable thought it seems to your executive that these questions are questions for the membership itself to decide. It has been said "In multitude of counsel there is wisdom;" hence your executive would recommend that the Publication Committee of our Society be instructed to prepare a statement of all of the facts concerning our publications as at present conducted, and that such a statement be mailed to every member of the Society with a request that each member answer the questions put to him and make whatsoever suggestions in his mind seem to be proper —and that when these data thus accumulated by the Publication Committee shall have been digested, that it should be put into the form of a report to be rendered at the next meeting of the Council.

It is with a feeling of deepest sorrow and most sincere regret that your executive has to announce that during the past year one of the Vice-Presidents of this Society has been taken away by death, Dr. John T. Wheeler, of Chatham, N. Y., a man of kindly nature and exceptional attainments, a gentleman and a physician.

ARTHUR G. ROOT, *President.*

# Medical Society of the State of New York.

## ANNUAL REPORTS.

### REPORT OF THE SECRETARY.

*To the House of Delegates:*

In compliance with Section 3, Chapter VI, of the By-Laws, the Secretary submits the following report for the year ending December 31, 1908:

| | 1908. | 1907. |
|---|---|---|
| Membership December 31 | 6,595 | 6,323 |
| Dropped for non-payment of dues, December 31 | 374 | 343 |
| Membership after removal of delinquents, December 31 | 6,221 | 5,980 |
| Percentage paid up to total membership, December 31 | 95.0 | 94.5 |
| Deaths | 98 | 102 |
| Resignations | 16 | 57 |
| Expulsions | 0 | 1 |
| New and reinstated members | 729 | 809 |

Net increase for 1908 is 241 members.

Deducting the 189 reinstated members of 1907 from 343 dropped December 31, 1907, leaves a loss on 1907 membership of only 154 or about 2½ per cent., a paid-up percentage of 97.5 for that year, as compared with 94.5 calculated on December 31, 1907.

The honor list of County Societies whose membership for 1908 is fully paid up is as follows: Chemung, Ontario, Otsego, Tioga, Warren and Yates.

The increase in membership for 1908 is very small and indicates clearly that the County Societies should be more active in soliciting new members and make greater efforts towards the reinstatement of the delinquents.

The automatic dropping of those who have not paid their dues on December 31st has worked admirably during the three years it has been in force. The large majority of those dropped consist of men who are careless in all their business relations, but a very small percentage because of inability to pay. Both of these classes should be encouraged to renew their membership, and it is of interest to note that very few of the reinstated members permit their names to be dropped a second time.

The other class of delinquents consists of men who do not care to continue their membership for various reasons, or who have desired to resign during the year, and whose request has been denied because their dues had not been fully paid up at the time the request was made. Even many of these by proper efforts could be induced to renew their allegiance.

Both the State and County Societies need increased revenue. The proper and best way to secure it is by increasing the membership. There are in the State to-day nearly 4,000 physicians, non-members of this Society, who are eligible for membership in both the State and County organizations. Many of them would join if they were only asked to do so. Personal solicitation will accomplish much more than circular letters, and if each member of this large and influential body will make this personal effort at once, the result will soon be seen. Those not in affiliation need the Society and the Society needs them. Each can be of great advantage to the other.

The Treasurer's report for the year 1908 shows that the income has exceeded the expenditures by $642.46. This result has only been accomplished by economies that in many instances were not to the advantage of the organization. It should never be the aim of the Society to accumulate a surplus, but its many activities should be encouraged and increased. This is impossible with the limited funds at the disposal of the Finance Committee, and many legitimate requests for appropriations have to be denied and others curtailed. To remedy this state of affairs, as previously stated, all that is necessary is to increase the membership and thus provide the increased revenue.

The following resolutions were unanimously passed at the meeting of the American Medical Association, held in Chicago in June, 1908, and are submitted for consideration:

*Resolved*, That this Association heartily approves the action of the Board of Trustees in restricting advertisements of medical preparations to those approved by the Council on Pharmacy and Chemistry; and further

*Resolved*, That this House of Delegates requests all those State associations which now do or hereafter may publish or control medical journals to restrict their advertisements to such approved preparations, and that the General Secretary be requested to bring this resolution to the attention of all the State associations.

The following States publish their own journals: Arkansas, California, Colorado, Illinois, Indiana, Kansas, Kentucky, Michigan, Missouri, New Jersey, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas and West Virginia.

The following have already adopted the standard recommended: California, Colorado, Illinois, Indiana, Kentucky, Michigan, New Mexico and Texas.

The following delegates were given certificates to other State Societies during the year:

Medical Society of New Jersey—William M. Leszynsky, New York; Massachusetts Medical Society—William Seaman Bainbridge, New York; Medical Society of Virginia—Lewis D. Mason, Brooklyn; Vermont State Medical Society—M. E. Varney, Saratoga Springs; Godfrey R. Pisek, New York; Irving S. Haynes, New York; Douglas C. Moriarta, Saratoga Springs.

Respectfully submitted,

WISNER R. TOWNSEND,
*Secretary.*

## REPORT OF TREASURER.

ALEXANDER LAMBERT, *Treasurer*, In Account with THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

DR. CR.

CASH RECEIPTS, year ending December 31, 1908.

| | | |
|---|---|---|
| To Balance, January 1, 1908 | | $4,788.88 |
| " Directory, 1907 | $737.00 | |
| " Directory, 1908 | 1,890.00 | |
| " Clerical Work | 216.06 | |
| " Interest on Deposits | 85.83 | |
| " Interest on Bonds | 90.00 | |
| " Sundry Receipts | 99.05 | |
| " Advertising | 6,792.58 | |
| " Reprints | 669.80 | |
| " Annual Dues, 1906 | 60.00 | |
| " " " 1907 | 519.00 | |
| " " " 1908 | 18,479.00 | |
| " " " 1909 | 174.00 | |
| " Com. on Exp. Medicine | 946.16 | |
| | | 30,758.48 |
| | | $35,547.36 |

CASH PAYMENTS, year ending December 31, 1908.

| | |
|---|---|
| By Annual Dues, Overpayments | $21.00 |
| Furniture and Fixtures | 157.80 |
| Traveling Expenses | 338.68 |
| Accountant | 200.00 |
| Carfares | 51.15 |
| Express | 27.83 |
| Treasurer's Bond | 25.00 |
| Sundry Petty Cash Disbursements | 165.07 |
| Telephone | 140.43 |
| Stationery and Printing | 226.65 |
| Postage | 444.80 |
| Rent | 600.00 |
| Insurance | 13.20 |
| Committee on Legislation | 725.39 |
| Legal Expenses | 3,000.00 |
| 1907 Directory | 133.72 |
| 1908 Directory | 10,271.86 |
| JOURNAL Expense | 445.82 |
| " Salaries | 1,152.57 |
| " Commission | 536.60 |
| " Publication | 7,350.68 |
| Reprints | 614.45 |
| Committee on Exp. Med | 946.16 |
| Moving and Alterations | 302.61 |
| History Med. Soc. State of N. Y. | 255.98 |
| Int. on Bond Deposited in Savings Bank. | 90.00 |
| District Branches | 366.29 |
| Clerical Work | 199.38 |
| Salaries | 910.84 |
| Sundries | 11.21 |
| Annual Meeting | 521.89 |
| | $30,247.06 |
| Balance in Second National Bank | 5,300.30 |
| | $35,547.36 |

### ANNUAL DUES, 1908.

| County. | Am't Paid. | County. | Am't Paid. |
|---|---|---|---|
| Albany | $495.00 | Oneida | $417.00 |
| Allegany | 113.00 | Onondaga | 387.00 |
| Broome | 198.00 | Ontario | 177.00 |
| Cattaraugus | 93.00 | Orange | 243.00 |
| Cayuga | 189.00 | Orleans | 78.00 |
| Chautauqua | 201.00 | Oswego | 138.00 |
| Chemung | 144.00 | Otsego | 105.00 |
| Chenango | 96.00 | Rensselaer | 252.00 |
| Clinton | 120.00 | Richmond | 144.00 |
| Columbia | 18.00 | Rockland | 90.00 |
| Cortland | 87.00 | St. Lawrence. | 153.00 |
| Delaware | 84.00 | Saratoga | 132.00 |
| Dutchess | 276.00 | Schenectady | 237.00 |
| Erie | 945.00 | Schoharie | 45.00 |
| Franklin | 99.00 | Schuyler | 42.00 |
| Fulton | 111.00 | Seneca | 78.00 |
| Genesee | 90.00 | Steuben | 165.00 |
| Greene | 78.00 | Suffolk | 216.00 |
| Herkimer | 117.00 | Sullivan | 57.00 |
| Jefferson | 186.00 | Tioga | 87.00 |
| Kings | 2,280.00 | Tompkins | 105.00 |
| Lewis | 51.00 | Ulster | 120.00 |
| Livingston | 117.00 | Warren | 75.00 |
| Madison | 120.00 | Washington | 96.00 |
| Monroe | 609.00 | Wayne | 84.00 |
| Montgomery | 123.00 | Westchester | 531.00 |
| Queens-Nassau | 309.00 | Wyoming | 84.00 |
| New York | 6,588.00 | Yates | 57.00 |
| Niagara | 147.00 | Total | $18,479.00 |

### ADVANCE DUES, 1909.

| | | | |
|---|---|---|---|
| Allegany | $3.00 | Herkimer | $66.00 |
| Columbia | 78.00 | Onondaga | 9.00 |
| Chautauqua | 3.00 | Steuben | 9.00 |
| Cayuga | 6.00 | | |
| | | Total | $174.00 |

### DIRECTORY ACCOUNT, 1908.

*Expenditures.*

| | | |
|---|---|---|
| Postage | $316.00 | |
| Stationery and Printing | 125.75 | |
| Delivery | 1,184.75 | |
| County Clerk's fees | 41.45 | |
| Salaries | 2,234.25 | |
| Printing and Binding Directory | 6,346.16 | |
| | | $10,248.36 |

*Income.*

| | | |
|---|---|---|
| Advertisements | $1,235.50 | |
| Sales | 1,381.00 | |
| | | 2,616.50 |
| Cost of Directory | | $7,631.86 |

## REPORT OF TREASURER.

### JOURNAL ACCOUNT, YEAR ENDING DECEMBER 31, 1908.

| *Income.* | | | *Expenditures.* | | |
|---|---|---|---|---|---|
| Advertising | $6,551.59 | | Publication | $7,373.18 | |
| Doubtful Debts | 87.32 | | Expenses | 444.32 | |
| Subs., Sales, etc | 26.50 | | Salaries | 1,152.57 | |
| | | $6,665.41 | Commission | 536.60 | |
| Loss | 2,916.16 | | Discount | 74.90 | |
| | | $9,581.57 | | | $9,581.57 |

### BALANCE SHEET, DECEMBER 31, 1908.

| *Assets.* | | | *Liabilities.* | | |
|---|---|---|---|---|---|
| Cash in Bank | $5,300.30 | | Annual Dues, 1909 | $174.00 | |
| Petty | 12.91 | | Accounts Payable | 100.51 | |
| | | $5,313.21 | Lucien Howe Prize Fund. $1,624.83 | | |
| Accounts Receivable | | 1,421.06 | Merritt H. Cash Prize Fund | 811.03 | |
| Furniture and Fixtures | $1,000.00 | | | | 2,435.86 |
| Directory Catalogue | 3,000.00 | | Surplus Jan. 1, 1908 | 10,717.30 | |
| | | 4,000.00 | Gain, 1908 | 642.46 | |
| Directory, 1908 | | 750.00 | Surplus Dec. 31, 1908 | | 11,359.76 |
| Postage on hand | | 150.00 | | | $14,070.13 |
| Union Dime Savings Bank | $147.71 | | | | |
| Albany Savings Bank | 288.15 | | | | |
| Title G. and T. Co. Mtg. Ctf | 2,000.00 | | | | |
| | | 2,435.86 | | | |
| | | $14,070.13 | | | |

I hereby certify that the above Balance Sheet is correct, as shown by the books.

A. H. WICKS,
Certified Public Accountant,
302 Broadway, New York.

### INCOME AND EXPENDITURES, YEAR ENDING DECEMBER 31, 1908.

| **Income.** | | | **Expenditures.** | | |
|---|---|---|---|---|---|
| Arrears of Dues | $579.00 | | Expense | $1,097.47 | |
| Dues, 1908 | 18,749.00 | | Telephone | 140.43 | |
| Interest on Deposits | 85.83 | | Stationery and Printing | 226.61 | |
| Clerical Work | 16.68 | | Postage | 294.80 | |
| 1907 Directory | 3.28 | | Rent | 600.00 | |
| | | | Insurance | 11.38 | |
| | | | Salaries | 910.84 | |
| | | | Committee on Legislation | 718.14 | |
| | | | Legal Expenses | 3,000.00 | |
| | | | Annual Meeting | 483.82 | |
| | | | History Med. Soc. S. of N. Y. | 235.73 | |
| | | | 1908 Directory | 7,631.86 | |
| | | | District Branches | 366.29 | |
| | | | Depreciation, Furniture & Fixtures | 157.80 | |
| | | | JOURNAL, Profit and Loss | 2,916.16 | |
| | | | | $18,791.33 | |
| | | | Excess of Income | 642.46 | |
| | | $19,433.79 | | | $19,433.79 |

### INCOME AND EXPENDITURES, YEAR ENDING DECEMBER 31, 1907.

| **Income.** | | | **Expenditures.** | | |
|---|---|---|---|---|---|
| Arrears of Dues | $907.10 | | Expense | $801.31 | |
| Dues, 1907 | 18,074.00 | | Telephone | 140.65 | |
| Interest on Deposits | 140.34 | | Stationery and Printing | 154.42 | |
| Clerical Work | 72.80 | | Postage | 595.48 | |
| Deficit | 1,287.37 | | Rent | 500.00 | |
| | | | Insurance | 44.00 | |
| | | | Salaries | 1,008.00 | |
| | | | Committee on Legislation | 892.67 | |
| | | | Legal Expenses | 3,000.00 | |
| | | | Annual Meeting | 391.94 | |
| | | | 1906 Directory | 440.55 | |
| | | | 1907 Directory | 6,835.92 | |
| | | | District Branches | 392.90 | |
| | | | Depreciation, Furniture & Fixtures | 214.69 | |
| | | | JOURNAL, Profit and Loss | 5,069.08 | |
| | | $20,481.61 | | | $20,481.61 |

## REPORT OF THE COUNCIL.

*To the House of Delegates:*

The Council of the Medical Society of the State of New York begs leave to present the following report:

During the past year meetings have been held on the following dates:

January 27th, in Albany. Minutes will be found in the New York State Journal of Medicine, volume 8, No. 2, page 106.

January 30th, in Albany. Minutes will be found in volume 8, No. 5, page 277.

May 2d, in Albany. Minutes will be found in volume 8, No. 12, page 607.

Dec. 5th, in Albany. Minutes will be found in volume 9, No. 1, page 18.

The Council respectfully requests that the following amendments to the Constitution and By-Laws, proposed at the meeting of January, 1908, be approved:

Amend the Constitution, Article III, by adding a new Section 2, to read as follows:

"All officers shall assume office at the close of the annual meeting of the Society."

Section 2, Article III, of the present Constitution, will then become Section 3.

Amend the By-Laws, Chapter IV, Section 1, by striking out Section 1 and substituting therefor the following:

SECTION 1. The Council shall meet at the close of the annual session of the Society, to organize for the ensuing year.

It shall meet once during the months of May and December of each year, the time and place to be selected by the President, and it shall meet at such other times as occasion may arise, upon the request in writing of five members of the Council, or upon the call of the President.

It should be noted that the Council has omitted the words "and outline the work" from Section 1.

And by adding:

SECTION 2. Seven members shall constitute a quorum.

Section 2 then becomes Section 3, and Section 3 then becomes Section 4.

and that the following amendments be disapproved:

Amend the By-Laws, Chapter IV, Section 2, by striking out the following:

The Council shall provide for and superintend all publications and their distribution and shall have authority to appoint an editor and such assistants as it may deem necessary.

The report shall also specify the character and cost of all publications of the Society during the year, and the amount of all property belonging to the Society under its control.

Amend the By-Laws by adding to Chapter VII, Section 1, after the words "A Committee on Arrangements" the words "A Committee on Publication," and a section to read as follows:

SECTION 6. The Committee on Publication shall consist of five members: the Secretary and Treasurer of the Society and three other members. The members of the committee, except the Secretary and Treasurer, shall be elected to serve three years each, and at the first election held after the adoption of this By-Law, one member shall be elected for three years, one member for two years, and one member for one year, and thereafter each year a member shall be elected to serve for three years.

At the first meeting held after the adjournment of the annual meeting of the Society, the Committee shall select one of its members to act as chairman and he shall serve for one year, or until his successor is elected.

The Chairman of the Committee shall be entitled to a seat in the Council.

The Committee shall provide for and superintend all publications and their distribution, and shall have authority to appoint an editor and such assistants as it may deem necessary, and to fix their salaries.

All moneys of the Society received by the Committee from any source shall be promptly paid to the Treasurer.

It shall hold regular meetings and keep minutes of the same, and make an annual report to the House of Delegates, specifying the character and the cost of all publications of the Society during the year, and the amount of all property of the Society under its control.

The Council also recommends that the House of Delegates request the County Societies to repeal the following By-Law, Chapter II, Section 8:

"When a member removes from the State of New York permanently, he shall cease to be a member of the Society and shall forfeit all right and title to any share in the privileges and property of the Society, the District Branch and the Medical Society of the State of New York."

The reason being that the number of non-resident members is necessarily very small, and if a member who has been in good standing for years removes from the State and desires to keep up his affiliation, it does not seem desirable to forbid him so to do, providing he is willing to pay all dues and assessments.

A full report of the Committee on Publication is herewith appended, and for the expenses of the Society, the House of Delegates is referred to the annual report of the Treasurer with the statement that all expenses incurred were approved of beforehand by the Committee on Finance of the Council, and that all bills have been properly audited and the accounts examined and certified to by A. H. Wicks, a certified public accountant of the State of New York.

Respectfully submitted,

E. H. BARTLEY,
ALEXANDER LAMBERT,
WISNER R. TOWNSEND.

*Committee Appointed by the Council to make the Annual Report.*

December 31, 1908.

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## REPORT OF THE COMMITTEE ON PUBLICATION, APPOINTED BY THE COUNCIL.

The Committee appointed by the Council at a meeting held in Albany, January 30, 1908, consisting of Drs. J. C. Bierwirth, S. W. S. Toms, S. E. Getty, Alexander Lambert and Wisner R. Townsend, begs leave to present the following report:

The Committee, during the year, has held eight formal meetings and has referred a number of questions between meetings to all the members.

At the meeting held on February 4th, Dr. J. P. Warbasse was appointed editor for the ensuing year.

At the meeting of the Committee held on December 8th, the resignation of Dr. J. P. Warbasse as Editor was accepted with regrets and Dr. A. T. Bristow was appointed acting Editor until after the Annual Meeting, when the appointment for 1909 will be made by the Committee on Publication.

### Journal.

The Journal has been regularly published each month, and every endeavor has been made to make it as attractive as possible, but the selection of papers is not entirely optional as it is the official organ of the Society and it has to print all papers read before the Annual Meeting, which has been done, with the exception of a few which were printed in other Journals before they could be reached in ours.

In some instances permission to publish elsewhere had been given by the Committee for good and sufficient reasons, but in others the writers completely ignored the by-law and printed elsewhere without permission and to the detriment of our Journal. The Committee desires to call the attention of members to the desirability, from the standpoint of the Journal and the Society, of continuing the method of exclusive publication.

The circulation of 7,500 in this State means much, and is greater than that of any other Journal in the State, which fact should be sufficient inducement.

The cost of the Journal for the year will be found fully itemized in the statement of the treasurer. The expense of publication has exceeded the revenue by $2,916.16, which is $166.84 more than it was for 1907.

Considering the financial depression and the restrictions as to advertisements placed upon the Committee by the House of Delegates, this showing is a creditable one. The Journal is of great advantage to the Society. The advisability of continuing it is evident, when it is considered that it costs less than Transactions. To supply a membership of about 6,500 with an annual copy of Transactions, would cost more than the present deficit.

At the meeting of the House of Delegates in Chicago, in June, 1908, the following resolutions were passed:

*Resolved,* That this Association heartily approves the action of the Board of Trustees in restricting advertisements of medical preparations to those approved by the Council on Pharmacy and Chemistry; and, further,

*Resolved,* That this House of Delegates requests all those State associations which now do or hereafter may publish or control medical journals to restrict their advertisements to such approved preparations, and that the General Secretary be requested to bring this resolution to the attention of all the State associations.

The Committee feels that every effort should be made to suppress the Nostrum evil and, therefore recommends that the House of Delegates of this Society approve of the resolutions. To carry this into effect will mean a loss of revenue to the Journal of about $3,000 a year, which loss will be entailed by the dropping of advertisements which have not been approved by the Council on Pharmacy, and which are now in our Journal. At present our advertising contracts amount to $7,227.44, of which sum $2,494.00 were obtained during the year 1908.

The Committee has made new contracts for the publication of the Journal for 1909 at a considerable reduction over the contract formerly in force. The cover will be of white paper which the Committee believes will not detract from its appearance, besides being cheaper. It will also weigh less and thus another saving will be made on postage. Assuming the loss of advertising to be incurred by the adoption of the resolution of the Americain Medical Association to be about $3,000, this would leave an estimated revenue from advertising of $4,227.44, which it is hoped may be increased to such a degree that it will reduce the deficit, as above shown.

### Directory.

The Directory for 1908 was issued during the month of October, and contains 62 pages more than the previous year. This is mostly in data of New York State and means a distinct advantage to the Directory, as these names add to the completeness of the book.

The Committee would be under great obligation to the profession if they would notify it of any name not found in the book, or of any errors that appear, as every effort is being made to make the volume as complete and accurate as possible.

The sales in Connecticut and New Jersey are small. For 1908 they amounted to 78 copies. Your Committee has been seriously considering the question, whether the data of New Jersey and Connecticut should be continued in future editions. Careful estimates have been made by the printers, which show that the cost of the book would be reduced about $750 if these data are entirely left out, but the value of the book would be considerably lessened thereby. The Committee believes that this is not desirable, but recommends that in the forthcoming edition, only the name, town, address, college and date of graduation be given for these two States, and that all data in regard to hospitals, colleges, societies, etc., and the alphabetical lists in New Jersey and Connecticut be omitted, also the list of National Societies, making the work, therefore, more strictly a New York, Connecticut and New Jersey Directory. This will reduce the cost by about $350 and will make the book slightly lighter. To show how the slight increase in size of 62 pages for 1908 adds to the cost, we may mention the increased postage of 4 cents on each volume.

The cost of the 1909 Directory should not exceed that of 1908. For each year during the past three, the Society has had to pay more for paper and printing, but we are assured that there

will be no further increase. Each year bids were solicited from several reputable firms who would do this class of work. It may not be known, but it is a fact that very few publishing houses will agree to print a directory, and some of the largest firms, as soon as they learned that they could not get copy until August and had to issue the book in October, refused absolutely to even bid on it.

This publication is, in the opinion of the Committee a most valuable one, and the Committee recommends most earnestly that it be continued.

The cost of the DIRECTORY for 1908 was $7,631.86, which will be reduced by the amount of future sales, estimated at $550, and bills payable of $200.

*There are on hand 657 Directories. There are 374 members entitled to Directories free, as soon as they pay their dues.

Estimated sales December 31, 1908, to October 1, 1909, 220.

The Committee has had the same difficulty this year as every year in estimating the number of books that should be published, but believes it is better to have some left over than to run short, as occurred in 1906.

The Committee begs to thank the members of the Council and officers of the Society for their assistance and courtesy during the past year.

Respectfully submitted,

December 31, 1908.

J. C. BIERWIRTH, *Chairman,*
S. W. S. TOMS,
S. E. GETTY,
ALEXANDER LAMBERT,
WISNER R. TOWNSEND.

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## REPORT OF THE COMMITTEE ON PUBLIC HEALTH.

*To the House of Delegates:*

Your Committee has undertaken to ascertain the activity in public health subjects of the County Medical Societies which make up this State organization. Accordingly, a letter was sent to the Secretary of every County Medical Society, fifty-seven letters in all, asking "upon what subjects pertaining to Public Health the Society had held discussions?"

Replies were received from the Secretaries of all of the County Medical Societies.

From an analysis of these letters it appears that no questions of Public Health have been discussed in ten societies. The subjects that were considered by the other societies were as follows:

Milk Supply and Milk Inspection, by six Societies.
Rabies, by one Society.
Diphtheria, by one Society.
Water Supply, by two Societies.
Tuberculosis, by three Societies.
Sewage Disposal, by one Society.
Typhoid Fever, by two Societies.
National Health Officer, by two Societies.
Small-pox, by two Societies.
Vaccination, by two Societies.
County Bacteriological Laboratory, by two Societies.

In a letter from the Secretary of Ontario County it is reported that in that county there is an Association of Sanitary Medical Officers, of which all members of the County Medical Society are honorary members, and that questions of Public Health are discussed by this Association only.

It seems to your Committee that it is worth while to review the relations of the State and County Medical Societies to the Department of Health in the State and in the various counties of the State.

The State Department of Health and all the municipal and village departments of Public Health, by whatever names they may be called, are political institutions. The medical officers of these Boards are empowered to carry out such measures as are necessary to protect the public health. They have large power in some instances and very limited power in others; but in every instance, save possibly in the City of New York, they are so limited in appropriations as to be hampered in the carrying out of such measures as they know should be inaugurated for the protection of the people. The various Health Departments are organized for the purpose of protecting our citizens against all recognized sources of infection and contamination and from all nuisances. It is self-evident that the subjects which engage the attention of such Health Departments are those upon which the opinions of the medical profession and of the people have been formulated. We think it is safe to say that no new subject ever emanated from any Public Health Board. The control of epidemic diseases, the purity of the water supply, the regulation of the milk supply, the insistence upon a Pure Food law and the keeping of it, the measures for the control of tuberculosis, the medical inspection of public schools, the tenement house regulations, in fact all of the questions that have a bearing upon the health of the people, have first been brought before the people by the medical profession after it has formulated a careful opinion in discussions in Medical Societies. And this is no reproach upon the health boards and health officers. It is not their duty to formulate opinions but to execute sanitary laws.

It is the primary duty of members of the medical profession to carefully consider every subject that has a bearing upon the welfare of the citizens of our country, to discuss it thoroughly, arrive at a definite opinion and then to impress that opinion upon the citizens of the community in which the Society is doing its work. By this method an enormous advance has been made in the public health of the community. By failure to impress the importance of some of these sub-

*January 13, 1909, 79 of these Directories have been distributed since December 31, 1908.

jects upon the community so thoroughly as to secure an appropriation for carrying them out, thousands of lives are yet annually sacrificed and millions of dollars lost to the State. By the carelessness of a health officer, or by want of backing by his professional brethren, epidemics, even in our best-regulated communities, at times get a hold which is sometimes startling and occasionally call for a public uprising on the part of the people. How else can we account for the prevalence of small-pox in this twentieth century? A properly vaccinated community is proof against such an epidemic. How, except by carelessness on the part of physicians, can we account for the present death rate in diphtheria? How, except by carelessness in quarantine regulations, can we account for the extent of the epidemics of diphtheria and scarlet fever? How, except from want of a public opinion sufficiently strong to insist upon pure water and pure milk, and a public opinion strong enough to make such an impression upon municipal officers as to open its treasury, can we account for the annual death rate from typhoid and all other diseases disseminated by infected water and food?

To-day the contagious diseases, concerning which one is not permitted to speak in public, cause more suffering and more financial loss, not to say anything of the moral blight it brings upon their victims, than almost any other known diseases. The statutes declare traffic in the social vice illegal, yet, in point of fact, every city recognizes it and permits houses of prostitution to run unmolested, except by the occasional raid, which is the method taken for licensing the evil without violating the law. If this is ever made a matter for public control it will be after wise decisions have been arrived at by the free and fearless discussions of the subject in Medical Societies and then by the bold and clear presentation of the formulated opinion of the profession to the people. It is not modesty to withhold our opinions on this subject; it is near to crime.

The Medical Societies are then powerful first, in presenting mature opinions upon subjects that affect the public health. In the second place, they should be vigilant in seeing that the health ordinances in their own communities are effectually carried out. In our own County, it was the co-operation of the County and City Medical Societies and the Committees on Public Health of the Chamber of Commerce that compelled the city to protect our city water supply. To-day these committees make their own inspection of the water-shed and see that the sources are safeguarded. On the same principle several Medical Societies inspect the milk supply, and certify certain grades.

So long as the old proverb, "To err is human" shall hold true, so long one charged with an important duty shall need the co-operation and the inspection of those who work with him in a friendly spirit. It seems impossible that reputable medical men should hamper the work of a medical officer, but such a complaint has been printed recently. It could not happen from the membership of a live and helpful Medical Society.

A third and most important influence can be exerted by the County Societies. The remuneration of the County Medical Officers is so absurdly insufficient that it sometimes attracts only those who are idle or politically inclined and who are not necessarily the best men for the purpose. I am sure Commissioner Porter could call a long roster of men who are heroically, as well as scientifically serving their communities practically without any pay, and he could show you another list of men who draw more and are worth very little to his department. The subject of competent Medical Officers has been discussed by your chairman in previous reports. Not until men are especially prepared by a course in Sanitary Science and Public Health which is worthy of the degree of Doctor of Public Health shall conditions be ideal in this State. But not until public sentiment is educated to know that only such a perfect preparation is worth paying for and that such a health officer requires to be paid so that he can practically devote all his time to the solution of questions of Public Health, can we see the inauguration of this admirable system. It is the duty of the Medical Societies to keep at this question until our State shall be enrolled amongst those governments that have long found this system not only the best, but the most economical to the people. Until then, the payment of Medical Officers of health should be made to bear some sort of relation to the work expected.

The inauguration of County Bacteriological laboratories, which was first advocated by your Committee, is no longer legally impossible and many counties have taken advantage of the law and have established well equipped laboratories. In counties which are not so equipped this subject should be presented to the public so that the Board of Supervisors shall feel that they are executing the will of the people in voting appropriations for establishing and maintaining a bacteriological laboratory with a man of scientific accuracy, industry and probity and so well paid as to be willing to remain, at its head.

The recognition of a Department of Public Health by the national government now seems certain. If the incoming administration fails to establish it, it will be because public sentiment is not yet sufficiently strong to force it through. In that case, it will be necessary to add force to the movement in its favor.

It seems to us then that there is still a large field of work for the Public Health Committees of the Medical Societies of the State and of the Counties.

Respectfully submitted,

JOHN L. HEFFRON, *Chairman,*
J. S. BILLINGS, Jr.
F. R. FORD.

Syracuse, December 31, 1908.

## REPORT OF THE COMMITTEE ON LEGISLATION.

*To the House of Delegates:*

The Legislature for 1908 met in regular session January 1st and adjourned April 23, 1908.

During this time there were introduced about 200 measures relating to medicine, public health and sanitation.

Of this number the following passed both Houses and receiving the Governor's signature, became laws:

An Act to amend the Public Health Law by inserting a new article 13, defining Optometry and regulating the practice thereof. Assembly Int. 644, Chapter 460.

An Act to establish a state farm for women, and making an appropriation therefor. Assembly Int. 981, Chapter 467.

An Act to amend the poor law, in relation to hospital accommodations for indigent persons. Assembly Int. 996, Chapter 501.

An Act making an appropriation for the purchase of a site for the Eastern New York State Custodial Asylum. Assembly Int. 1009, Chapter 292.

An Act to amend the Penal Code, in relation to the sale of certain drugs. Assembly Int. 1162, Chapter 277.

An Act to amend Chapter four hundred and sixteen of the laws of nineteen hundred, entitled "An Act to establish a state hospital in some suitable location in the Adirondacks for the treatment of incipient pulmonary tuberculosis, and making an appropriation therefor," in relation to admission of free patients. Assembly Int. 1042, Chapter 97.

An Act making appropriations for construction, additions and improvements at the state hospitals for the insane. Assembly Int. 1416, Chapter 470.

An Act to amend the insanity law, relative to the commitment of alleged insane persons. Assembly Int. 1390. Chapter 487.

An Act to amend the insanity law, relative to the duties of the state board of alienists. Assembly Int. 616. Chapter 213.

An Act defining the powers and duties of local health officers and boards of health in the matter of the protection of the people of the State of New York from the disease known as tuberculosis. Assembly Int. 1392. Chapter 351.

An Act to amend the insanity law, relative to the parole of patients in state hospitals and the voluntary care and treatment of patients therein. Assembly Int. 1404. Chapter 261.

An Act to amend the public health law, in relation to infectious and contagious or communicable diseases. Assembly Int. 1170. Chapter 396.

An Act to amend chapter five hundred and sixty-eight of the laws of nineteen hundred and one, entitled "An act to establish a hospital for the City of Lockport, to be known as the City Hospital, and to provide for the erection, government and maintenance thereof, and to repeal chapter four hundred and twenty-two of the laws of nineteen hundred, generally, and to repeal section five thereof." Assembly Int. 1246. Chapter 199.

Bills pertaining to drainage, sewage, etc., which were signed by the Governor and became laws with Assembly Introductory numbers and number of chapters of the laws of 1908:

Int. 99, Chapter 6; Int. 678, Chapter 178; Int. 836, Chapter 71; Int. 838, Chapter 69; Int. 863, Chapter 189; Int. 916, Chapter 98; Int. 1113, Chapter 439; Int. 114, Chapter 626; Int. 1173, Chapter 483; Int. 1206, Chapter 34; Int, 1296, Chapter 269; Int. 1335, Chapter 383; Int. 1541. Chapter 504; Int. 1586, Chapter 424.

Bills pertaining to improving water supply, water rights, issuing of water bonds, filtering, etc., with Assembly introductory numbers and numbers of chapters of the laws of 1908:

Int. 419, Chapter 138; Int. 633, Chapter 107; Int. 978, Chapter 382; Int. 1225, Chapter 313; Int. 1226, Chapter 319; Int. 1232, Chapter 386; Int. 1300, Chapter 161; Int. 1335, Chapter 383; Int. 1347, Chapter 197; Int. 1350, Chapter 259; Int. 1362, Chapter 221; Int. 1438, Chapter 145; Int. 1580, Chapter 422.

Bill relating to laws regulating sanitation in factories, Senate Int. 675, Chapter 426.

Bill relating to the disposal of garbage, Assembly Int. 451, Chapter 34.

FRANK VAN FLEET, *Chairman,*
H. L. K. SHAW,
ERNEST WENDE.

New York, December 31, 1908.

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## REPORT OF THE COMMITTEE ON ARRANGEMENTS.

*To the House of Delegates:*

The Committee on Arrangements has the honor to submit the following report of the expenses of the Committee which have been paid by the Medical Society of the State of New York for the year 1908:

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK IN ACCOUNT WITH THE COMMITTEE ON ARRANGEMENTS.

| | |
|---|---|
| Printer | $27.75 |
| Pay for pages | 40.00 |
| Calcium Light Co. | 12.00 |
| Postage | 10.00 |
| Signs. | 7.50 |
| Complimentary dinner tickets for guests | 36.00 |
| Musicians for dinner | 49.00 |
| | $182.25 |
| Less profit on dinner tickets | 38.07 |
| | $144.18 |

W. T. NELLIS,
*Chairman Committee on Arrangements.*

December 31, 1908.

## REPORT OF THE COUNSEL.

To the Officers, Council and Members of the House of Delegates of the Medical Society of the State of New York.

*Gentlemen:*

I have the honor to transmit to you herewith my report upon mal-practice defense for the year 1908. With information just at hand that the Kentucky State Medical Association by quite an elaborate constitution and by-laws has adopted and organized defense in its State organization, perhaps the most eventful year comes to an end. Several states have during the year adopted mal-practice defense along the lines upon which our own State Society has been conducting it.

Your Counsel reports that during the past year no verdicts have been secured against any member of the State Society defended by him, and the members will no doubt be glad to learn that the only verdict ever recorded against a member of the Society since the beginning of organized mal-practice defense in this State has been by unanimous decision of the Court of Appeals reversed and set aside, so that as the matter now stands *no verdict has ever been recorded against a member in any action defended by the Counsel.*

Up to the present time your Counsel has been required to defend actions for alleged mal-practice in thirty-nine counties of the State. It is to be noted that there is a slight increase in mal-practice actions where conspiracy, assault or improper certification of insanity are sought to be litigated. There is evidence of increase in the abandonment of cases brought as soon as the State Society appears by attorney for the defendant, which is perhaps the best proof of the effect which organized defence is creating in the minds of the public.

Your Counsel has with increasing frequency during the past year been called upon to advise members of the Society upon various questions, and requests have come asking for the prosecution of illegal practitioners of medicine in several counties. On one occasion your Counsel was requested to and did attend a coroner's inquest and conducted the medical examination before the coroner. The reason these matters are mentioned is that it may be well to bring up and discuss at the January meeting the propriety of the State Society extending its usefulness beyond the defense of mal-practice actions and along the lines indicated.

Your Counsel has also been repeatedly asked to advise as to the acceptance and renewal of insurance contracts. My advice has been uniformly against them. Insurance contracts where the company pays the loss, work in absolute opposition to the defense as conducted by the State Society. First of all, it is usually more advantageous for the company to settle than to fight; secondly, juries learn of the existence of the contract and are apt to have the same prejudice against an insurance corporation as against any other. The juror concludes that so long as the doctor does not have to pay the money out of his own pocket they will bring in a verdict; and thirdly, the shyster lawyer and his blackmailing client as soon as they learn that an insurance company is defending are immediately re-assured by the knowledge that if a verdict is secured their judgment for damages is good because the insurance company is undeniably responsible. All of these reasons for bringing in a verdict against the doctor are absent under the plan of defense conducted by the State Society. The other class of defense contract, namely, where the company agrees to furnish funds to conduct the suit, is unfortunately deficient—first, because in the past they have not uniformly lived up to the letter and spirit of their contract, and in the second place, because the company insuring is a non-resident of the State and, as I am informed, without officers or a general office in the State of New York. This class of contracts promises the deposit of a considerable sum of money unnecessarily, even absurdly, large, and is apt to mislead the physician, but it affords the insurance agent with an excuse for the amount of premium charged. The State Society seeks by every possible means to bring to the mind of the public, lawyer and client alike that a suit against a member of the State Society means nothing more or less than a fight through to the court of last resort, which has proven and will continue to prove, both to the litigant and his attorney, a discouraging proposition.

One case during the year has been settled without my consent and against my advice. The number of cases brought continues to decrease. The percentage of blackmailing mal-practice cases has decreased and the percentage of bona-fide mal-practice actions has increased.

I desire to thank publicly the following physicians who have volunteered their services during the past year and have at a personal sacrifice materially aided, not only their brother practitioners, but your Counsel: Drs. Wisner R. Townsend, John A. Wyeth, Herman A. Haubold, Albert G. Geyser, E. Mott Moore, Eugene H. Howard and Henry Roth.

The following is a list of new cases brought during the year 1908:

A. This was an action brought by a young woman against a surgeon where an operation was performed for a hernia. The operation failed to disclose the hernia; the operator closed the wound. The physician was called upon to answer in damages. As this case has not yet been tried I refrain from giving any more of the details, which are particularly interesting. Suffice it to say that your counsel has absolute confidence in the outcome of the case and expects that it will be tried early in 1909.

B. This was an action against two physicians sued jointly for improper certification of insanity. The patient was taken to an institution, there kept for some time, was not discharged cured, but the attorney for the plaintiff through his client charged mal-practice.

This case was not put on the calendar at either of two terms of court which have now passed, and I believe the case has been abandoned, though I am not positive.

C. This was an action brought against two physicians for improper certification of insanity, and the case, which has already been tried by other counsel, resulted in a verdict against the two physicians in the sum of $25,000. Your counsel has been substituted as attorney and the case is now on its way to the Court of Appeal.

D. This is an action wherein a physician sought to recover for his bill and the charge of mal-practice against the physician was set up as a defense. It was claimed by the patient that the doctor had unskillfully diagnosed a cystic tumor in the face when, as a matter of fact, the defendant had an ulcerated tooth. It was also charged that the doctor unnecessarily injected cocaine, with bad results. This action resulted in a complete vindication of the doctor, and incidentally the payment of his bill with a written apology.

E. This was an action in which it was claimed an improper diagnosis was made by the physician and that improper treatment followed. The woman plaintiff alleged that she had a blood or skin disease and that the physician did not use the proper methods for diagnosis and that the treatment which he accorded for the ailment was injurious, and in addition that she was permitted to grow more and more diseased and feeble when she should have been cured if a proper diagnosis had been made. Your counsel served an answer in this case in April, but the case has never been put on the calendar for trial and the action is probably abandoned. Motion will be made to dismiss this case.

F. This was an action brought by the administrator of a child who died from diphtheria. Subject matter of the action was the charge that the doctor had neglected the case and that death resulted from his neglect. This case is now on the calendar for trial and will probably be reached during next year.

G. This is an action brought by a woman plaintiff against a surgeon in which it is charged that he left a rag or gauze in her abdomen after an operation. It is claimed that the gauze was discovered by the family physician protruding from the wound and was removed. This action is defended by an insurance company and your counsel. It will be tried early in January.

H. This action was brought for failure to diagnose a fracture of the clavicle. The complaint in this case was unverified and brought by the father of an infant as the infant's guardian *ad litem*. This case was settled by the payment of a small amount by the doctor without my consent, and the case, of course, is terminated.

I. This action only got so far as to threaten suit. Your counsel prepared a letter to be sent to the attorney who had threatened to sue the doctor; the letter was sent and the doctor applied for a mal-practice defense, but no complaint has ever been served. The question involved was as to the diagnosis of an infant's condition whose sickness had begun with an attack of measles and ended with meningitis.

J. This action arose upon the doctor suing for his bill, and the answer of the patient set up as a counter-claim was for mal-practice in that the doctor treated the patient for pneumonia when the patient had typhoid fever and the claim was also made that the method of treatment accorded by the doctor was not according to rule in that he administered improper diet and prescribed powerful and improper medicines. Your counsel was all ready to go to try this case but was informed by wire that the case had been settled—I assume that the case had been settled by the doctor having his bill paid.

K. This was an action brought for an X-ray burn, in which it was claimed that the physician sought to cure the patient of a cancer of the face and unnecessarily burned the patient. Your counsel acted in this case with the attorney for the insurance company and a verdict was rendered for the defendant.

L. This is an action resulting from a doctor undertaking to collect his bill and the charge of mal-practice was made by way of answer in which it was claimed that the doctor had made a diagnosis of stomach trouble, and, as a matter of fact, the woman patient had a complication in which the heart was involved. This case was put on the calendar for trial and as it was about reached in the Municipal Court of New York the patient died. It is hoped that the doctor will receive his pay from the estate of the decedent.

M. This action was brought when the doctor sought to collect his bill and mal-practice was set up as an answer. The doctor had a local attorney and your counsel was simply called upon to advise the attorney to plead the Statute of Limitations, which was a complete bar to the mal-practice claim. The doctor collected his bill.

N. This action was quite extraordinary from two points of view—first, by reason of the amount involved, and secondly, by reason of the facts in the case. The mal-practice charge resulted from the doctor suing for his bill for an operation on the uvula of a woman patient. It transpired during the time the patient was under the anesthetic that she was a victim of the morphine habit and the doctor suggested that thereafter when she asked for morphine hypodermics, that she be given instead of morphine one-twentieth grain of calomel. The administration of the calomel hypodermically resulted in a complete cure of the morphine habit but caused some discomfort from local irritation and this situation had to be treated and was a part of the foundation for the mal-practice charge. The mal-practice phase contemplated a counter-claim of $40 against the doctor, so that the entire amount involved, including the doctor's bill and the mal-practice, aggregated the sum of $52. I believe this is the smallest amount on record appearing as a mal-practice suit.

O. This is an action begun to recover for improper treatment of a comminuted fracture at the ankle. While function was in a degree restored, yet there was much deformity and persistent discomfort and pain. In this action your counsel has served his answer but the case has never been placed upon the calendar for trial. There is no assurance, however, that it will not be.

P. This action was the result of a claim for wrong diagnosis and treatment of a Colles' fracture. The plaintiff was a drunkard who had fallen down a flight of stairs and after waiting about four days called on a physician. The wrist was badly inflamed and swelled and a soothing lotion was applied and the patient requested to call again. The patient did call again but insisted on being treated at once in the doctor's office hour, and having been told to wait refused and left. Some other doctor diagnosed the situation as a fracture when the defendant had diagnosed it as a sprain. Your Counsel acted as counsel in the case. The complaint was dismissed.

Q. This action arose out of a claim that a physician had failed to remove all of the placenta following child birth. The woman patient was confined at a sanitarium and left before completely well and brought the action. This case is now on the calendar of the court and will probably be reached for trial sometime early in 1909.

R. This was an action arising upon the doctor suing for his bill, in which it was claimed that a child was improperly operated upon for adenoids and the added charge that the operation was performed without the permission of the parents of the child. This action has not yet been tried but doubtless will be early in 1909.

S. The mal-practice phase of this action was raised when the doctor undertook to collect his bill and involved the questions of the care of burns and also the operation of skin grafting to cure deeply burned areas. The action was tried before a jury and the complaint was dismissed, judgment in full for the doctor's bill rendered and a few days later paid in full, together with the costs.

T. This was an action brought against a surgeon wherein it was charged that he had negligently and carelessly and improperly attempted to save a finger of the plaintiff which had been severed with the excep-

tion of a small amount of tissue on one side. The finger was subsequently removed at one of the hospitals and the mal-practice action followed. The answer has been served in this action but the time to put the case on the calendar has not yet arrived.

U. This is an action wherein the complaint has not yet been served, though a summons has been. It apparently involves treatment of a swollen leg of the plaintiff. The inguinal glands on the left side became involved, hospital treatment was suggested but was refused, and the patient subsequently left the care of the defendant and went elsewhere to reside, although the patient was improving under the care of the defendant in this action.

It may be of interest, as indicating the successful progress of mal-practice defense, to give the number of new cases brought for the three years last past. There were brought in 1906 thirty (30) cases, in 1907 twenty-two (22) cases, and in 1908 twenty-one (21) cases, during all of which period the State Society has increased in "paid-up" membership.

The amount involved in mal-practice actions brought against members of the Society since the organization of the defense aggregates upwards of *Five hundred thousand dollars.*

There are on counsel's books (23) Twenty-three cases not finally determined.

All of which is respectfully submitted.

JAMES TAYLOR LEWIS,
*Counsel.*

December 31, 1908.

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## REPORT OF THE COMMITTEE ON SCIENTIFIC WORK.

*To the House of Delegates:*

The Committee on Scientific Work begs to submit the following report for the year ending December 31, 1908.

The annual meeting of 1908 was held in Albany, January 28, 29 and 30, and a full and complete scientific program, which was well discussed, was presented to the members. Reports of the discussion and the papers have been printed in full during the past year in the NEW YORK STATE JOURNAL OF MEDICINE. Preparations are well under way for the meeting of 1909, and according to the resolution of the Council this meeting will last only two days, Tuesday, January 26, and Wednesday, January 27, 1909. There is every reason to believe that the scientific program will be fully equal to the work that has been done in this Society, in the past.

Respectfully submitted,
L. H. NEUMAN, *Chairman,*
*Committee on Scientific Work.*

December 31, 1908.

## REPORT OF COUNCILOR OF THE FIRST DISTRICT BRANCH.

*To the House of Delegates:*

I respectfully submit the following report of the First District Branch for the year 1908.

I have visited each County Medical Society in the District during my incumbency in office and am pleased to report that satisfactory conditions exist in all.

As a member of the Council of the State Society, I officially brought before the meetings I visited the resolution adopted in May last at the Council's regular meeting at Albany, requesting each County Medical Society to appoint a committee to collect reliable data in the localities where itinerant and illegal practitioners are violating the medical acts and imposing on the public.

With this data secured the counsel for the State Society can successfully prosecute these malefactors—being in a position to take such cases out of local influences, attending on personal affiliations or prejudices.

The District Branch meeting held at Poughkeepsie on invitation of the Medical Society of the County of Dutchess on October 21st was one of the most successful in the history of the Society. The scientific program consisted of twelve papers from eminent men of New York City and Philadelphia, and also representative members of each of the County Societies comprising the First District. It was thoroughly representative of this most important District, whose total membership is 2,662.

The amendments proposed last year were carried, which enables the officers to be elected by members present at the annual meetings instead of by the delegates as heretofore.

Important resolutions were passed approving of the action of the American Medical Association in bringing to the notice of the medical profession the abuses arising from negligence resulting in ophthalmia neonatorum in obstetric practice. A committee having a representative from each county was appointed to inquire into a plan for the prevention of this condition. It consists of the secretaries of the County Medical Societies of the First District Branch, and is to report to the Chairman of the American Medical Association Committee, Dr. F. Park Lewis, Buffalo, N. Y., and also to co-operate with the Department of Health, Albany, in a plan now under advisement, by the Division of Communicable Diseases.

The Medical Society of the County of New York has a total membership of 2,262, with a net increase of 29 in its membership during the year.

The attendance at regular monthly meetings has been from 162 in December to 410 at the annual meeting, averaging about 300. Eleven members attended the District Branch Meeting.

The vigorous prosecutions of illegal practition-

ers has resulted in the suppression of many flagrant cases of quackery. The Court of Appeals, during the last year, decided in the case of the John H. Woodbury Dermatological Institute that a corporation could not practice medicine or advertise to practice. The license to practice medicine was determined to be an individual one, and that it could not be granted to a corporation.

The counsel of the Society has applied for the revocation of the licenses of six practicing physicians who have been convicted of felonies.

The Medical Society of the County of Dutchess is in a most flourishing and vigorous condition. It has a total membership of 97 and has 48 per cent. attendance at its regular quarterly meetings. It is officered by the younger men who show marked ability in organization and enthusiasm for work in promoting not only the scientific spirit, but that of harmony as well, which materially conduces to the social features of its meetings.

A committee was appointed by the President consisting of Drs. J. W. Poucher, Poughkeepsie, H. C. Wilber, of Pine Plains, and I. D. Le Roy, of Pleasant Valley, to deal with the quacks. The counsel of the County Society has compelled one man who advertised to take "M.D." off his sign.

There is one other man in the county who needs attention, but the Board of Censors have not succeeded in getting anyone to make definite complaint against him on which they can act. This is an instance in which the counsel for the State Society can effectively render help.

The Medical Society of the County of Westchester meets five times a year—four stated and one annual meeting. It has a membership of 161 with an average attendance of 30 or 40. It was represented by seven members at the District Branch Meeting. During the year it succeeded in suppressing a quack in White Plains through the services of the counsel of the State Society, and violators in Yonkers, New Rochelle and other places in the county have been notified to quit. This Medical Society has a committee appointed to confer with the druggists in the hope that something can be done to abate the abuse of counter-prescribing.

The President of the Medical Society of the County of Orange appointed the following Committee to secure data on violations of the Medical Act: Drs. John T. Howell, Chairman, Newburgh; H. J. Shelley, Middletown, and H. B. Swartwout of Port Jervis. A letter from the Chairman states "that since the last Legislature has taken out of the field the Osteopaths and Opticians there have been comparatively few charlatans left. Clairvoyants and Christian Scientists have not flourished apparently, and there are no gross violators brought to our notice."

This Society is in a very good condition. Its membership numbers 89 with about 20 attending its stated meetings. Two members attended the District Branch Meeting.

The Medical Society of the County of Rockland is in a thriving condition. There are but three practicing physicians in the County outside its membership, which numbers 32. The attendance at regular quarterly meetings, which are held at different sections of the County alternately, as in Orange County, averages fifty per cent. of its membership, and three members attended the District Branch Meeting. At most of its meetings papers are presented by some New York City man of eminence, and at its Annual Meeting in December a dinner is indulged in without a scientific program—the afternoon passed in a social way and the election of officers. This feature has stimulated a generous and fraternal spirit throughout the County, and every man of standing solicits membership in the Society.

Within the year the President, Dr. N. B. Bayley of Haverstraw was sued for mal-practice in the Supreme Court. Many of Dr. Bayley's colleagues in the County sustained him at Court by their presence and Dr. John Wyeth of New York was ready to give expert testimony, but after the examination of the third witness for the complainant (a son-in-law), the case was withdrawn on his lawyer's request. This man, an ex-convict, was abetted in his action by a medical man in a neighboring town, who has not an enviable standing in the County, and had been refused membership to the County Society. The President appointed Drs. George A. Leitner, Piermont; J. H. Crosby, Haverstraw, and M. J. Sanford, Suffern, a committee on illegal practitioners and counter-prescribing by druggists.

A travelling quack accompanied by a vaudeville show has weekly stands in several villages periodically, and a man fitting glasses visits Spring Valley and Haverstraw. Another party exploiting a consumption cure is a registered physician at the County Clerk's Office. This man charges a fee of ten dollars to make a physical examination at the house and sells his "cure" for three dollars a bottle. It is common report there are two criminal abortionists in Haverstraw, also a clairvoyant resides there, but no legal evidence has so far been secured.

The pure food laws are having a wholesome effect upon the quacks. There are fewer of them and their visits are less frequent.

Respectfully submitted,
S. W. S. TOMS, *President,*
*First District Branch.*

Nyack-on-Hudson, December 31, 1908.

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## REPORT OF COUNCILOR OF THE SECOND DISTRICT BRANCH.

*To the House of Delegates:*

I beg leave to submit the following report of the Second District Branch for 1908. But one meeting of the Branch has been held during the year as was done in 1907.

Following the suggestion of the President of

the State Society at its last regular session, the Executive Committee decided to hold the meeting in conjunction with the Associated Physicians of Long Island. This was held at Garden City on October 31st. While the suggestion seemed to be one worth the trial, it did not prove a wise one in practice.

The four County Societies of this district are in good condition, holding regular meetings and doing good scientific work. I would recommend that the Richmond County Medical Society be transferred to the First District Branch for their convenience.

During the year 1908 no member of that Society has attended either the meetings of the Executive Committee or the Annual Meeting. I believe this is due to the inconvenience of transportation from Staten Island rather than from a lack of interest in the Second District Branch.

The four counties on Long Island have a sufficiently large membership to make a strong branch and the members can be depended upon to attend the meetings and do good work.

Respectfully submitted,

E. H. Bartley, *President,*
*Second District Branch.*

Brooklyn, December 31, 1908.

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## REPORT OF COUNCILOR OF THE THIRD DISTRICT BRANCH.

*To the House of Delegates:*

I have the honor to report that the second meeting of the Third District Branch of the Medical Society of the State of New York, which was held at Troy, N. Y., October 25, 1908, was from every standpoint a most successful one.

The clinical forenoon proved to be a very attractive feature of the meeting and many physicians availed themselves of the clinical advantages of our hospitals. As the hospitals of Troy are not especially arranged for the teaching of students with class-rooms or amphitheatres, many of the clinics were necessarily conducted at the bedside, but an abundance of well-chosen clinical material clearly compensated for the loss in that direction.

A most pleasant and enjoyable feature of the meeting was a luncheon served by the members of the Medical Society of the County of Rensselaer where many friendly greetings were exchanged.

The scientific session held in the afternoon was largely attended, there being perhaps rather more than a hundred physicians present. The papers were well selected and of unusual scientific interest, and hence brought forth very instructive discussions.

One of the most attractive features of this session was the presence of a distinguished physician from Vienna, Professor von Pirquet, who was gracious enough to give a most comprehensive talk on the great diagnostic value of his recently discovered reaction, the result of the cutaneous inoculation of tuberculin.

Unfortunately, owing to the lack of time, several papers were passed unread, and because of this incident and its previous happening at a meeting held a year ago at Albany, I would respectfully suggest that when this District Branch meets again in any large medical centre, two days be devoted to the meeting. Most physicians would be glad of the opportunity of slipping away from their arduous duties for two days' recreation in the early autumn.

One whole day could then be devoted to clinical work at the hospitals, the other day to the scientific papers and discussions; the evenings could be devoted to the social side, a most important part of the meetings, which should be further cultivated.

So far as I have been able to ascertain, the constituent societies of this District Branch are in a very prosperous condition, and with but one exception hold regular monthly meetings with large average attendance and a display of enthusiasm and a scientific spirit well worthy of the cause.

It is gratifying to observe the spirit of good-fellowship shown between the older and younger members of the profession. This has already resulted in dissipating many factional feelings and to a large degree preventing the prevailing jealousies altogether too common in our ranks and which have so well served to mar the dig nity of our own profession.

The Societies of the counties of Albany and Rensselaer have been unusually active since the unification of our profession throughout the State. Both Societies have a membership over a hundred and are doing good work. A feature adopted by both which has served a very useful purpose in promoting lively interest has been to invite once or twice a year distinguished physicians from their respective counties or from abroad to deliver lectures or read papers on topics of especial interest to the general practitioner.

No mal-practice suit in this District has come to my notice during the year.

Respectfully submitted,

Herman C. Gordinier, *President,*
*Third District Branch.*

Troy, December 31, 1908.

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## REPORT OF COUNCILOR OF THE FOURTH DISTRICT BRANCH.

*To the House of Delegates:*

The second Annual Meeting of the Fourth District Branch of the Medical Society of the State of New York was held at Amsterdam, October 13, 1908. Twenty-four per cent. of the total membership was present. Of the eleven counties, Warren and Hamilton were not repre-

sented. Twenty-one cities and villages in the district were enumerated, with guests from Albany and Schoharie counties. The joint committee appointed to consider the affiliation of the Branch Society with the Northern New York Association was not able to report any progress. An invitation was extended to the sister society to unite with the Branch Organization at the annual meeting in 1909, some time in July, during the Tercentenary of Champlain, under the presidency of Dr. W. C. Thompson, of Plattsburg.

At the suggestion of Dr. Porter of the New York State Board of Health, a committee on ophthalmia neonatorum was appointed, made up of the present county presidents, Dr. W. C. Thompson as chairman.

A diligent inquiry has been made as to the presence in the district of illegal practitioners. Schenectady and Montgomery counties are the only ones presenting grievances. In the former are two companies and two individuals doing business, usually advertising in the local newspapers. In Montgomery County are bone-setters and mid-wives practicing illegally.

The President of the Branch early in the year signified his willingness to be present at the meetings of the county societies and where requested attended, save in one case where the date conflicted with the Washington Tuberculosis convention. As a rule the county societies are well able to take care of themselves and stand in no need of direction, but the function is a very pleasant and profitable one for the president, in rendering him able to compare and estimate the condition of affairs in his district, and thereby report to the State Society at the meetings of the Council. In this way, the County Society has always a vital connection with the state organization additional to its representation in the House of Delegates.

It was the expressed opinion of the members that the scientific program was meritorious, the papers on tuberculosis by the Saranac members, of unusual value, the reading and discussion of the medical and surgical topics, animated and very instructive. Luncheon was served at midday, and the program ended at 6 P. M. to meet in Plattsburg probably in July, 1909.

Respectfully submitted,
CHARLES STOVER, *President,*
*Fourth District Branch.*

Amsterdam, December 31, 1908.

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## REPORT OF COUNCILOR OF THE FIFTH DISTRICT BRANCH.

*To the House of Delegates:*

I have the honor to report as President of the Fifth District Branch that all of the county societies comprising this division of the state society are in a flourishing condition. During the two years which have passed since the organization of the district branches, there have been admitted to membership in the six county societies forming our branch seventy-four (74) applicants. This I consider a very good showing, but there is unquestionably a large number of regular physicians living in the district who are not but should be members of our county societies. A little good missionary work would undoubtedly bring the greater part of these physicians into the fellowship of the District Branch. When we stop to consider the benefits derived from membership in the County Society, the District Branch, and the State Society with its regularly issued monthly Journal replete with instructive papers and medical news, and also that most useful addition to the physician's library—the yearly Directory containing a complete list of all physicians practicing in the states of New York, New Jersey and Connecticut—it seems a little strange that any regular physician should remain content to work outside of a society so rich in heritage and so helpful to him in his daily work. Can we not have during the year to come, active effort on the part of each member of the county societies constituting the Fifth District Branch in the interest of a largely increased membership?

Some good work has been done in our district in prosecuting illegal practitioners; one flagrant violator of the law was successfully prosecuted in spite of the protests of many prominent laymen. Much remains to be done in ridding our community of quacks, but one such successful issue is certainly a wholesome example and an incentive to continue the work. Concerted action by all the county societies and district branches backed by the authority of the state society, will surely teach these violators of the law that the laws regulating the practice of medicine are to be respected fully as much as any others making up the code.

The second annual meeting of the Fifth District Branch was held in Utica, October 15, 1908. Upwards of two hundred physicians attended the meeting and the scientific program, which included twenty papers, was given close attention from beginning to end. A noticeable feature of the meeting was the full representation of each county society. Too much credit can hardly be given the members who prepared and read papers at this meeting. Each contribution was evidently the outcome of much study and thorough preparation, and although limited by want of time, many interesting discussions of the subject presented added greatly to the scientific features of the program. In closing my report I desire to state that the District Branch meeting has assumed a position of importance second only to the meeting of the State Society.

The following officers were elected for the ensuing year: President, Gilbert D. Gregor, M.D., Watertown, N. Y.; Vice-President, Frank

E. Fox, M.D.; Fulton, N. Y.; Secretary, William D. Garlock, M.D., Little Falls, N. Y.; Treasurer, Frank E. Jones, M.D., Beaver Falls, N. Y. The next annual meeting will be held in the city of Watertown, New York.

Respectfully submitted,
WILLIAM M. GIBSON, *President,*
*Fifth District Branch.*

Utica, December 31, 1908.

## REPORT OF COUNCILOR OF THE SIXTH DISTRICT BRANCH.

*To the House of Delegates:*

I have the honor to report a general satisfactory condition existing among the various County Societies comprising the Sixth District Branch.

It has been my privilege to attend meetings of these County Societies during the year and each was very well attended, and marked interest was shown.

The annual meeting held at Binghamton, in point of attendance was excellent and the papers presented were of high order and sufficiently varied to bring out a good general discussion.

It was the sentiment of the meeting that the annual meeting should be held in rotation in each county—no county having a second meeting until each had held a meeting.

The next meeting will be held at Oneonta, in Otsego County.

Respectfully submitted,
W. A. MOORE, *President,*
*Sixth District Branch.*

Binghamton, December 31, 1908.

## REPORT OF COUNCILOR OF THE SEVENTH DISTRICT BRANCH.

*To the House of Delegates:*

The second meeting of the Seventh District Branch of the Medical Society of the State of New York was held at Auburn on the 20th day of October, 1908. There were 75 members present, representing every County Society within the District. The report of the various County Societies showed that each is awake to the times and spirit of progress and also that the State Society may be assured of the hearty support of the Seventh District Branch. To summarize the report of the societies it can but be inferred that there is increased interest in society work, the reading of papers, general scientific matters and the well being of the profession.

There was no committee appointed at the previous meeting to ascertain the number of unlicensed practitioners within the District, therefore it was difficult to obtain a definite or even an approximate estimate of the number of such persons, and no one present seemed prepared to mention any specific case.

The Chair appointed a committee consisting of one member from each County Society for such purpose, to report at the next annual meeting unless called upon to make such report by the Medical Society of the State of New York at an earlier date.

A communication from the State Department of Health, asking for the appointment of a committee to act with a like committee to be appointed in the several Districts to further a specific and applied preventative treatment for ophthalmia neonatorum, after some discussion was laid on the table.

An amendment to the By-Laws was passed whereby the officers of the Society will hereafter be elected by a vote of the members in the place of the House of Delegates.

There were seven well-written scientific papers read.

The next meeting will be held at Hornell.

Respectfully submitted,
J. P. CREVELING, *President,*
*Seventh District Branch.*

Auburn, December 31, 1908.

## REPORT OF COUNCILOR OF THE EIGHTH DISTRICT BRANCH.

*To the House of Delegates:*

I have the honor of reporting that owing to the resignation of Councilor Lake, of Gowanda, President of the Eighth District Branch, 1908, that I as First Vice-President succeeded to the office of President March 23, 1908, at which time most of the annual meetings had been held by the County Societies, making it impossible for me to attend. I have visited only Erie and Genesee Counties, but have corresponded with all of the societies. All report increasing interest in the scientific work. I have further to report that the third annual meeting of the Eighth District Branch was held in Batavia September 22d and 23d.

The meeting of the House of Delegates was held at 2 P. M. September 22d. The by-laws proposed at last meeting were considered at this session and adopted, copies of which will be submitted to your honorable body. The meeting of the Society was well attended. Besides the President's address fifteen valuable papers were listened to and interesting discussions were held. Members and guests were entertained on the first day to an old-fashioned boiled dinner, which was made as much a social gathering as the short time would permit, it being considered inadvisable to hold a social gathering in the evening, owing to the members desiring to return home. The last act of the House of Delegates before legislating itself out of office was the election of officers for the ensuing year: Dr. E. E. Snow, Batavia, was chosen President; Dr. Edward Munson, Medina, First Vice-President;

Dr. L. M. Francis, Buffalo, Secretary, and Dr. C. A. Wall, Buffalo, Treasurer, were re-elected. Next meeting will be held in Buffalo, time and place subject to call of officers of the Eighth District Branch.

Respectfully submitted,

EMERSON E. SNOW, *President,*
*Eighth District Branch.*

Batavia, December 31, 1908.

## REPORT OF COMMITTEE ON EXPERIMENTAL MEDICINE.

*To the House of Delegates:*

In behalf of the Committee on Experimental Medicine, the undersigned have the honor to report as follows for the year 1908:

At the adjourned meeting of the House of Delegates held at Albany on January 28, 1908, the powers and duties of this Committee were re-affirmed by vote, and a resolution was unanimously passed in favor of the unrestricted performance, by qualified men, of scientific experiments upon animals.

In pursuance of the foregoing acts of the House of Delegates, the Committee on Experimental Medicine united its efforts with those of the Committee on Legislation and of public spirited medical men throughout the State, to prevent the passage by the Legislature of 1908 of either of two bills, each entitled "An Act to prevent cruelty by regulating experiments on living animals." Each of these bills was referred to the Committee on the Judiciary of the Senate and of the Assembly. Each bill sought to impose restrictions, which were against the public welfare, upon the making of scientific experiments upon living animals.

A joint hearing upon both bills before the Committee on the Judiciary of the Senate and Assembly sitting together was held on March 25, 1908, at which hearing those who opposed the bills and those who favored them presented their arguments.

To the Assembly neither bill was reported from committee. The bill numbered 277 on the calendar of the Senate was reported to that body, but was never brought to a vote thereof.

Some of the advocates of restricting experiment have already published their intention of making a renewed attack upon experimental medicine in 1909, and, accordingly, the Committee on Legislation and this committee have jointly sent to the medical journals of the State of New York a warning to this effect, addressed to the practitioners of the State, and urging that opposition of every legitimate kind be made to such a measure. This opposition, your committee, acting with the Committee on Legislation, is prepared, and proposes, to make, with the aid of the members of the Medical Society of the State of New York, of other public spirited practitioners, and of enlightened lay persons, both men and women, who will not allow efforts which would retard the beneficent advance of knowledge to pass without rebuke.

Respectfully submitted,

JOSEPH D. BRYANT, M.D., *Chairman.*
JOHN G. CURTIS, M.D., *Secretary.*

## REPORT OF SPECIAL COMMITTEE ON THE DISTRIBUTION OF THE LIBRARY OF THE SOCIETY.

*To the House of Delegates:*

The Committee on Distribution of the Library begs to report that the following contract has been made during the year with the Medical Society of the County of Dutchess, and that a list of the books furnished is on file in the office of the Society.

*Know All Men by These Presents:*

That the Medical Society of the State of New York, for and in consideration of the sum of One ($1.00) Dollar to it in hand paid by the Medical Society of the County of Dutchess, does hereby loan to the officers, directors and trustees of the Medical Society of the County of Dutchess the books contained in the annexed schedule under the following conditions, that is to say:

FIRST. The Medical Society of the State of New York loans and the Medical Society of the County of Dutchess accepts said books and agrees to keep them accessible to the members of the said Medical Society of the County of Dutchess, and for their use and benefit.

SECOND. The Medical Society of the County of Dutchess hereby agrees not to sell, exchange or in any way dispose of said books, but the same shall be kept and preserved for the uses aforesaid.

THIRD. *It is Mutually Covenanted and Agreed,* by and between the respective parties hereto, that if at any time the Medical Society of the County of Dutchess shall discontinue its medical library, or for any reason be unable to continue the same, then and in that case the Medical Society of the State of New York shall receive and the Medical Society of the County of Dutchess shall deliver to it all such books, in good condition, subject, however, to such injuries as may be received which reasonable use of the same may have caused, and the Medical Society of the State of New York shall have the right, without notice to the Medical Society of the County of Dutchess, to enter any building wherein the Medical Society of the State of New York, its officers or trustees, may have reason to believe said books are kept, and to take same into their possession.

Dated, New York, this 22d day of December, 1908.
Medical Society of the State of New York,
By WISNER R. TOWNSEND, *Secretary.*
Medical Society of the County of Dutchess,
By FREDERICK J. MANN, *Secretary.*

Respectfully submitted,

E. B. ANGELL, *Chairman.*
E. D. FISHER,
J. E. SADLIER.

December 31, 1908.

## REPORT OF THE COMMITTEE ON PRIZE ESSAYS.

*To the House of Delegates:*

The Committee on Prize Essays respectfully reports to the House of Delegates that there have been no essays presented during the past year.

Respectfully submitted,

A. Jacobi,
*Chairman Committee on Prize Essays.*
December 31, 1908.

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## REPORT OF SPECIAL COMMITTEE ON ANNUAL MEETINGS.

*To the House of Delegates:*

At the meeting of the House of Delegates of the Medical Society of the State of New York in 1908 your Special Committee on Annual Meetings other than the Annual Meeting to be held in the City of Albany, in its report outlined a plan of holding Semi-Annual Meetings with one of the District Branches of the Society annually; this detailed plan may, whenever the Society desires two meetings each year be found suggestive and serviceable. By vote of the Society the Committee was continued and submits this, its final report:

The success of the Meetings of the various District Branches of the Medical Society of the State of New York is assured, thus giving each member of the society opportunity to attend two profitable meetings annually. For this reason your Committee believes that at the present time a Semi-Annual meeting of the Medical Society of the State of New York is unnecessary. The Committee favors the greatest possible interest in the separate District Branches; the energies of all members should be so directed as to make the Meetings of the District Branches as successful as are those of the parent body—The State Society. Your Committee recommends that no action having for its object two Meetings of the State Society itself be taken at the present time.

Respectfully submitted,

Henry L. Elsner, *Chairman*,
William A. Moore,
Floyd M. Crandall,
George McNaughton.
Syracuse, December 31, 1908.

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## MINORITY REPORT

of the committee on changing the place of the Annual Meeting of the Medical Society of the State of New York.

It is proper at the outset to give some reason for presenting a minority report, when so large a majority of this committee has signed another one.

Indeed my confidence in the judgment of other members of this committee was so great that while differing from them it seemed, at first, more becoming simply not to sign the majority report and let the matter rest.

But further consideration of the subject leads me to think that some confusion of mind exists as to the object for which this committee was appointed and it is desirable to clear up that point.

Also further inquiry shows apparently that a considerable number of members of the Society would like a minority report if only as a basis for discussion.

I therefore venture to call attention first to the fact that the resolution passed in 1907 provided that "A committee of five be appointed to consider the advisability of having part of the annual meetings held in another portion of the state," and the Secretary accordingly issued notices to a "Committee on changing the place of the Annual Meeting of the Medical Society of the State of New York."

I refer to these records for the reason that in our report last year this committee made a statement which is confusing and should be explained. We began by saying that we were appointed to "consider the advisability of holding a meeting of the State Society once each year, which meeting was in no way to interfere with the annual meeting to be held as heretofore in the city of Albany."

While it is quite true that it was within our province, and we did last year recommend holding two meetings of the Society, one in Albany and another with some one of the District Branches, it should also be understood that it is within the province of this committee to recommend changing the place of the Annual Meeting just as the notice of the Secretary stated.

Understanding thus the perfect freedom given by the original resolution to this committee, and therefore to the House of Delegates, and the Society, we may consider the reasons for meeting at whatever place or time we wish. It should be remembered, however, that, according to the present By-laws, the Society must hold an annual meeting in Albany. That, however, need be only an executive session until this provision is changed.

It would be far beyond the scope of a minority report to consider all the thread-bare arguments for and against holding the annual meeting in Albany.

These have often been stated. In the current number of *The Journal of Medicine* the question has been admirably presented by the Editor, Dr. Bristow, and new statistical facts added to show why we should not continue our Mid-Winter meeting at Albany.

It is only necessary here to epitomize very briefly the principal points.

In favor of the Mid-Winter meeting in Albany

we have one reason. This is that, although less than 8 per cent. of our members now attend the meetings, it is hoped that these may exert some favorable influence on legislation relating to public health and to the medical profession.

Against meeting in Albany,

(A) In Winter, we have—First. Experience shows that we do not influence legislation to any great extent except when questions are before committees. Second. In Winter all practitioners are usually busy. Third. The risk of delay by storms and the inconveniences of travel are increased. Fourth. The hotels are then unusually full. Fifth. We miss the acquaintance of that ninety per cent. and more of our members who simply will not attend Mid-Winter meetings in Albany. The fresh blood, the scientific enthusiasm and especially the hearty good fellowship which probably would come with an increased attendance at another season of the year is one of the things which this Society needs most of all.

(B) Against regular meetings in Albany at any time it appears, First. Experience has taught almost all the other State Medical Societies that it is better not to meet always in the same city. Some of the most successful State Society Meetings are held in the early Autumn at attractive Summer resorts before the hotels close. Second. The hospitality of our colleagues in Albany is constantly taxed without opportunity to reciprocate. Third. We miss the acquaintance with other localities which would be gained by change of place.

In view of these facts the undersigned, regretting to differ from his distinguished colleagues on the committee, respectfully submits that the Medical Society of the State of New York should hold an executive session annually in Albany as long as the present By-laws are in force, but should not continue its Mid-Winter scientific meetings in this city.

The recommendation is made that this Society adopts the report made unanimously last year by this committee, modifying that report only by making the Mid-Winter session entirely of an executive character until the By-laws can be changed, transacting at that session only sufficient business to comply with the requirements, and transferring all of the scientific work together with the election of officers, and as much more of the executive business as may be feasible, to a meeting held annually in the early Autumn.

It is also recommended that the next scientific meeting of this Society be held in the Autumn of 1910 with either the First, Second or Third District Branches—that it, with the first group of branches as arranged by this committee in its report last year, and the designation of the exact time and place be referred, with power, to the Committee of Arrangements.

LUCIEN HOWE.

## MEETING OF THE COUNCIL.

A regular meeting of the Council of the Medical Society of the State of New York was held in the Court of Sessions, City Hall, Albany, on January 27, 1909, at 5.30 P. M. Dr. C. G. Stockton, President, in the chair. Dr. Wisner R. Townsend, Secretary.

There were present Drs. C. G. Stockton, Wisner R. Townsend, D. C. Moriarta, Alexander Lambert, W. J. Nellis, C. E. Townsend, G. D. Gregor and E. E. Snow.

The minutes of the last meeting were read and approved.

A communication from Dr. H. J. Boldt in regard to ophthalmia neonatorum was read and laid on the table until next meeting. It was originally referred by the Society to the House of Delegates too late for action. See page 69.

Moved by Dr. Moriarta, seconded by Dr. Snow, that a committee of three, to be called the Committee on Finance of the Council, be appointed by the chair, the duties of this Committee to be, to authorize such expenditures as they consider advisable, and that all officers and chairmen of committees secure the permission of said Committee before incurring any expenses on behalf of the Society. Unanimously carried.

The Chairman appointed on such Committee: Drs. E. H. Bartley, Alexander Lambert and C. E. Townsend.

Moved by Dr. Snow, seconded by Dr. Gregor, that all officers, chairmen of standing committees, councilors, delegates to the American Medical Association and to the Council on Medical Education, shall be paid their transportation when traveling on official business and upon presentation of proper vouchers for the same. Unanimously carried.

Moved by Dr. Snow, seconded by Dr. Moriarta, that a Committee on Publication be appointed, to consist of Drs. J. C. Bierwirth, Alexander Lambert, Wisner R. Townsend, S. W. S. Toms and S. E. Getty. Unanimously carried.

Moved by Dr. Lambert, seconded by Dr. Snow, that the Committee on Publication be directed to publish the Directory and the JOURNAL for the coming year. Unanimously carried.

Moved by Dr. Moriarta, seconded by Dr. Snow, that the recommendations of the Committee on Publication to the House of Delegates in their annual report for 1908 in regard to the Directory, be approved by the Council. See page 50. Unanimously carried.

Moved by Dr. Lambert, seconded by Dr. Gregor, that Mr. Wicks be appointed to audit the books for the coming year at the same salary as last year. Unanimously carried.

There being no further business before the Committee, after approving the minutes, the meeting adjourned.

WISNER R. TOWNSEND, Secretary.

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## MEETING OF THE COUNCIL.

A regular meeting of the Council of the Medical Society of the State of New York was held in the Court of Sessions, City Hall, Albany, on January 25, 1909, at 8.30 P. M. Dr. A. G. Root, President, in the chair. Dr. Wisner R. Townsend, Secretary.

There were present Drs. A. G. Root, M. C. Hawley, Wisner R. Townsend, Alexander Lambert, L. H. Neuman, J. L. Heffron, W. J. Nellis, E. H. Bartley, J. L. Archambault, E. E. Snow and W. C. Thompson.

Moved, seconded and carried that the Secretary be requested to call the attention of County Societies to Chapter IX., Section 8, of the By-Laws of the State Society and request that in the future all amendments or changes in Constitution and By-Laws be submitted to the Council before being acted on.

Moved, seconded and carried, that a committee of three be appointed by the Council, of which the Secretary of the Society shall be Chairman, to pass on such amendments or alterations as may be submitted by County Societies to their Constitutions and By-Laws.

Dr. Stockton appointed the following: W. R. Townsend, E. E. Snow, J. B. Harvie.

The following amendments to the By-Laws of the Medical Society of the County of Dutchess were approved:

Chapter V., Section 3—Substitute the word "July" for "October."

Chapter IX., Section 2—Substitute the word "October" for "January" in the second line.

Chapter IV., Section 4, Sixth line—After President add "excepting from the Library fund." "The moneys independently subscribed or contributed for library purposes shall be kept as a separate fund, to be known as the Library fund, subject to the order of the Library Committee, countersigned by its Chairman."

Chapter IV., Section 5—Add: This section shall not be construed as referring to the Library Committee and its jurisdiction over the specially contributed Library fund.

Chapter VII., heading, after 3 Legislative add 4 Library.

Chapter VII., after section devoted to Committee on Public Health add "Committee on Library." The Library Committee shall be appointed annually by the President. It shall consist of five members including the Chairman, all of whom shall be residents of Poughkeepsie. Three members shall constitute a quorum.

It shall be the duty of the Library Committee to have entire charge and active management of the rooms and literary matter held in the name of the Society as its library. It shall have full power to control the property and disburse the moneys subscribed or contributed for library purposes.

At the Annual Meeting of the Society the Committee shall make a full report of its transactions and expenditures.

There being no further business the meeting adjourned.

WISNER R. TOWNSEND, Secretary.

## ANNUAL MEETING OF THE HOUSE OF DELEGATES OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The regular annual meeting of the House of Delegates of the Medical Society of the State of New York was held at the City Hall, in Albany, January 25, 1909, at 8.30 P. M. Dr. Arthur G. Root, President, in the chair. Dr. Wisner R. Townsend, Secretary.

Present: A. G. Root, President; M. C. Hawley, Third Vice-President; Wisner R. Townsend, Secretary; Alexander Lambert, Treasurer; L. H. Neuman, Chairman Committee on Scientific Work; J. L. Heffron, Chairman Committee on Public Health; W. J. Nellis, Chairman Committee on Arrangements. Also the following Councilors: Second District, E. H. Bartley; Third District, J. L. Archambault; Fourth District, W. C. Thompson; Fifth District, G. D. Gregor, Eighth District, E. E. Snow.

On roll call the following delegates answered to their names: J. D. Craig, W. G. Macdonald, S. B. Ward, J. E. K. Morris, F. Sefton, W. Stuart, H. D. Wey, P. A. Hayes, W. C. Thompson, C. G. Rossman, R. P. Higgins, J. D. LeRoy, J. G. Harris, G. L. Brown, A. G. Bennett, A. W. Hurd, E. H. Long, T. H. McKee, W. H. Thornton, C. A. Wall, H. M. Spofford, W. A. Wasson, F. R. Calkins, E. H. Bartley, J. E. Blake, A. T. Bristow, W. Browning, W. F. Campbell, J. W. Fleming, C. Jewett, G. F. Little, S. J. McNamara, J. C. MacEvitt, L. S. Pilcher, J. C. Rushmore, J. P. Warbasse, W. M. Brown, W. T. Mulligan, J. O. Roe, L. W. Howk, N. D. McDowell, W. L. Carr, F. M. Crandall, W. G. Eynon, E. D. Fisher, E. M. Foote, E. P. Fowler, R. H. Halsey, E. E. Harris, W. B. Hoag, Joseph Brettauer, A. Jacobi, E. Le Fevre, J. M. Mabbott, H. M. Silver, F. R. Sturgis, G. G. Ward, Jr., W. H. Potter, H. H. Mayne, C. Bernstein, W. J. Schuyler, H. G. Jones, D. H. Murray, J. L. Heffron, D. M. Totman, W. W. Skinner, F. Munson, W. C. Todt, J. C. Schmuck, E. R. Stillman, O. F. Kinloch, W. C. Walser, S. W. S. Toms, G. C. Madill, R. H. Hutchings, F. J. Resseguie, C. G. McMullen, J. R. Brown, M. L. Bennett, W. S. Cobb, S. B. Allen, M. B. Heyman, M. B. Tinker, H. VanHoevenberg, J. H. Wilkin—85.

The Secretary announced that a quorum was present.

The minutes of the January, 1908, meeting were approved as printed.

The Annual Report of the President was read by Dr. Arthur G. Root. See page 46.

Moved that a committee be appointed to consider the recommendations made by the President and report at the next session. Motion carried and Drs. Townsend, Jewett and Ward were appointed such committee.

*Presentation of Reports.*

Report of the Council. See page 50. Moved that it be received as printed. Motion carried.

Report of Treasurer. See page 48. Moved that it be accepted as printed. Motion carried. In reply to a question the statement was made that an expert accountant had gone over the Treasurer's accounts and found them correct.

Report of Secretary. See page 47. Moved that it be received as printed. Motion carried.

Reports of Standing Committees. Moved that they be received as printed. See pages 52, 54, 57. Motion carried.

Report of Committee on Experimental Medicine. See page 62. Moved that the report be received as printed and that the committee be reappointed with power to add to its members. Motion carried.

Report of Committee on Distribution of Library. See page 62. Moved that it be accepted as printed. Motion carried.

Report of Committee on Prize Essays. See page 63. Moved that it be received and the committee continued. Motion carried.

Report of the Counsel. See page 55. Moved that it be received as printed. Motion carried.

Report of Committee on Annual Meetings. See page 63. Moved that it be received as printed.

Dr. Thornton by request presented a minority report signed by Dr. Lucien Howe. See page 63.

Moved that these two reports be received and taken up together under the head of new business. Motion carried.

Dr. Murray, Chairman of the committee appointed to confer with a similar committee appointed by the New York State Bar Association to consider and report regarding the best means of curing the present evils of expert testimony, submitted the following report:

"We, the undersigned, members of said committee, respectfully present the annexed bill as the result of the joint deliberations of these committees, and recommend its adoption, and that the State Legislature and Governor be requested to make such bill the law of the State of New York in relation to the introduction of medical expert testimony.

"DWIGHT H. MURRAY, Chairman. A. WALTER SUITER, JOHN A. WYETH, A. T. BRISTOW, EDWARD D. FISHER."

### AN ACT

To Regulate the Introduction of Medical Expert Testimony.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows:*

Section I. Within ninety days after this Act shall take effect the Justices of the Supreme Court assigned to the Appellate Divisions thereof in the several Departments, shall designate at least ten and not more than sixty physicians in each Judicial District who may be called as medical expert witnesses by the Trial Court or by any party to a civil or criminal action in any of the courts of this State, and who when so called shall testify and be subject to full examination and cross-examination as other witnesses are.

Section II. When so directed by the Trial Court witnesses so called shall receive for their services and attendance such sums as the Presiding Judge may allow, to be at once paid by the Treasurer or other fiscal officer of the County in which the trial is had.

Section III. This Act shall not be construed as limiting the right of parties to call other expert witnesses as heretofore.

The following amendment was suggested to Section I, after the word "State", *and who shall have the right of physical examination of the person claiming to have been injured as now provided by the Code.*

Dr. Bristow stated that the bill was intended for the betterment of present conditions, and while not an ideal bill, it was believed to be one which would be acceptable to the Legislature.

Dr. Mabbott thought the compensation should be fixed by the court and paid by the party calling the expert.

Dr. Skinner thought a weak point was that a man would have no opportunity to decline service but would be obliged to attend the court proceedings however inconvenient it might be for him.

It was explained that he would have the same right to decline to serve as in other cases of appointment, and that an appointment did not make service mandatory.

It was stated that the bill had been presented to the attorneys-general of nearly all the states and had received approval in each case.

Dr. Ward offered the following resolution which was unanimously adopted:

*Resolved*, That the report of the Special Committee appointed to confer with the committee representing the New York State Bar Association, to consider and report regarding the best means of curing the present evils of expert testimony, be adopted and the committee continued and empowered to aid in securing the enactment by the Legislature of the bill presented.

The proposed amendment to the Constitution, Article III, to add a new section 2, to read as follows: "All officers shall assume office at the close of the annual meeting of the Society" was taken up for action.

Dr. Wall moved to amend by making the section read as follows:

"All officers *and the elected members of the standing committees* shall assume office at the close of the annual meeting of the Society."

Moved that the section read as amended be adopted. Motion carried.

Moved that Section 2, Article III., of the present Constitution become Section 3. Motion carried.

The proposed amendment to the by-laws, Chapter IV., Section 2, by striking out the following:

The Council shall provide for and superintend all publications and their distribution and shall have authority to appoint an editor and such assistants as it may deem necessary.

The report shall also specify the character and cost of all publications of the Society during the year, and the amount of all property belonging to the Society, under its control,

Was laid on the table.

The proposed amendment to the by-laws, Chapter IV., Section 1, by striking out Section 1, and substituting therefor the following:

Section 1. The Council shall meet at the close of the annual session of the Society, to organize for the ensuing year.

It shall meet once during the months of May and December of each year, the time and place to be selected by the President, and it shall meet at such other times as occasion may arise, upon the request in writing of five members of the Council, or upon the call of the President.

And by adding

Section 2. Seven members shall constitute a quorum.

Was carried.

Moved that Section 2 of Chapter IV. of the by-laws become Section 3, and Section 3 become Section 4. Motion carried.

The proposed amendment to the by-laws, by adding to Chapter VII., Section 1, after the words, "A Committee on Arrangements" the words, "A Committee on Publication", and a section to read as follows:

Section 6. The Committee on Publication shall consist of five members: The Secretary and Treasurer of the Society, and three other members. The members of the committee, except the Secretary and Treasurer, shall be elected to serve three years each, and at the first election held after the adoption of this by-law, one member shall be elected for three years, one member for two years, and one member for one year, and thereafter each year a member shall be elected to serve for three years.

At the first meeting held after the adjournment of the annual meeting of the Society, the Committee shall select one of its members to act as chairman, and he shall serve for one year, or until his successor is elected. The Chairman of the Committee shall be entitled to a seat in the Council.

The Committee shall provide for and superintend all publications and their distribution, and shall have authority to appoint an editor and such assistants as it may deem necessary, and to fix their salaries.

All moneys of the Society received by the Committee from any source shall be promptly paid to the Treasurer.

It shall hold regular meetings and keep minutes of the same, and make an annual report to the House of Delegates, specifying the character and the cost of all publications of the Society during the year, and the amount of all property of the Society under its control.

Was laid on the table.

Dr. Wall submitted the following amendment to the Constitution, Article VI., Section 1. Strike out in full the whole section and substitute:

Section 1. The time and place of each annual meeting shall be fixed by the House of Delegates at the preceding annual meeting.

Dr. Wall also submitted the following amendments to the by-laws:

Chapter IV., Section 2: Strike out "the office of Secretary or Treasurer," and substitute any elective position not provided for in the by-laws.

Chapter VI., Section 2: Add, and the other vice-presidents advanced in order.

Dr. Sturgis submitted the following amendment to the Constitution, Article VI., Section 1: The section to read,

Section 1. The annual meeting of the Society shall be held beginning on the last Tuesday of September of each year.

Section 2. The time and place of the annual meeting shall be designated by the House of Delegates.

Section 2 to become Section 3.

Section 3 to become Section 4.

Under the rules these proposed amendments go over to the next annual meeting.

Moved by Dr. Wall that the Committee on Legislation consult with our Counsel and if necessary have passed by the State Legislature an act allowing the Medical Society of the State of New York to change the time and place of holding the annual meeting.

After some discussion this motion was carried.

Dr. Ward offered the following resolutions:

*Resolved*, By the House of Delegates of the Medical Society of the State of New York, that Senate Bill No. 170, Int. 168, entitled, "An act to prevent cruelty by regulating experiments on living animals", is opposed to the maintenance and progress of the science and art of medicine and therefore is against the rightful interests of the people of this State; and that the said bill ought not to pass.

*Resolved*, That the members of the Legislature are respectfully urged to defeat the measure.

*Resolved*, That the members of the Society are urged to use every legitimate means to defeat the bill aforesaid, and every measure which shall threaten to hamper experimental medicine by restricting the discretion of qualified experimenters.

Moved that the resolutions be adopted. Motion unanimously carried.

Dr. Heffron presented the following resolutions and they were unanimously adopted:

WHEREAS, Mr. Justice Charles Andrews has on frequent occasions testified to his deep interest in matters of great significance to the medical profession of this State and of the country in relation to the public welfare, be it therefore

*Resolved,* That the House of Delegates of the Medical Society of the State of New York, in regular meeting assembled, do hereby express their profound thanks and obligation to Mr. Justice Andrews for the gracious courtesy and the general public spirit that have prompted his action in matters commended by us to him for opinion and direction.

*Resolved,* That the foregoing resolutions be transmitted to the Honorable Justice under the signatures of the President and Secretary of the Society.

Dr. Resseguie offered the following resolution:

*Resolved,* That the House of Delegates of the Medical Society of the State of New York is heartily in favor of the preservation of the mineral springs at Saratoga Springs, New York.

Dr. Moriarta explained that the springs, which formerly flowed naturally, had been reduced in level some 300 or 400 feet, and that in order to protect and perpetuate these natural resources a bill had been introduced into the Legislature to establish and maintain there a public preserve, the object being not only to conserve the springs but having also in mind the possibility of establishing a cure similar to those found abroad.

Moved that the resolution be adopted. Motion carried.

The Secretary stated that the American Medical Association desired that the House of Delegates appoint a delegate to the Council on Medical Education, and that in response to a similar request last year Dr. C. Howard Travell of Troy was appointed.

Moved that Dr. Egbert Le Fevre of New York City be appointed to represent the House of Delegates of the Medical Society of the State of New York in the Council on Medical Education of the American Medical Association. Motion carried.

The Secretary stated that it had been customary each year for the House of Delegates to appoint some one to act as Counsel for the Medical Society.

Moved by Dr. Sturgis that Mr. James Taylor Lewis be continued as Counsel to the Medical Society of the State of New York for the coming year, at the salary heretofore paid. Motion carried.

The Secretary reported the receipt of the following communication from the First District Branch:

"October 27, 1908.

"Wisner R. Townsend, M.D., Secretary Medical Society State of New York.

"Dear Sir: At the second annual meeting of the First District Branch the enclosed communication was received and read. On motion it was referred to the State Medical Society for such action as is deemed advisable. Very sincerely yours,

"C. E. DENISON, Secretary."

"American Pharmaceutical Association,
"New York Branch,
"April 30, 1908.

"Dr. C. E. Denison, Secretary, City.

"Dear Sir: The enclosed declaration on the status of the prescription received the unanimous endorsement of the New York Branch of the American Pharmaceutical Association, at its April meeting. The sentiments which it expresses are commended to the earnest consideration of your association, as those of professional pharmacists. Should your association see fit to take any action relative to this declaration, the New York Branch of the American Pharmaceutical Association, will be pleased to have you inform it of such action.

"Yours very truly,

"HUGH CRAIG, Secretary."

"Declaration on the Status of the Prescription by the New York Branch of the American Pharmaceutical Association:

"1. The prescription should be a signed and dated order from the physician to the pharmacist to prepare and deliver certain medicines, etc., to the patient. The prescription should be written plainly and distinctly, in ink if possible. It should bear the full name of the prescriber, either printed or written, and should state the name of the patient, and if a child, also the age.

"A telephoned prescription, that is, a prescription which in case of emergency the physician telephones to the pharmacist, must in all cases be repeated by the pharmacist, so as to avoid misunderstandings, and should be followed, especially in the case of potent drugs, with a written order from the physician.

"In case the physician intends to prescribe an unusually large dose, the quantity of drug should be underlined and be followed by an exclamation mark. General directions, like 'As directed', etc., should be avoided.

"2. The pharmacist who dispenses the medicine should invariably retain the original prescription for future reference, and as a record, for a limited period—say five years. This for his own protection, as well as that of the prescriber and the patient.

"3. The medicine prescribed should be supplied not more than once on the same prescription, in the following instances:

"(a) If ordered by the prescriber 'not to be repeated' or marked 'Ne repetatur";

"(b) If it contains medicinal substances commonly called narcotic or habit-forming drugs;

"(c) If asked for by some person known not to be the original holder.

"4. One copy of the prescription may be furnished to the patient, but to no other person. This copy should be marked 'copy' or 'copia' and should be plainly and distinctly written in ink. In the event of the prescriber not desiring a copy to be given, he should note this on the prescription by writing the words, 'Give no copy.' It would be desirable to have such notation appear on every prescription. Under no circumstances should a copy of the prescription be given without consent of the physician, after the patient has recovered.

"Respectfully submitted,

"OTTO RAUBENHEIMER,

"Chairman of the Committee on Professional Relations New York Branch of the American Pharmaceutical Association."

Dr. Sturgis thought the suggestion that the name of the patient be stated very objectionable, also that a copy should not be furnished to the patient. It was his understanding that a prescription is an order on the apothecary for a certain medicine to be given at a specified time for a specified reason and not to be used over and over by the patient. The patient had no property in the prescription.

Moved that the communication be received and laid on the table. Motion carried.

A motion to reconsider was lost.

Dr. Harris of Poughkeepsie moved the adoption of the recommendations in the minority report of the Special Committee on annual meetings. Seconded.

The Secretary read the minutes of the meeting of January 29, 1907, relating to the original appointment of the committee. See Vol. VII., No. 2, Page 82, *New York State Journal of Medicine.*

Dr. Crandall stated that as he remembered it, Dr. Howe made no objection to the first report of the Committee outlining a plan of holding two meetings of the Society each year. Though a member of the Committee he was not aware that there was to be a minority report and he did not think it in the power of Dr. Howe to offer one.

Dr. Harris of New York believed that the two reports were not inconsistent, but thought the recommendations contained in the minority report should come up as a resolution. He moved that the majority report be adopted. Motion seconded.

Dr. Bartley stated that status of the minority report had been fixed by receiving it.

Dr. Crandall thought the majority report contained all that the Committee was empowered to report upon.

The chair ruled that the minority report was a part of the report of the Committee.

Moved by Dr. Harris of New York as an amendment to his original motion that the majority and minority reports be considered as one committee report and adopted. Motion seconded.

Dr. Mabbott thought it unwise to adopt a report which represented the views of only 20 per cent. of a committee which had been considering the matter for two years.

Dr. Le Fevre thought the majority report could be accepted without interfering in any way with action on the minority report.

The Secretary stated that a resolution had been passed directing the Committee on Legislation to confer with the Counsel in order that the necessary steps might be taken to enable the Society to meet when and where it pleases, and a bill would be introduced into the Legislature amending the present law which compels a meeting in Albany on the last Tuesday in the month of January of each year.

The minority report proposed a scientific meeting at one time and a business meeting at another time in 1910. The orderly method of procedure would be to defer action until a legislative enactment had been put through.

Dr. Little stated that the matter had been before the House before and no action taken. He thought the House wanted action.

Dr. Brown moved that the matter be laid on the table pending the report of the Committee on Legislation. The motion was duly seconded but was lost by a vote of 35 ayes to 46 noes.

A motion that the previous question be called for was carried.

Dr. Harris's motion was lost on being put to a vote.

Moved by Dr. Wall that the whole matter lie upon the table. This motion was carried by a vote of 43 ayes to 36 noes.

Consideration was next given to the recommendations contained in the printed reports.

The recommendation of the Council that the House of Delegates request the County Societies to repeal the following by-law, Chapter II., Section 8:

"When a member removes from the State of New York permanently, he shall cease to be a member of the Society and shall forfeit all right and title to any share in the privileges and property of the Society, the District Branch and the Medical Society of the State of New York."

Was adopted.

The following resolutions passed by the House of Delegates of the American Medical Association at the meeting in Chicago in June, 1908, contained in the Report of the Committee on Publication and in the Report of the Secretary were next taken up for consideration:

*"Resolved,* That this Association heartily approves the action of the Board of Trustees in restricting advertisements of medical preparations to those approved by the Council on Pharmacy and Chemistry; and, further

*"Resolved,* That this House of Delegates requests all those State associations which now do or hereafter may publish or control medical journals to restrict their advertisements to such approved preparations, and that the General Secretary be requested to bring this resolution to the attention of all the State associations."

Dr. Jacobi moved the adoption of the resolutions. After considerable discussion motion carried.

An extended discussion arose as to the advisability of continuing the publication of the Medical Directory, during which Dr. Macdonald stated that the Medical Society of the County of Albany had passed the following resolution at a meeting held in December, 1908:

*"Be it Resolved,* That in the future the Medical Directory of the State of New York be published only once in three years, and that an annual appendix of changes in address or new locations be furnished annually to members. Further, that subsequent editions be confined to New York State alone, without registration for New Jersey and Connecticut."

It seemed to be the prevailing opinion that a directory published once in three years would be of very little value after the first year, owing to the number of changes in the larger cities.

Dr. Harris of New York moved to refer the question to the Council.

The discussion was interrupted before the vote could be taken by a motion to adjourn until the following morning at 10.30. Motion carried. House of Delegates adjourned at 12.30 A. M. Tuesday, January 26th.

WISNER R. TOWNSEND, Secretary.

## ADJOURNED MEETING OF HOUSE OF DELEGATES.

The adjourned meeting of the House of Delegates was called to order at 10.30 A. M., Tuesday, January 26, President Root in the chair, Wisner R. Townsend, Secretary.

The minutes of the previous meeting were read and approved.

Moved that the entire report of the Committee on Publication be referred to the Council, after the reading of the report from the Committee on President's Address. Motion carried.

The committee appointed to consider the recommendations in the President's address, reported as follows:

"1st. It would seem desirable that the Chair appoint a committee of three to draw up a statement of the reasons why it is advantageous to members of the profession to join the Society of the County in which they reside and the Medical Society of the State of New York, and that this committee forward such statement to each County Society urging them to make all possible endeavor to increase their membership.

"2nd. The Committee is assured by statements from the Committee on Publication that the Medical Directory and a greatly improved State Journal can be maintained in practically their present form on the present income of the Society and without incurring any deficit to the Society; that the referendum would be a matter of considerable expense, of doubtful value, and therefore inadvisable.

"WISNER R. TOWNSEND, SAMUEL B. WARD, CHARLES JEWETT."

Moved that the report be received and adopted Motion carried.

Dr. Stockton appointed the following: W. F. Campbell, A. W. Hurd, H. B. Nichols.

A motion was made and carried to reconsider the motion of Dr. Wall adopted at the previous meeting in regard to a change in the time and place of meeting.

After a lengthy discussion as to the meaning and effect of the motion as worded, the question was finally settled by the adoption of the following resolution presented by Dr. Foote:

*Resolved,* That the Committee on Legislation, after consultation with the legal adviser of the Society, take such steps as may be necessary to enable the House of Delegates to select the place and time of the annual meeting.

Dr. Macdonald presented the following resolution:

*Resolved,* That the Medical Society of the State of New York, through its House of Delegates in annual convention assembled, respectfully and earnestly petition the Legislature to afford such further appropriations as may be required to increase the capacity of the Hospital for Incipient Tuberculosis at Raybrook to 300 beds.

The resolution was seconded by Dr. Le Fevre and adopted.

Dr. Long moved that a committee of three, to be known as the Committee on United States Pharmacopœia, be appointed by the chair, whose duty it shall be to invite, receive and digest suggestions and criticisms in relation to the United States Pharmacopœia and report at the next meeting. Motion carried.

Dr. Long moved that the communication from the New York Branch of the American Pharmaceutical Association be taken from the table and referred to the Committee on United States Pharmacopœia. Motion carried.

*Election of Officers.*

*President.*—Dr. Sturgis nominated Dr. Charles G. Stockton of Buffalo. Dr. Roe nominated Dr. Edward W. Mulligan of Rochester. Dr. von Zierolshofen nominated Dr. Townsend, who declined. Dr. Howk seconded the nomination of Dr. Mulligan. Dr. Skinner and Dr. Fisher seconded the nomination of Dr. Stockton.

It was moved that nominations be closed and the chair appointed tellers to collect and count the ballots. While this was being done it was moved that the House proceed to the selection of a

*First Vice-President.*—Dr. Thompson nominated Dr. D. C. Moriarta of Saratoga Springs. Dr. Todt nominated Dr. J. K. Stockwell of Oswego. Tellers were appointed to collect and count the ballots while the House proceeded to select a

*Second Vice-President.*—Dr. Jones nominated Dr. James H. Glass of Utica. There being no other nominees the By-Laws were suspended by unanimous consent and the Secretary was instructed to cast one ballot for Dr. Glass, who was declared duly elected Second Vice-President for the ensuing year.

*Third Vice-President.*—Dr. O. F. Kinloch nominated Dr. J. B. Harvie of Troy. The By-Laws were suspended by unanimous consent and the Secretary was instructed to cast one ballot for Dr. Harvie, who was declared duly elected Third Vice-President for the ensuing year.

The tellers reported total vote 80, 68 for Dr. Stockton for President, 11 for Dr. Mulligan and 1 for Dr. Townsend. It was moved that Dr. Stockton's election be made unanimous and he was declared unanimously elected President for the ensuing year.

The tellers reported total vote 77, 48 for Dr. Moriarta for First Vice-President, and 29 for Dr. Stockwell. Dr. Moriarta was declared duly elected First Vice-President for the ensuing year.

The following officers were unanimously re-elected:

*Secretary.*—Dr. Wisner R. Townsend of New York.

*Treasurer.*—Dr. Alexander Lambert of New York.

*Chairman Committee on Public Health.*—Dr. John L. Heffron of Troy.

*Chairman Committee on Arrangements.*—Dr. W. J. Nellis of Albany.

*Chairman Committee on Scientific Work.*—Dr. Leo H. Neuman of Albany received 50 votes, Dr. W. J. Nellis 7—Total, 57 votes cast. Dr. Neuman declared elected.

*Chairman Committee on Legislation.*—Dr. Frank Van Fleet of New York received 47, Dr. Bartley 8. Total vote cast, 55. Dr.Van Fleet was declared elected.

*Delegates to the American Medical Association.*—Dr. Floyd M. Crandall of New York was unanimously elected a delegate for one year to succeed Dr. Wisner R. Townsend.

*Six Delegates for Two Years.*—The following were elected: Dr. A. T. Bristow 54, Dr. Charles Jewett 47, Dr. W. S. Ely 46, Dr. E. H. Bartley 33, Dr. H. L. Elsner 48, Dr. J. E. Sadlier 35. Not elected: W. L. Carr 20, C. A. Wall 32. Total votes cast, 58.

*Five Alternates for Two Years.*—Dr. J. A. Fordyce 25, Dr. J. P. Warbasse 25, Dr. E. M. Foote 23, Dr. W. T. Mulligan 22, Dr. C. G. Rossman 22. Not elected: L. Burrows, Jr., 21, S. J. McNamara 21, A. H. Terry 8. Total vote cast, 34.

The minutes were read and approved and the House of Delegates declared adjourned *sine die* at 12.45 P. M.

WISNER R. TOWNSEND, Secretary.

## MEDICAL SOCIETY OF THE STATE OF NEW YORK.

103d Annual Meeting.

Tuesday Morning, January 26th.

The meeting was called to order in the Common Council Chamber, City Hall, at 9 A. M. Dr. A. G. Root, President, in the chair. Rev. Dr. Kittell offered an invocation, following which the delegates from other State societies were received. From Connecticut, Dr. L. W. Bacon, of New Haven; from Massachusetts, Dr. Carl A. Allen, of Holyoke.

The Secretary, Dr. Wisner R. Townsend, read the minutes of the previous annual meeting, omitting the Scientific Program. Moved, seconded and carried that they be approved as read. The address of the President was then read. See page 33.

The Scientific Program, which will be found in the January issue of the JOURNAL on page 17, was carried out with the following additions and changes of titles:

"Procidentia Uteri," by W. M. Polk, New York. Not read.

"The Exercise of Descending in the Treatment of Disease," Heinrich Stern, New York.

"A Further Report on Basal Fractures Treated by Subtemporal Decompression," Harvey Cushing, Baltimore, Md. Not read.

"A Brief Review of the Applications of Roentgen Rays in Diagnosis," E. W. Caldwell, New York.

And the following omissions:

"Voluntary Patients in State Hospitals from a Legal Standpoint," Hon. John Lord O'Brien, Buffalo.

"Some Surgical Considerations on the Treatment of Acute Hemorrhagic Pancreatitis," C. C. McMullen, Schenectady.

On Tuesday, January 26th, after the reading of the paper by Dr. Gehrung, Dr. Boldt introduced with request for approval the following resolutions on Ophthalmia Neonatorum: Motion to refer same to House of Delegates seconded and carried.

"WHEREAS, It is impossible for the Central Committee to reach every physician individually, or to directly acquaint itself with the needs of each particular locality, and

"WHEREAS, The movement to eradicate ophthalmia neonatorum is one of national and international importance, and

"WHEREAS, Movements are already under way to check this evil, be it

*"Resolved,* That this Society appoint a State Committee, the members of which shall not belong to the Central Committee, and that this Committee shall put itself in communication with the State Board of Health and with each County Society to adopt a method to put a stop to ophthalmia neonatorum.

*"Resolved,* That it be recommended that the State shall make sufficient appropriation to the State Board of Health to put necessary enactments into force, and to prosecute their violations.

*"Resolved,* That a law be passed compelling persons practicing midwifery to use such prophylactic as may be recommended by the State Board of Health. Neglect of this to be prosecuted as a misdemeanor, except the person be a physician who does give a valid reason for the omission, acceptable to the Board of Health or its Committee of the County Society to which he belongs.

*"Resolved,* That ophthalmia neonatorum be placed on the list of communicable diseases, by the State Board of Health, and by all the local Boards of Health.

*"Resolved,* That every case of ophthalmia neonatorum be reported by any one to whose knowledge it may come, to the Board of Health within 24 hours of the first symptoms of its manifestation. Neglect to be prosecuted as a misdemeanor.

*"Resolved,* That energetic, concentrated and well ordered action be urged and taken at once by this State Society, and that it work in harmony with the Central Committee of the American Medical Association and the State Board of Health.

*"Resolved,* That a copy of these resolutions be forwarded to the Chairman of the Central Committee of the American Medical Association, Dr. Park Lewis of Buffalo."

WISNER R. TOWNSEND, Secretary.

# County Societies

## MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

REGULAR MEETING, JANUARY 14, 1908.

*Program.*

BUSINESS SESSION.

The question of establishing a County Laboratory for Allegany County was discussed and a committee appointed to place the matter before the Board of Supervisors.

Dr. Geo. H. Witter, of Wellsville, Senator from this district was appointed to represent the Committee on Legislation and the anti-vivisection question was referred to him.

Drs. J. C. Young, of Cuba; H. L. Hulett, of Allentown; F. H. Van Orsdale, of Belmont, and C. R. Bowen, of Almond, were appointed a committee to present the claims of the Society for a Bacteriological Laboratory to the Board of Supervisors.

Drs. H. L. Hulett, of Allentown; L. C. Lewis, of Belmont, and Geo. Roos, of Wellsville, were appointed a Committee on Public Health.

SCIENTIFIC SESSION.

Dr. John Conway, of Rexville, gave a very interesting talk on tuberculosis and presented the good points in favor of a state sanitarium in this part of the state.

The new tuberculosis law of the state was discussed.

"Eliminant Drugs," Geo. W. Roos.

## MEDICAL SOCIETY OF THE COUNTY OF CLINTON.

REGULAR MEETING AT PLATTSBURG, NOVEMBER 24, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected: President, A. W. Fairbank, Chazy; Vice-President, E. A. Barnes, Plattsburg; Secretary, T. J. Cummins, Plattsburg; Treasurer, J. G. McKinney, Plattsburg.

SCIENTIFIC SESSION.

President's Address, W. C. Thompson.

"Pyonephrosis," with report of case, A. W. Fairbank.

"Ectopic Gestation," with report of three cases, T. J. Cummins.

"Our System of Education and its Effect on Health of Pupils," E. A. Barnes.

## MEDICAL SOCIETY OF THE COUNTY OF HERKIMER.

ANNUAL MEETING, DECEMBER 1, 1908.

*Program.*

The following officers were elected for 1909: President, Elmer G. Kern, Herkimer; First Vice-President, George H. Smith, Little Falls; Second Vice-President, William B. Brooks, Mohawk; Third Vice-President, Fred B. Casey, Mohawk; Secretary, A. Walter Suiter, Herkimer; Treasurer, Geo. Graves, Herkimer; Librarian, Harry W. Vickers; Censors, W. D. Garlock, O. H. Deck, C. H. Glidden, S. S. Richards, C. J. Diss; Delegate to the Medical Society of the State of New York, L. L. Brainard; Alternate, C. B. Trafford; Delegate to the Fifth District Branch, A. B. Santry; Alternate, E. W. Rude.

## THE MEDICAL SOCIETY OF THE COUNTY OF WARREN.

ANNUAL MEETING, JANUARY 13, 1909.

*Program.*

BUSINESS SESSION.

The following officers were elected: President, A. E. Barber, Glens Falls; Vice-President, J. A. Bean, Lake George; Secretary-Treasurer, G. A. Chapman, Glens Falls; Delegate to the Fourth District Branch, M. LeR. Haviland.

SCIENTIFIC SESSION.

*Symposium on Tuberculosis.*

"The Scope of the Sanitarium in the Treatment of Tuberculosis," A. H. Garvin.

"The Home and Dispensary Treatment of Tuberculosis," H. W. Carey.

"Some of the Problems and Preventions of Tuberculosis," H. D. Pease, State Department of Health, Albany, N. Y.

## MEDICAL SOCIETY OF THE COUNTY OF JEFFERSON.

ANNUAL MEETING, JANUARY 14, 1909.

*Program.*

The following officers were elected: President, F. B. Smith, Watertown; Vice-President, Geo. E. Sylvester, Black River; Secretary, Chas. E. Pierce, Watertown; Treasurer, J. D. Olin, Watertown; Censors, H. A. Hoyt, E. A. Chapman, I. M. Meader, E. E. Eddy and W. A. Vincent; Delegate to the House of Delegates for two years, F. R. Calkins; Delegate to the House of Delegates for one year, Geo. E. Sylvester.

## THE MEDICAL SOCIETY OF THE COUNTY OF ONEIDA.

ANNUAL MEETING, JANUARY 12, 1909.

*Program.*

BUSINESS SESSION.

An amendment to the By-Laws was proposed which will change the Meeting to December.

The following officers were elected: President, G. M. Fisher, Utica; Vice-President, F. D. Crim, Utica; Secretary, W. B. Roemer, Utica; Treasurer, R. L. Baker, Utica; Librarian, Smith Baker, Utica; Censors, F. J. Douglas, H. G. Jones, E. D. Fuller, T. H. Farrell and Charles Bernstein.

## MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS.

ANNUAL MEETING, JANUARY 13, 1909.

*Program.*

BUSINESS SESSION.

The following resolution was brought before the Society for consideration, but after a discussion no action was taken:

WHEREAS, We consider it impractical and impossible for a county the size of Dutchess or smaller to secure the enforcement of the laws regulating the practice of medicine;

*Resolved*, That our Delegates to the State Society be directed to bring this matter to the attention of the House of Delegates at the coming meeting with the intent that the enforcement of such laws be assumed by the State Society.

The following officers were elected: President, W. J. Conklin, Fishkill; Vice-President, J. W. Poucher, Poughkeepsie; Secretary, F. J. Mann, Poughkeepsie; Treasurer, L. C. Wood, Poughkeepsie; Censors, R. K. Tuthill, J. H. Cotter, D. H. MacKenzie; Delegates to State Society, I. D. LeRoy, I. G. Harris; Alternates, J. C. Otis, J. E. Sadlier; Delegate to District Branch, M. M. Lown; Alternate, W. S. Ackert.

Chairmen of committees appointed: Library, A. L. Peckham; Public Health, I. G. Harris; Legislature, J. S. Wilson.

## MEDICAL SOCIETY OF THE COUNTY OF ERIE.

ANNUAL MEETING AT BUFFALO, DECEMBER 21, 1908.

*Program.*

BUSINESS SESSION.

The meeting was called to order by the president, Edward Clark, and after the reading of minutes of last meeting the following officers were elected for 1909 President, Charles A. Wall, Buffalo; First Vice-President, Grover W. Wende, Buffalo; Second Vice-President, Bernard Cohen, Buffalo; Secretary, Franklin C. Gram, Buffalo; Treasurer, Albert T. Lytle, Buffalo; Censors, De L. Rochester, John H. Grant, F. E. Fronczak, W. D. Greene and G. L. Brown; Delegates to the State Society for the years 1909 and 1910, Chas. A. Wall, Edward Clark, Thomas H. McKee, Arthur G. Bennett and Eli H. Long.

Eleven new members were elected and the Chairman

of the Membership Committee announced that 48 others had been elected during the year, a total of 59; also that 48 had been reinstated, making a total of 107 new members for 1908.

Dr. Henry R. Hopkins having served as a Censor of the Society for a period of forty years, it was resolved that the Council be directed to procure a suitable gift, in their discretion, in recognition of his services. A hearty vote of thanks was also extended to Dr. Hopkins, and his name was proposed for honorary membership.

The Treasurer's report shows:

| | |
|---|---|
| Receipts during the year | $2,219.56 |
| Disbursements | 1,627.87 |
| State assessment | 1,122.00 |

| | |
|---|---|
| Total membership December 31, 1908 | 307 |
| Died | 4 |
| Removed | 1 |

The following resolution was unanimously adopted:

*Resolved*, That the Medical Society of the County of Erie instruct its Delegates to present the name of Dr. Charles G. Stockton, of Buffalo, for the Presidency of the Medical Society of the State of New York, and to use all honorable means to procure his election.

A special committee appointed to agitate the question of a Municipal Hospital for Contagious Diseases reported that several meetings had been held, various civic associations had been enlisted in the movement for such hospital, public hearings were held, and finally the City Council was prevailed upon to look favorably upon the project to the extent of authorizing the presentation of a bill to the State Legislature whereby the city of Buffalo might be permitted to bond itself in the sum of $250,000 for the purpose of constructing a Municipal Hospital for the care of Contagious Diseases.

SCIENTIFIC SESSION.

"The New Fulguration Treatment of Cancer," Roswell Park.

"Papilloma of the Bladder," Earl P. Lothrop.

"Treatment of Congenital Argamblyopia," W. L. Phillips.

"Surgical Treatment of Acute Pancreatitis," E. J. Meyer.

"Lumbar Punctures," L. S. Beals.

"Immunity," N. K. McLeod.

## RICHMOND COUNTY MEDICAL SOCIETY.

REGULAR MEETIG, JANUARY 13, 1909.

*Program.*

"The Management of Labor," Max Kruger and Walter Washington, which was followed by a general discussion. After the meeting a collation was served which was greatly enjoyed by the members.

## MEDICAL SOCIETY OF THE COUNTY OF NIAGARA.

ANNUAL MEETING AT LOCKPORT, JANUARY 15, 1909.

*Program.*

BUSINESS SESSION.

The following officers were elected: President, Charles L. Preisch, Lockport; Vice-President, J. Glenn Ernest, Gasport; Secretary, John H. Miller, Niagara Falls; Treasurer, Walter A. Scott, Niagara Falls; Censors, H. H. Mayne, F. J. Baker, F. Guillemont.

## MEDICAL SOCIETY OF THE COUNTY OF WYOMING.

REGULAR MEETING AT CASTILE, JANUARY 12, 1909.

*Program.*

BUSINESS SESSION.

A committee of three was appointed to interview the Assemblyman from Wyoming County relative to proposed changes in the laws regulating vivisection.

SCIENTIFIC SESSION.

"Myocardial Degeneration," J. E. Walker.

"Cardiac Hypertrophy," Geo. H. Peddle.

"Syphilis of the Nervous System," Floyd S. Crego.

## MEDICAL SOCIETY OF THE COUNTY OF ORANGE.

ANNUAL MEETING AT GOSHEN, JANUARY 5, 1909.

*Program.*

BUSINESS SESSION.

The following officers were elected: President, C. W. Dennis, Goshen; Vice-President, W. J. Carr, Newburgh; Secretary, H. L. Winter, Cornwall; Treasurer, H. J. Shelley, Middletown; Censors, W. S. Gleason, J. I. Cotter, W. L. Cuddeback and Theodore Writer; Delegate to State Society, M. A. Stivers; Delegate to First District Branch, W. S. Gleason; Committee on Public Health, A. W. Preston, F. W. Dennis and D. H. Sprague; Committee on Legislation, Chas. I. Redfield, J. T. Howell, R. F. Medrick and J. D. Brownell.

A memorial was read to the late Dr. E. D. Woodhull by Dr. M. C. Connors.

SCIENTIFIC SESSION.

President's Address, M. A. Stivers.

Remarks on the Emmanuel Movement, H. L. Winter.

Report of six cases of Pneumonia treated by open air method, W. S. Gleason.

## MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

REGULAR MEETING, JANUARY 20, 1909.

*Program.*

"The Treatment of Heart and Blood Vessel Disease in the Light of Blood Pressure Measurement," Louis F. Bishop.

After the meeting a buffet lunch was served by the Schenectady County Medical Society, which was enjoyed by all present.

## MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.

REGULAR MEETING HELD AT TROY, JANUARY 12, 1909.

*Program.*

BUSINESS SESSION.

The President appointed Committees on Legislation, Public Health, Membership, Program and Refreshment, committees to serve during the coming year.

SCIENTIFIC SESSION.

"Past and Present Management of Conditions Associated with Prostatic Hypertrophy." D. W. Houston.

"Discussion of Prostatic Diseases," J. B. Harvie and C. E. Nichols.

## MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

REGULAR MEETING, JANUARY 13, 1909.

*Program.*

"The Treatment of the Suppurative Conditions of the Accessory Nasal Sinuses," Clement F. Theisen. Discussion opened by Arthur G. Root.

"Mastoiditis, Symptoms and Treatment," Arthur J. Bedell.

"Sinusitis—The exploration of Sinuses with Bismuth and the X-Ray," illustrated by the stereopticon, Arthur Holding.

## MEDICAL SOCIETY OF THE COUNTY OF CATTARAUGUS.

ANNUAL MEETING, SALAMANCA, JANUARY 5, 1909.

*Program.*

BUSINESS SESSION.

The following resolutions were passed:

*Resolved*, That the Tri-County Medical Society (Cattaraugus, Allegany and McKean) meeting be held at Rock City, July next.

*Resolved*, That the old committee, with Secretary added, continue with the arrangements.

*Resolved*, That the Medical Society of the County of Cattaraugus hereby approves of the establishment of a Biological Laboratory for the County of Cattaraugus to be located in the city of Olean.

The above motion was amended to read:

"That the President appoint a committee of three who

shall report at the next meeting of the Society on the desirability of the establishment of a Bacteriological Laboratory in the County, such report to include items as to cost of instalment and maintenance, and the committee shall also report as to the most desirable location for such a laboratory."

*Resolved*, That the question of a Tuberculosis Sanitarium be included in the above report.

*Resolved*, That the next meeting be held at Gowanda.

*Resolved*, That communication from the State Secretary in regard to change of date of annual meeting be acted upon at the next meeting.

The following committees were appointed:

Committee on Arrangement for Tri-County Meeting, Edward Torrey, Olean; J. H. Taggert, Salamanca; J. E. K. Morris, Olean; Benj. Van Campen, Olean. County Laboratory Committee, A. D. Lake, Chairman, Gowanda; Edward Torrey, Olean; Frederick C. Beals, Salamanca.

The following officers were elected: President, W. W. Jones, Dayton; Vice-President, A. D. Lake, Gowanda; Secretary-Treasurer, Benjamin Van Campen Olean; Historian A. D. Lake; Attorney, G. W. Cole. Censors, S. S. Bedient, A. D. Lake, Edward Torrey, F. C. Beals and Charles Kelley.

SCIENTIFIC SESSION.

"The Early Diagnosis and Management of Pulmonary Tuberculosis," A. D. Lake.

"Acute Bright's Disease," Edward Torrey.

## CHENANGO COUNTY MEDICAL SOCIETY.

ONE HUNDRED FOURTH ANNUAL MEETING, JANUARY 12, 1909.

*Program.*

BUSINESS SESSION.

The matter of the change of date of the annual meeting was taken up. It was found that since the date is fixed by the By-Laws the latter would have to be amended. Chapter III, Section 1.—An amendment provides that written notice of a proposed amendment must be presented at the annual meeting preceding the (annual) meeting at which it is to be acted upon. This was taken to mean that the date cannot be changed until after the next annual meeting.

The following officers were elected: President, Frank Preston, Greene; Vice-President, Albert H. Evans, Guilford; Secretary, Paul B. Brooks, Norwich; Treasurer, James B. Drake, Norwich.

SCIENTIFIC SESSION.

President's Address, J. Van A. Jacobs.

"The Comparative Value of the Tuberculin Tests, with Special Consideration of the Ophthalmic," Henry L. Elsner.

"Three Cases of Unrecognized Fracture of the Forearm and Wrist," Diagnosed by Roentgen Ray, D. R. Bowen.

"Afebrile Typhoid"—Report of a Case, Lewis A. Van Wagner.

## MEDICAL SOCIETY OF THE COUNTY OF FRANKLIN.

SIXTY-SECOND ANNUAL MEETING HELD AT MALONE, JANUARY 12, 1909.

*Program.*

BUSINESS SESSION.

The meeting of the Comitia Minora was called at 11 A. M. The Society was called to order at 11.30.

A communication from the State Secretary was read asking the Society to change the date of its annual meeting to some time in December. After some discussion an amendment to the By-Laws was offered to change the date from the second Tuesday in January to the second Tuesday in December.

A communication was read from Dr. Frank Van Fleet, Chairman of the State Legislature Committee, in regard to anti-vivisection legislation. By vote of the Society it was referred to the local Legislative Committee.

A communication was read from the Medical Society of the County of Genesee in opposition to the continued publication of the Medical Directory of New York, New Jersey and Connecticut.

Communications were read from the Medical Societies of New York and Westchester favoring the continued publication of the Directory and asking this Society to instruct its Delegate to vote for its continuance. After a little discussion a resolution was passed instructing the Delegate to confer with different members of the House of Delegates from different parts of the state and then vote according to his best judgment.

The Secretary reported that there were yet four physicians practicing in the county who had not signed the "provisional agreement" in regard to life insurance medical examination fees. By vote of the Society, a resolution was passed instructing the Secretary to send a personal letter to all the physicians who had signed the "provisional agreement" stating to them that in the opinion of this Society the number (only four) that has failed to sign is too small to interfere with the purposes of this movement, enclose a slip containing an agreement not to examine risks for any life insurance company which pays less than five dollars ($5) for a complete examination, including chemical examination of the urine, except so-called fraternal organizations, and ask each to sign it.

The following officers were elected. President, A. E. Moody, Dickinson Centre; Vice-President, E. R. Baldwin, Saranac Lake; Secretary-Treasurer, G. M. Abbott, Saranac Lake; Censor, G. H. Oliver; Alternate to State Society, H. S. Goodall.

The following committees were appointed:

Legislation, Drs. J. A. Grant, Chairman, H. Furness and E. S. McClellan.

Public Health, Drs. H. Furness, Chairman, H. S. Goodall and G. M. Abbott.

A Milk Commission was also appointed consisting of Drs. E. S. McClellan, Chairman, E. R. Baldwin, D. C. Twitchell, H. Furness and P. F. Dolphin

SCIENTIFIC SESSION.

President's Annual Address, P F. Dolphin.

"Dacryo-Cystitis," J. A. Grant.

"Tuberculosis in Children," H. S. Goodall.

"Tubercular Laryngitis," A. A. La Vigne.

"General Paralysis of the Insane," H. Furness.

## FULTON COUNTY MEDICAL SOCIETY.

ANNUAL MEETING AT JOHNSTOWN, JANUARY 21, 1909.

*Program.*

BUSINESS SESSION.

An amendment was introduced changing the date of the annual meeting from the second Thursday in January to the second Thursday in December. The same will be acted upon at the next annual meeting.

The following officers were elected for 1909: President, E. A. Stapleton, Johnstown; Vice-President, L. H. Finch, Broadalbin; Secretary, S. C. Clemans, Gloversville; Treasurer, D. V. Still, Johnstown; Censors, C. B. Walrad, M. Somers, Charles M. Lefler.

SCIENTIFIC SESSION.

"Leukemia," with exhibit of pathological specimens, L. H. Finch.

After the meeting a very enjoyable luncheon was served and the meeting adjourned subject to the call of the President.

## SENECA COUNTY MEDICAL SOCIETY.

ANNUAL MEETING, OCTOBER 8, 1908.

*Program.*

The following officers were elected: President, R. E. Doran, Willard; Vice-President, F. W. Lester, Seneca Falls; Secretary, Erving Holley, Willard; Treasurer, Robert Knight, Seneca Falls; Censors, J. F. Crosby, J. S. Carman, C. S. Barnes; Delegate to State Society, L. W. Bellows; Alternate, C. B. Bacon; Delegate to Seventh District Branch, R. M. Elliott; Alternate, C. L. Carlisle.

## OSWEGO COUNTY MEDICAL SOCIETY.

ANNUAL MEETING IN OSWEGO, NOVEMBER 17, 1908.

*Program.*

BUSINESS SESSION.

The following officers were elected: President, Pascal M. Dowd, Oswego; Vice-President, E. J. Cusack, Fulton; Secretary, William C. Todt, Oswego; Treasurer, Chas. J. Bacon, Fulton; Censors, S. A. Russell, J. K. Stockwell, F. E. Fox, LeR. F. Hollis, H. P. Marsh; Delegate to State Society, Wm. C. Todt; Delegate to Fifth District Branch, L. Fowler Joy.

A resolution was passed that the publication of the Medical Directory of New York, New Jersey and Connecticut be continued by the State Society.

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## ONTARIO COUNTY MEDICAL SOCIETY.

QUARTERLY MEETING AT CANANDAIGUA, JANUARY 12, 1909.

*Program.*

BUSINESS SESSION.

Seven applications were presented for membership.

SCIENTIFIC SESSION.

"Conservation or Lactation," G. W. McClellan.
"Autointoxication," P. M. Donovan.
"Diagnosis and Treatment of Acute Labyrinthitis," G. F. Cott.

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# LEGISLATIVE NOTES.

## STANDING COMMITTEES OF THE ASSEMBLY FOR 1909.

ON AFFAIRS OF CITIES—F. W. Hammond, Onondaga Co., J. L. Whitley, Monroe Co., C. F. Murphy, Kings Co., W. A. DeGroot, Queens Co., J. L. O'Brian, Erie Co., B. R. Robinson, New York Co., W. I. Lee, Kings Co., R. S. Conklin, New York Co., H. W. Haines, Westchester Co., W. E. Nolan, Albany Co., A. E. Smith, New York Co., T. D. Geoghegan, Kings Co., J. A. Foley, New York Co.

ON THE JUDICIARY—J. S. Phillips, Allegany Co., E. W. Hamn, Wayne Co., J. M. Fowler, Ulster Co., O. J. Weimert, Erie Co., G. A. Green, Kings Co., J. H. Walters, Onondaga Co., Ottamus Ward, Jr., New York Co., F. L. Howard, Tioga Co., C. W. Phillips, Monroe Co., J. L. Sullivan, Chautauqua Co., J. V. Sheridan, New York Co., A. Stern, New York Co., W. Klein, Queens Co.

ON PUBLIC HEALTH—G. H. Wood, Jefferson Co., W. F. Lee, Kings Co., C. F. Brown, Cortland Co., Ottamus Ward, Jr., New York Co., F. R. Toombs, New York Co., G. W. Brown, Kings Co., J. L. Miller, Steuben Co., J. J. McInerney, Monroe Co., E. P. Costello, Erie Co., I. J. Joseph, New York Co., P. J. McGrath, New York Co.

ON RULES—J. W. Wadsworth, Jr., Speaker, Livingston Co., E. A. Merritt, St. Lawrence Co., J. S. Phillips, Allegany Co., B. R. Robinson, New York Co., D. D. Frisbie, Schoharie Co., James Oliver, New York Co.

## STANDING COMMITTEES OF THE SENATE FOR 1909.

ON AFFAIRS OF CITIES—H. D. Hinman, G. A. Davis, G. L. Meade, F. M. Davenport, E. M. Travis, J. T. Newcomb, H. S. Holden, J. B. Rose, John Raines, P. H. McCarren, S. J. Ramsperger, J. J. Frawley, T. F. Grady

ON JUDICIARY—G. A. Davis, J. P. Allds, G. H. Cobb, H. D. Hinman, W. J. Grattan, J. M. Wainwright, G. L. Meade, J. F. Schlosser, John Raines, P. H. McCarren, R. F. Wagner, G. M. S. Schulz, T. F. Grady.

ON PUBLIC HEALTH—G. H. Witter, F. C. Platt, John Kissel, C. J. White, A. W. Burlingame, Jr., G. M. S. Schulz, W. J. A. Caffrey.

ON RULES—John Raines, J. P. Allds, T. F. Grady.

## BILLS INTRODUCED INTO THE LEGISLATURE.

January 6 to January 23, 1909.

IN ASSEMBLY.

An Act to authorize the State Commission in Lunacy to proceed with certain improvements at state hospitals for insane. By Mr. Merritt. To Ways and Means Committee. Printed No. 75. Int. 75.

An Act to amend Greater New York Charter by adding a new subdivision 12 to section 692, relative to ambulance surgeons. By Mr. Spielberg. To Cities Committee. Printed No. 85. Int. 85.

An Act to amend section 620 Greater New York Charter, relative to Harlem river improvements and creation of playground under jurisdiction of Commissioner of Parks of Manhattan and Richmond. By Mr. Cuvillier. To Cities Committee. Printed No. 92. Int. 92.

An Act to promote health and efficiency of policemen in cities of first and second class. By Mr. Francis. To Cities Committee. Printed No. 98. Int. 98.

An Act to amend section 188 of the Agricultural Law, relative to packages and barrels to be used in selling apples and pears. By Mr. Brady. To Agriculture Committee. Printed No. 106. Int. 106.

An Act relative to perpetual care of private cemetery lots, and defining and declaring charitable uses in relation thereto. By Mr. Whitney. To General Laws Committee. Printed No. 120. Int. 120.

An Act to amend generally chapter 103 of Laws 1903, relative to appropriation by town board, town of Oneonta, of certain moneys to Aurelia Osborn Fox Memorial Hospital Society of Oneonta. By Mr. Chas. Smith. To Internal Affairs Committee. Printed No. 124. Int. 124.

An Act to authorize the city of Elmira to accept from Charles E. Rapelyea and Alice Spaulding Rapelyea a gift of certain lands with hospital fully equipped for treatment of tuberculosis patients. By Mr. Lowman. To Cities Committee. Printed No. 129. Int. 129.

An Act to amend chapter 646 of Laws of 1905, relative to sanitary trunk sewer and sanitary outlet in county of Westchester. By Mr. Haines. To Internal Affairs Committee. Printed No. 134. Int. 134.

An Act to legalize dock bonds of the town of North Hempstead, County of Nassau. By Mr. W. G. Miller. To Internal Affairs Committee. Printed No. 136. Int. 136.

An Act to amend the Public Health Law by adding a a new section, 218-b, relative to manufacture and sale of proprietary medicines. By Mr. Gluck. To Public Health Committee. Printed No. 152. Int. 152.

An Act to amend the Penal Code, by adding a new section, 408-b, relative to cigar making. By Mr. Gluck. To Codes Committee. Printed No. 155. Int. 155.

An Act to amend the Greater New York Charter by adding a new title, 5, relative to street improvements in certain wards of the city and raising money, and levy and collections of special assessments therefor. By Mr. Clarke. To Cities Committee. Printed No. 172. Int. 172.

An Act for the improvement and regulation of stock yards. By Mr. Murray. To Agriculture Committee. Printed No. 176. Int. 176.

An Act to repeal chapter 638 of the Laws of 1903, relative to establishment of hospitals or camps for treatment of pulmonary tuberculosis. By Mr. McGrath. To Public Health Committee. Printed No. 183. Int. 183.

An Act to add new subdivision 5 to section 334 of the Criminal Code, and to amend sections 336 and 339, relative to plea and defense of insanity. By Mr. Murray. To Codes Committee. Printed No. 189. Int. 189.

An Act to amend the Agricultural Law by adding new section 189, relative to baskets used in purchase and sale of plums, cherries, currants, gooseberries. By Mr. Jordan. To Agriculture Committee. Printed No. 190. Int. 190.

An Act amending chapter 105 of Laws of 1891, entitled "An Act to revise the charter of the city of Buffalo," in relation to city physicians. By Mr. O'Brian. To Cities Committee. Printed No. 202. Int. 202.

An Act to promote the commerce and improve the terminal facilities of the harbors of New York, Buffalo, Oswego and Whitehall, and making an appropriation therefor. By Mr. MacGregor. To Ways and Means Committee. Printed No. 203. Int. 203.

An Act to amend chapter 348 of the Laws of 1885, entitled "An Act to authorize the appointment of stenographers for grand juries, and to fix the compensation of such stenographers," relative to the appointment of stenographers to take evidence before grand juries and at coroners' inquests and examinations and trials of criminal cases. By Mr. McInerney. To Internal Affairs Committee. Printed No. 205. Int. 205.

An Act to amend sections 172, 177 and 179, and to repeal section 179-e, and to add new section 179-e, Public Health Law, relative to the practice of veterinary medicine. By Mr. Lewis. To Public Health Committee. Printed No. 221. Int. 221.

An Act to amend section 1570 of the Greater New York Charter, by incresing the number of coroners to be elected in Brooklyn from two to four. By Mr. Gluck. To Cities Committee. Printed No. 226. Int. 226.

An Act relative to Bellevue and allied hospitals, city of New York. By Mr. Spielberg. To Cities Committee. Printed No. 233. Int. 233.

An Act to confirm a certain deed of conveyance made by the Roman Catholic Sisters of Charity of Brooklyn to the Roman Catholic Orphan Asylum Society of Brooklyn. By Mr. McKeon. To Charitable and Religious Societies Committee. Printed No. 237. Int. 237.

An Act making an appropriation for the Rome State Custodial Asylum. By Mr. Edwards. To Ways and Means Committee. Printed No. 238. Int. 238.

An Act to amend chapter 953, Laws of 1895, relative to cutting and harvesting ice in Hudson river, and rights of owners or occupants of lands adjacent thereto or to Catskill creek. By Mr. Murray. To General Laws Committee. Printed No. 254. Int. 254.

An Act to authorize the selection, location and appropriation of certain lands in the town of Saratoga Springs for a state reservation and to preserve the natural mineral springs therein, and appropriating $1,000,000 therefor. By Mr. Whitney. To Ways and Means Committee. Printed No. 256. Int. 256.

An Act to complete construction of necessary dike or dikes for the protection of property adjacent to the Delaware river in the city of Port Jervis, and appropiating $35,000 therefor. By Mr. Evans. To Ways and Means Committee. Printed No. 268. Int. 267.

An Act to amend chapter 684, Laws of 1906, relative to compensation of officers and employees in state reformatories. By Mr. Lowman. To Ways and Means Committee. Printed No. 269. Int. 268.

An Act to amend the Agricultural Law by adding new section 64-a, relative to destruction of diseased domestic animals. By Mr. Baumes. To Agriculture Committee. Printed No. 276. Int. 275.

An Act to provide a survey and plans for acquisition of harbor terminals in the port of New York by construction of an artificial waterway between Flushing and Jamaica bays, and appropriating $2,000 therefor. By Mr. De Groot. To Ways and Means Committee. Printed No. 278. Int. 277.

An Act to amend section 7, article 1, of the Constitution, relative to drainage of private lands. By Mr. Hamn. To Judiciary Committee. Printed No. 280. Int. 279.

IN SENATE.

An Act in relation to agriculture, constituting chapter 1, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 1. Int. 1.

An Act relative to benevolent orders, constituting chapter 2, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 3. Int. 3.

An Act relative to counties, constituting chapter 11, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 8. Int. 8.

An Act relative to estates of deceased persons, chapter 13, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 10. Int. 10.

An Act relative to domestic relations, constituting chapter 14, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 11. Int. 11.

An Act relative to drainage, constituting chapter 15, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 12. Int. 12.

An Act relative to education, constituting chapter 16, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 13. Int. 13.

An Act relative to cities, constituting chapter 21, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 18. Int. 18.

An Act relative to the insane, constituting chapter 27, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 24. Int. 24.

An Act relative to insurance corporations, constituting chapter 28, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 25. Int. 25.

An Act relative to labor, constituting chapter 31, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 28. Int. 28.

An Act relative to the traffic in liquors and for the taxation and regulation of the same and providing for local option, constituting chapter 34, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 31. Int. 31.

An Act relative to membership corporations, constituting chapter 35, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 32. Int. 32.

An Act relative to providing for the punishment of crime, constituting chapter 40, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 37. Int. 37.

An Act relative to personal property, constituting chapter 41, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 38. Int. 38.

An Act relative to the poor, constituting chapter 42, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 39. Int. 39.

An Act relative to prisons, constituting chapter 43, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 40. Int. 40.

An Act relative to public health, constituting chapter 45, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 42. Int. 42.

An Act relative to state boards and commissions, constituting chapter 54, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 51. Int. 51.

An Act relative to state charities, constituting chapter 55, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 52. Int. 52.

An Act relative to tenement houses, constituting chapter 61, Consolidated Laws. By Mr. Davis. To Judiciary Committee. Printed No. 58. Int. 58.

An Act to amend Code of Civil Procedure generally. By Mr. Davis. To Judiciary Committee. Printed No. 63. Int. 63.

An Act to promote the health and efficiency of policemen in cities of the first and second class. By Mr. Brough. To Cities Committee. Printed No. 73. Int. 73.

An Act to authorize State Commission in Lunacy to proceed with certain improvements at state hospitals for insane and making appropriations. By Mr. Raines. To Finance Committee. Printed No. 90. Int. 90.

An Act to amend chapter 40, Laws of 1904, relative to the number of regents, their terms of office and residence. By Mr. Raines. To Public Education Committee. Printed No. 91. Int. 91.

An Act to repeal section 218-a of the Public Health Law, relative to Hospitals or camps for treatment of pulmonary tuberculosis. By Mr. Schulz. To Public Health Committee. Printed No. 104. Int. 104.

An Act to authorize the sale or exchange of rifle range at Creedmoor for lands to be used as a site for Long Island State Hospital and reappropriating moneys heretofore appropriated. By Mr. Raines. To Finance Committee. Printed No. 118. Int. 118.

An Act to release to city of Rochester state's title to certain lands in said city formerly used as a site for the State Industrial School. By Mr. Meade. To Finance Committee. Printed No. 119. Int. 119.

An Act to amend chapter 348, Laws of 1885, relative to appointment of stenographers to take evidence before grand juries in Monroe County. By Mr. Meade. To Internal Affairs Committee. Printed No. 120. Int. 120.

An Act to amend chapter 646 of the Laws of 1905 relative to sanitary trunk sewer and sanitary outlet sewer in county of Westchester. By Mr. Wainwright. To Internal Affairs Committee. Printed No. 128. Int. 128.

An Act to confirm a certain deed of conveyance made by the Roman Catholic Sisters of Charity of Brooklyn to the Roman Catholic Orphan Asylum Society of Brooklyn. By Mr. Cronin. To Judiciary Committee. Printed No. 129. Int. 129.

An Act making an appropriation for the Rome State Custodial Asylum. By Mr. Davenport. To Finance Committee. Printed No. 152. Int. 151.

An Act to authorize the selection, location and appropriation of certain lands in the town of Saratoga Springs for a state reservation, and to preserve the natural mineral springs therein and appropriating one million dollars therefor. By Mr. Brackett. To Finance Committee. Printed No. 157. Int. 156.

An Act to prevent cruelty by regulating experiments on live animals. By Mr. Davis. To Judiciary Committee. Printed No. 170. Int. 168.

An Act for the construction of such dike or dikes as are necessary to protect lands adjacent to Delaware river in the city of Port Jervis, and appropriating thirty-five thousand dollars thereof. By Mr. Rose. To Finance Committee. Printed No. 172. Int. 170.

## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Cure of Consumption with Subcutaneous Injections of Oils. By Thomas Bassett Keyes. M.D. Reprinted from *The Antiseptic*, Madras, India. 96 pp., 12mo. Price: Cloth, 50 cents.

Angina Pectoris. By Dr. Louis Peiser. Stuttgart, F. Enke, 1908. 106 pp., 8vo.

Medical Inspection of Schools. By Luther Halsey Gulick, M.D., and Leonard P. Ayres. (Russell Sage Foundation.) New York, Charities Pub. Com., 1908. 276 pp., 8vo. Price: Cloth, $1.00.

The Campaign Against Tuberculosis in the United States. Including a Directory of Institutions Dealwith Tuberculosis in the United States and Canada. Compiled under the Direction of the National Association for the Stury and Prevention of Tuberculosis by Philip P. Jacobs. (Russell Sage Foundation.) New York, Charities Pub. Com., 1908. 467 pp., 8vo. Cloth, $1.00.

Marriage and Disease. Being an Abridged Edition of "Health and Disease in Relation to Marriage and the Married State." Edited by Prof. H. Senator and Dr. S. Kaminer. Translated from the German by J. Dulberg, M.D. New York, P. B. Hoeber, 1909. 452 pp., 8vo. Price: Cloth, $2.50.

Constipation and Intestinal Obstruction (Obstipation). By Samuel Goodwin Gant, M.D., LL.D. Philadelphia and London, W. B. Saunders Co., 1909. 559 pp., 8vo. Price: Cloth, $6.00.

International Clinics. A Quarterly of illustrated Clinical Lectures and Especially Prepared Original Articles. Edited by W. T. Longcope, M.D. 18th Series, Vol. 4, 1908. Philadelphia and London, J. B. Lippincott Co., 1908. 310 pp., 8vo. Price: Cloth, $2.00.

Essentials of Medicine. A Text-book of Medicine for Students Beginning a Medical Course, for Nurses, and for all others Interested in the Care of the Sick. By Charles Phillips Emerson, M.D. Philadelphia and London, J. B. Lippincott Co., 1908. Price: Cloth, $2.00.

Modern Medicine: Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Assisted by Thomas McCrae, M.D. Vol. 5, Diseases of the Alimentary Tract. Philadelphia and New York, Lea & Febiger, 1908. 903 pp., 8vo. Price: Cloth, $6.00.

Urogenital Therapeutics: Medical and Surgical. A Treatise on the Practical Treatment of Diseases of the Urinary and Genital Systems. By Filipp Kreissl, M.D. Chicago, Cleveland Press, 1908. 461 pp., 8vo. Cloth

U. S. Commissioner of Education. Report for Year Ending June 30, 1907. Vol. 2. Washington, Government Printing Office, 1908. 461 pp., 8vo. Cloth.

Sixth International Dermatological Congress. Official Transactions. Edited by John A. Fordyce, M.D. 2 vols. New York, Knickerbocker Press, 1908. Cloth, 8vo.

Librarian of Congress. Report for Year Ending June 30, 1908. Washington, Government Printing Office, 1908. 143 pp., 8vo. Cloth.

## BOOK REVIEWS.

The Development of Opthalmology in America 1800 to 1870. A contribution to Opthalmologic History and Biography. An Address Delivered in Abstract Before the Section of Opthalmology of the American Medical Association, June 4th, 1907. By Alvin A. Hubbell, M.D., Ph.D. Chicago. W. T. Kennar & Co., 1908. 197 pp., 12vo. Price: Cloth, $1.75 net.

This book is of much historical interest to the profession in general and especially to those members who devote themselves to Opthalmology. The author sketches the main factors in the development of Opthalmology in America from 1800 to 1870, including the men most conspicuous in raising this branch of medicine to an important specialty, and the establishment of the institutions which have become the sources of opthalmologic knowledge and experience. The book contains many excellent portraits of the fathers of Ophthalmology and a few cuts of special instruments devised by them. Dr. George Frick, of Baltimore, who graduated at the University of Pennsylvania in 1815 and later at Vienna became a favorite pupil of the great teacher Beer, has the honor of being the first man to practice Opthalmology in America. This was in the year 1818. The first eye infirmary in the country was established in 1817 in New London, Conn., by Dr. Elisha North. New Yorkers will take pride in the fact that the next insti-

tution to be established for the treatment of eye diseases was the New York Eye Infirmary in 1820, by two brilliant young physicians of this city, Drs. Edward Delafield and J. Kearney Rodgers. This institution developed later into the New York Eye and Ear Infirmary. The interest taken in Ophthalmology by some of the noted general surgeons of the early part of the 19th century is well exemplified by the case of Dr. Samuel D. Gross. His graduation thesis was on "The Nature and Treatment of Cataract," and he became so prominent in ocular surgery, that he was sent as one of the delegates of the United States to the first International Ophthalmological Congress held in Paris in 1857. He was one of the first surgeons in the United States to operate for strabismus. Dr. D. Hayes Agnew was another noted surgeon who contributed largely to the progress of Ophthalmology. A bit of interesting history brought out in the sketches is the early distrust of the opthalmoscope, which was invented by Helmholtz in 1851. Clinicians feared that the reflection of such concentrated rays of light directly upon the retina might seriously affect the retina or the optic nerve. It is worth while to possess and read a work of this sort if only to gather inspiration from the lives of the pioneer masters of our art. J. B. THOMAS.

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DISEASES OF THE NOSE, THROAT AND EAR, Medical and Surgical. By WILLIAM LINCOLN BALLENGER, M.D. Philadelphia and New York, 1908. viii, 905 pp., 14 pl., 8 vo. Price: Cloth, $5.50 net.

It is a pleasure to review this well-balanced work, which, from its clear exposition of the work being accomplished in this field, in this country, at the present time is deserving of warm praise. That it is the product of an American pen may, indeed, be a source of no little pride.

The first chapter is devoted to a brief description of the nose; the second, deserving of a reading by both specialists and practitioners, is devoted to the relationship of the nose to general medicine; the third, to office equipment, gives scant courtesy to spraying-apparatuses, but moderately defends the use of the cautery. The author, whose work is so well known in this line, then proceeds with the clearest and best exposition of deflections and deformities of the *septum nasi* which the reviewer has met in any text-book. Two chapters of well-illustrated text complete the subject. In the latter the author defends his septum swivel-knife with fairness. In a later chapter, by the way, the same instrument is recommended for the removal of the middle turbinate, in properly selected cases. Under "treatment of inflammations" the author well says: "The grand purpose of treatment should be to promote the inflammatory reaction," and again, "inadequate réaction is usually present in most cases of acute inflammation." The old methods of increasing hyperemia and leucocytic migration, as poultices, counter-irritation, constriction by ligation, heat, incisions are noticed and the newer ones—leukodescent light, irrigations, etc.—are considered at greater length. Bier's treatment, as applied to nose, ear and throat, is given two pages. The opsonic index and the vaccine treatment of infectious diseases is briefly expounded.

Treatment of diseases of the accessory sinuses, for the past few years so ably developed by a multitude of surgeons, is admirably handled by the author. The uses of skiagraphy are emphasized. Many test figures are wisely employed here to aid the written description. An important chapter is given to "the tonsils as portals of infection" while the chapter on surgical treatment of the tonsils is very clearly presented. Chapters on "the singing voice" and "defects of speech" are not only well-written but likewise emphasizes the earnest aim of the writea to present a broad, true picture of the large field falling within the horizon of the present-day specialist. An adequate description of laryngeal diseases is given. Oesophogoscopy and laryngoscopy are presented briefly.

The portion of the work devoted to the ear contains much of value, in the method ia which it is offered, aod in excellent illustrations of operative procedures, but this part is perhaps less strongly presented. For instance we think the clauses on chronic suppuration otitis should be lengthened and inclute certain tubercular and syphilitic conditions, both of which may cause it, and obscurely so. The subject matter is excellent, the operations are described carefully and succinctly, but it might be extended. Perhaps a trifle less of the fine enthusiasm noticed in previous portions is noticeable. As a whole it is a notable book, in that it gives the latest thoughts as well as the solid body of well-settled essentials, in a wide field of medical work.

WILLIAM C. BRAISLIN.

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THE TREATMENT OF DISEASE IN CHILDREN. By G. A. SUTHERLAND, M.D., F.R.C.P. *Second Impression.* London, H. Frowde, 1907. viii, 311 pp., 12mo. Cloth, $2.00, net.

This is a splendid little volume. What the author treats, he treats well. But there is a rather disappointing lack of the subjects and diseases which should be mentioned. The style of the author is clear, concise.

It is a book that will prove of considerable value for hasty reference. LEGRAND KERR.

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ROTUNDA MIDWIFERY FOR NURSES AND MIDWIVES. By G. T. WRENCH, M.D. With Introduction by The Master of the Rotunda Hospital. London, H. Frowde, 1908. xiv, 324 pp., 12vo. Cloth, $2.00 net.

This book is intended for the instruction of nurses and midwives. It aims to present the information they need in a clearer and more practical manner than has been done in the manuals hitherto provided, and with the avoidance, so far as possible, of technical language. The author has succeeded well in his purpose. Obstetric nurses will find the book a safe and satisfactory guide. I.

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PRACTICAL LIFE INSURANCE EXAMINATIONS. With a Chapter on the Insurance of Substandard Lives. By MURRAY ELLIOTT RAMSEY, M.D. Philadelphia and London, J. B. Lippincott Co., 1908. 231 pp., 12vo. Price: Cloth, $1.25 net.

This work on life insurance is a contribution which should prove useful to examiners. A great deal of the information in it should also interest practitioners in general. There is a chapter on substandard lives and a useful index. Diagnostics and prognostics are adequately presented. The book is fairly well written.

A. C. J.

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## DEATHS.

H. A. C. ANDERSON, M.D., of New York City, died January 4, 1909.

CHARLES M. BRASTED, M.D., of Hornell, N. Y., died January 1, 1909.

EDWIN R. CHADBOURNE, M.D., of Pasadena, Cal., died January 10, 1909.

THOMAS B. DWYER, of Syracuse, died January 1, 1909.

DAVID C. EISBEIN, M.D., of Buffalo, N. Y., died December 23, 1908.

JOSEPH FOWLER, of Buffalo, died December 17, 1908.

ANDREW H. GETTY, M.D., of Athens, N. Y., died January 14, 1909.

HENRY LOUIS GOODMAN, M.D., of New York City, died January 14, 1909.

B. RUSH HOLCOMB, of Whitehall, died December 28, 1908.

WILLIAM MADDREN, M.D., of Brooklyn, N. Y., died January 7, 1909.

JOHN J. QUIGLEY, M.D., of New York City, died January, 8, 1909.

HENRY D. SILL, M.D., of Cooperstown, N. Y., died January 14, 1909.

# NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

ALGERNON THOMAS BRISTOW, M.D., Editor
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## EDITORIAL DEPARTMENT

### THE SOCIOLOGICAL SIDE OF THE TUBERCULOSIS PROBLEM.

AT the present time the medical profession and the philanthropically inclined are paying a vast amount of attention to the prevention and cure of tuberculosis. The various exhibits which have been going the rounds of the cities of the state have attracted large crowds of interested spectators, and to the poor the gospel of cleanliness and right living has certainly been preached. The people have been told that the contagion of consumption is in the sputum, that it is a germ disease and can only be conveyed to others by the sputum. The dweller in the tenement has also been told that there is no medicine which is a cure for the disease, that this, however, lies in hygienic methods of life, proper and sufficient food and ventilation. He has been shown examples of unsanitary dwellings and maps of the over-crowded east-side with its plague spots thickly disseminated through its closely populated area, have been graphically displayed. He has also been introduced to delightful little miniatures of model tenements with small and attractive suites of rooms and ample central court-yard, with grass-plots and a fountain. This is to be his ideal, he is taught.

This instruction is all, no doubt, very useful. We have no wish to deride so fine and promising an exhibit. If a man can find tenements like those displayed, if he has the price, he will doubtless leave his close and illy-ventilated and expensive rooms in a tenement house which barely escapes the law, and exchange them for better quarters. If he is, unfortunately, the subject of tuberculosis, he will perhaps realize the dangers of carelessness, and if he loves his neighbor he will spit in the street no longer, if he can help it. His children and other members of his family will no doubt be relieved of a certain amount of peril and the public also. If he happens to live in a tenement where he can open the windows in winter weather without freezing the other members of his family, he will doubtless strive to obey the mandate which dictates that so far as possible he should sleep in the open air. He will get as liberal a supply of good food, including milk and eggs, as his means will permit. How much milk he will take at 8 cents per quart and how many eggs he will eat when eggs are 50 cents a dozen need not be left to the imagination.

A poor man who is also tubercular is not as a rule a prolific wage-earner. Disease forbids. He has lost his immunity to tuberculosis because of insufficient feeding, and the necessity which has compelled him to live in a dog-kennel, and eat meat perhaps once a week, if he is lucky. When our sanitarians tell these poor victims that the cure of consumption consists in a change of their method of life they really offer them a stone instead of bread. Of what use are all these instructions to the man who is trying to bring up a family on $10 per week, and who lives in a tenement, the landlord of which wrings from him a rental which represents 10 per cent. on the investment, perhaps more. Moreover, he

pays for everything else in proportion. Coal by the bucket means coal at the rate of $25 per ton. Many of these families scarcely see meat from one week's end to the other. W. A. Russell who did the computation for the congestion exhibit states that there are 12,000 women in New York City who are unable to nurse their babies because of semi-starvation and overwork. What these people need, if we are really to solve the problem, is an economic change and the sanitary change will not lag far behind. To preach the doctrines of hygienic living and the value of proper nutriment to people who have not the wherewithal to carry the instructions of the sanitarian and dietitian into effect is little short of mockery. "We asked for bread and have received stones." Stones for bread! Stones for bread! That is what society has been giving these poor victims of its own malpractices and congratulated itself on its virtuous and abundant charity.

The problem of tuberculosis is really only in part medical and sanitary. It is primarily an economic, a sociological question. It is but the simulacrum of charity, and a measure of hypocrisy for society, first to destroy the immunity of the individual by exploiting him as a wage earner, pitting him in competition against his fellow sufferer, buying its labor at the cheapest possible rate, a starvation wage, and then to congratulate itself on its tuberculosis exhibit. The tubercular poor lose their immunity, because of the dreadful conditions in which they live. They live in these conditions, not from choice, but because they are compelled to by a harsh and selfish civilization, which is willing to fatten on the bodies of men, women and little children.

This is the real problem of tuberculosis. What our cities need most of all, from the stand-point of the tuberculosis problem, is not the libraries, which a generous millionaire scatters with liberal hand, nor even vast hospitals, which have been planned lavishly, nor great and richly endowed universities. It is not mere theory nor the fancy of an idle dreamer to say that a dozen millionaires of New York could do more to solve the tuberculosis problem by providing proper and sanitary tenement house construction for the wage earner, than can be accomplished in twenty years of exhibits. It is much more scientific, much easier and less expensive to prevent tuberculosis by preserving the immunity of the individual and the race than to continue our present methods. Proper tenement house construction will yield 3 per cent. on the investment, so that a proposition of this sort by no means involves the giving away of large sums of money, but rather a reasonable investment and an intelligent use of funds, which would remove a great peril from the community, enable the poor to live in decent and sanitary homes and yet provide an income for the investor. This is not a dream but a possibility. This is a land of huge fortunes, and our millionaires are generously inclined. Is it not possible to show them how great a benefaction they can confer on their cities, not by sacrificing their fortunes or giving them to uses in the future whose destiny they cannot foresee, but by transforming the so-called tenement house district into abodes of light and heat and fresh air and cleanliness? The deeper and sadder and more far-reaching problem of a living wage for a day's work which shall mean not a wage sufficient merely to keep soul and body together is a problem of the future. It will be solved, though not in our day, but it is part and parcel of the same problem. The profession of medicine is doing what can be done under present conditions, as it always has done, to save men from the consequences of their own selfishness and folly. Teachers indeed are we, often prophets crying aloud in the wilderness. Sometimes the people listen. Sometimes alas they turn a deaf ear to our exhortations and jeer and laugh us to scorn. Still we can only be faithful to our trust now and ever.

The tuberculosis exhibit is the plaster which medicine offers to society to cover a sore. Until however, the economic and social conditions which have brought about the grievous wound be changed, it will not heal but will continually fester, a reproach not to medicine but to government, to the national conscience and to society.

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In a recent copy of the New York *Times* an announcement is made that four great tenements are to be built at Seventy-seventh and Seventy-eighth Streets, between Avenues A and B, designed to carry out the ideas of Dr. H. L. Shively.

"These tenements have been planned to make cleanliness easy and to secure for the tenants an abundance of light and air. These are things which are not really more necessary for the victims of tuberculosis than they are for everybody."

Thus the *Times*. Still more can be accomplished by invading the crowded purlieus of the east side and tearing down the miserable rookeries which are to-day hot beds of tuberculosis and replacing them by modern tenements.

A. T. B.

## SARATOGA SPRINGS.

IN an article appearing elsewhere in this number of the JOURNAL, Dr. Moriarta discusses the present situation at Saratoga Springs. Since his article was written the courts have sustained the constitutionality of the law which prohibited certain commercial concerns from pumping the waters of Saratoga, and it is hoped that now that the waste which has resulted from this practice has been definitely stopped, the level of the Springs will be maintained at its ancient level.

The attitude of the companies in this matter, which involves the prosperity of an entire community and the preservation of a great mineral spa at our very doors, is only an illustration of a national tendency.

As a nation we are absolutely reckless of our natural resources.

It has taken the most strenuous efforts of a strenuous president to check this tendency even in slight degree. The wood pulp people cut down in ruthless fashion timber which has been maturing for twenty and thirty years, and turn it into a product which is used for a few hours and then becomes utter waste, beyond the hope of any salvage.

There is no product of our civilization which is so much the creation of an hour as paper, and our legislatures look on complacently at the deforestation of our mountain slopes because the day of reckoning comes not for us, but for our children and our children's children. It tarries, but the steps of fate are not more remorseless.

The remedy of state reservations has been proposed for this particular evil and promises well.

At present we cannot expect private owners to respect the rights of the future. The proprietors of forest lands are like an eminent citizen of renown, working for their own pockets all the time. If the state is to conserve its own resources, it must control them.

Why should our citizens go to distant Carlsbad when we have a spa of our own, situated among scenes of great natural beauty?

If Germany has found it necessary and of advantage to exercise state control over certain of her natural springs of healing, why should we in America, in view of our natural tendencies, not take similar measures to secure for all time to the people not alone of this state, but of neighboring states, the advantages which are known to accrue from such resorts? The United States exercises a certain control over the Hot Springs of Arkansas to prevent their exploitation at private hands and to render it possible for people of moderate means, or even no means at all, to avail themselves of the curative properties of these springs.

The State of New York may well consider whether it would not be of advantage to its people if it exercised control over the waters of Saratoga by making the region a state reservation.

A. T. B.

## SENSE AND SENSIBILITY.

THIS alliterative title of one of the most famous of Jane Austen's delightful stories of a century that has passed away well describes the difference between the attitude of the two parties to the present controversy concerning animal experimentation.

Both parties are sincere, but sense governs the disputants on one side, sensibility on the other. It is Elinor and Marianne translated from the pages of Miss Austen to the legislative chamber of unromantic and utilitarian Albany.

Sensibility, however, too often becomes impressionability, and causes the heart strings to jangle in faint discords like the Japanese æolian harps we hang in our doorways which reverberate in the slightest breeze or to the feeblest contact. The good, the amiable, but impulsive folk who are crowding the lobbies and committee rooms at Albany have sensibilities which are as easily stirred. A zephyr is to them a tempest.

They shut their eyes to the woes of their fellow creatures, but grow pathetic over the poor guinea pigs. With happy inconsistency they weep over the dire fate of the prisoners of the laboratory, but wear hats with waving plumes which tell of despoiled nests and starved birdlings. They weep over the rats and mice, but keep dry eyes for the children who perished of diphtheria and cerebro-spinal meningitis before the days of Behring and Flexner. Their heart strings jangle to the slightest breath of a mouse's squeak, but their ears are deaf to the cry of the children and the exceeding bitter cry of Rachel mourning for her children which are not. What is the empty cradle to them, the little broken toys stowed tenderly away in some carefully guarded nook soon to be wept over and again put out of sight? Thousands of people to-day are perishing of cancer. Our great captain lingered in agony for months, fighting his last enemy, and at Mt. McGregor met with his only defeat, in the sight of all men. Two of our great surgeons, men who had devoted their lives to the amelioration of human suffering, died within the year of the same terrible and mortal disease, for which there is no remedy. These people of delicate sensibility would put a ball and chain round the feet of that science which is now in steadfast pursuit of the rider on the pale horse seeking to wrest from him his sharpest dart. What matter is it to them that this form of death involves suffering, physical and mental, the most terrible which the sons and daughters of Eve are ever called upon to bear? One poor woman who dies of cancer of the uterus, or a recurrent cancer of the spinal canal, suffers more agony than the animals in a hundred laboratories. Let us, however, weep for the mice and the rats and cats consigned to untimely graves and turn a dry eye to the men and women of our own race who go down to their graves in darkness, misery and despair. Let Rachael weep for her children, but spare the poor animals even the needle's prick. A. T. B.

## THE BROUGH-MURRAY BILL.

IN our February issue we gave reason for opposing the passage of the Davis-Lee antivivisection bill now before the Legislature. Strangely enough, this bill is also strongly opposed by one group of antivivisectionists. These have themselves caused to be introduced a measure constituting Senate bill No. 369 and Assembly bill No. 578, and now designated as the "Brough-Murray bill, an act to prevent cruelty by conferring upon the Board of Regents of the University of the State of New York the power of supervision of experiments on living animals." An endeavor has been made on the part of its friends to secure favor for it by spreading abroad the insidious claims that it is a compromise measure, and that it does not interfere with legitimate scientific or medical progress. These claims are not true, and the bill is altogether bad.

Some of its provisions are as follows:

Experiments on animals shall be performed "only by a regularly licensed physician." This would exclude that great body of medical men who are not practitioners but devote themselves to scientific work; as well as the large and growing body of pharmacologists, physiologists, physiological chemists, and biologists, many of them professors in universities who have not had a medical training. It would be a calamity to exclude these from such.

The bill provides that "no experiment shall be made for the purpose of demonstrating facts heretofore established and proved." This would abolish in two lines of print the sciences of physiology, physiological chemistry, pharmacology, bacteriology, and much of pathology and surgery, for it would prevent the proper training not only of medical practitioners but of future teachers and investigators in universities, and of the members of the staffs of boards of health and independent institutes for medical research. Excepting the total abolition of animal experimentation, no more fatal blow to scientific and medical progress could be given than this proposed one of prohibiting demonstrations.

The bill gives to the Board of Regents of the University of the State of New York the power to issue all licenses to perform experiments upon living animals. It also gives them a semblance of authority in the matter of inspection, by requiring them to appoint annually representatives "for the proper supervision of animal experimentation within this State." But the bill also requires the Regents to appoint such representatives from a list of persons supplied by "any corporation formed under the laws of this State, one of the objects of which is to prevent cruelty in animal experimentation"! Such representatives are empowered to enter any place where animal experiments are conducted, at all times. Here we have a provision even more injurious, if possible, than the inspection provided for by the Davis-Lee bill. Experience has shown that supervision by untrained persons would result in the evils of inspection in their worst form. Representatives of humane societies who might serve as inspectors of laboratories would be persons in whom prejudice would be reinforced by ignorance of the matter which they are set to supervise, and by ignorance of what constitutes pain in animals and of the proper conditions and procedure in experimentation.

The Brough-Murray bill contains other objectionable features which it is here not necessary to specify. It should be opposed in every legitimate way not only by members of the medical profession but by all persons who are interested in the legitimate advance of scientific medicine. It cannot be too strongly insisted upon that every such measure, no matter what its advocates may publicly claim, will result, if enacted into law, in its becoming merely an entering wedge, bound to be followed by proposals for more drastic interference with scientific methods. Abolition of animal experimentation is the goal which antivivisectionists hope sometime to reach. It cannot be too often repeated that the present law against cruelty to animals comprising Sections 655 and 669 of the Penal Code and Section 10 of Chapter 375 of the Laws of 1867, and now together re-enacted by the present Legislature to constitute Section 185 of Article 16 of the Penal Law, that this present law is wholly sufficient to deal with cases of abuse in animal experimentation. This contention has received support not only by the conviction of two young men in the City of New York under Section 655 for unjustifiable vivisection, but by an opinion given by ex-Judge Charles Andrews, for many years Chief Judge of the Court of Appeals of this State. This opinion is as follows:

"The section [655] does not prohibit vivisection. It subjects, however, every act of vivisection to the test whether it inflicted an unjustifiable injury. This is made clear by reading Section 655 and Section 669 in connection. In an indictment under Section 655 for vivisection, the question for the jury would be, was the physical pain and suffering caused unjustifiable under the circumstances disclosed?

"Into the determination of this question, the motive of the accused, the object sought to be attained, and the competency of the investigator would be relevant subjects of inquiry."

Opposition to both the Davis-Lee and the Brough-Murray antivivisection bills should be unanimous on the part of the members of the medical profession in this State.

FREDERIC S. LEE.

# THE MODERN HIPPOKRATES.

By A. JACOBI, M.D., LL.D.

HIPPOKRATES lived approximately between 460 and 375 B. C. His biography was written nearly 500 years later by Soranus; he refers to Erastosthenes, who lived two centuries after Hippokrates, and cannot be proven to be absolutely correct. Of contemporaneous writers who mention him, we know Plato. From him we learn that he knew him, or knew of him, that he lived at his time, was born on the Island of Kos, belonged to the noble family of the Asklepiads, was a physician and a teacher who was paid for the instruction he conveyed and that he held a creditable position.

Many of the essays called hippokratic are not the writings of one man, of him whom we revere as the father of medicine. He and his pupils and followers learned from different sources. There was a previous lay medical literature, which was preceded, and followed by, or contemporaneous with, priestly medicine. Hippokrates studied the former and utilized the latter. He expressed the conviction that a large portion of medical knowledge consisted in the faculty of knowing and correctly judging of its literature. In the second book on prognosis he says literally: "Those who are quoted on account of the accuracy of their prognosis I have either conversed with, personally, or I have consulted their writings." The medicine of the priests was by no means mere quackery. Their Epidaurus was a sanitarium in an idyllic country, with a Saratoga of sodü sulphas and chlorid, a bath and gymnasium and a large store of histories of cases, and epigrammatic sentences containing rules of diet and of healing, in addition to hypnosis and suggestion. Many of those epigrams are met with in the Hippokratic aphorisms. On one of the Epidauric tablets is found the first description of the facies hippocratica of the collapsed or dying.

The physicians of those times were also philosophers. Plato, who had such a poor opinion of the practicing physicians—it is true most of them were slaves—that he declared their business as unworthy of a gentleman, pronounced the physician who was also a philosopher to be "divine." And many of the philosophers of renown who studied alongside the human mind, also anatomy and physiology, mainly, it is true, or exclusively, of animals, paid their attention to medicine also, and constructed theories in the essence of life and of disease. In the writings of Hippokrates we meet the names of Empedokles, Melissus, and Democritus.

The latter is known to have made himself inconvenient to his fellow citizens of Abdera. They sent Herodikos to examine him for his mental condition. The psychiatrist asked him what he was employed with. "To study the stupidities of people." Thereupon the doctor pronounced him to be the most sapient of them all.

The pathology of Hippokrates was humoral. A correct mixture of the juices (the blood representing warmth, mucus; cold, yellow bile; the dry and black bile; the moist-corresponding with the four elements of the world, viz., fire, air, earth and water) yielded eukrasia, health, a lack, however, of balance between them dyskrasia, sickness. Many diseases were the result of mucus, which flowed down (καταζζειν—to flow down) into the nose, the eyes, the lungs and the spine.

The anatomy of Hippokrates is very defective. Animals had been dissected before, the living human body was studied in the gymnasia. The brain was not the nerve centre, but a glandular body which secreted mucus. Still it was connected with the spinal cord. Nerves and tendons were not differentiated. The heart contained air, "pneuma," the arteries also were filled with air. The pulse was not studied much before Praxagoras. That is why Hippokrates, whom Celsus calls the creator of surgery, never performed a bloody amputation and did not practice the ligature of blood-vessels. His amputations were confined to gangrenous limbs on the lines of demarcation. The uterus was bicornis; the males came from the right horn, the girls from the left. The testicles were not recognized as the producers of sperma. Ovaries were safe at those happy times, for nobody knew of their existence. The knowledge of bones and muscles was extensive. That is why fractures and luxations were treated correctly, operations for caries and sequestra and trephining were frequent, also for cancer, abscesses, wounds of the head and others, fistulæ and ulcerations. Many operations were performed on the eye in all cases that were accessible to observation. Kyphosis was often treated in methods similar to the modern ones of Calot. Amongst the bandages the mica Hippokratis is known to-day. Massage was used in clubfoot. Herniotomy was not performed, but he practiced and taught the treatment of hernia, orchitis, parotiditis, the bladder, angina, noma, dropsy, paracentesis, the liver, ileus, epilepsy, intestinal worms such as tæmia and oxyuris. "Kynanche," the obstruction of the air passages, was treated by introducing tubules into the throat "so that air may be drawn into the lungs" (lib. VII. 130). Stone in the bladder had to be removed by specialists.

As anatomy and physiology were defective, etiology became mainly a matter of close and undisturbed observation. Too much food, too little food. meals at improper hours, the interruption of habits, and improper or indigestible food were frequent causes of illness. Loss of appetite was known to be due to the omission of meals, or irregular meal times. Heredity, climate, season, bad air and bad water gave rise to many disorders, to swelled spleens, and to dropsy. Vesical calculi are attributed to the latter; possibly their frequency was due, as in Egypt, to

the presence in the turbid waters of Bilharzia embryos. Endemics were well known, epidemics ascribed to changes of season and bad air. Warm winds and cold winds were studied in men, women and children, for their influence in causing rheumatic pains, diarrhœa, hemorrhages, abortions, epilepsy, dyspnœa, pleurisy with empyema, epistaxis, and diseases of the eye. A final source of experience were the observations collected in the gymnasium. Plato reports the case of Herodikos, a teacher of gymnastics who succeeded in prolonging his life—he was feeble and sickly—by gymnastics. For his success he rebukes him, but admits that he reached an advanced age through his exercises. Hippokrates himself tells us that his own observations graduate the amount of physical exercise and of the food which is to be taken in appropriate correlation. No person who does not work remains in good health by mere eating. Limbs are strengthened by use, emaciated by inactivity. Untrained people get exhausted by exertions. A sudden transition from long rest to labor is not wholesome. The man who changes from hard and permanent work to rest and luxury, should diminish the demands on his stomach.

*Prognosis.*—"It seems to me best for the physician to acquire practice in the prediction of the termination of a disease, for when he knows before and predicts the present state of his patient, and the past, and the future, also such things as the patient omits in his report on his condition, people will have firm confidence in him and in his superior knowledge and will entrust themselves to him."

Though the exact scientific method was wanting and special and local diagnosis were not what they are or should be to-day, Hippokrates teaches prognosis on the strength of what he learns through touch, sight and smell and hearing. Succussion was well known to him, the urine was judged according to its gravity, and by the amount of water taken in; empyema which had perforated the lung was favorable when the expectoration was uniform, not offensive, and not attended with fever; but permitted of an ominous prognosis only when offensive and accompanied with fever, or when the probe became discolored by pus. Phthisis gave a bad prognosis when the patient's hair fell out and the sputum smelled badly when thrown into the fire. The prognosis was bad in apoplexy, in uræmic convulsions, in the grinding of teeth with the exception of those who had exhibited it from early years, in the sudden changes of temper which made a formerly modest and manageable patient give snappish answers, in difficult deglutition attended with great restlessness and without swelling, in increased reflex irritability unless the patient were hysterical, in a slow pulse when attended with sopor; in what is known to-day as facies hippocratica. A good observation is also recorded in connection with a hoarse cough (like dog's barking). The prognosis is bad when the cough is dry, without expectoration, and without swelling. Lately, within the last 50 years, these symptoms, with which was combined the absence of elevated temperature, have been recognized—though accepted slowly—as pathognomic for pseudomembranous laryngitis in its differentiation from the common form of laryngitis or a diphtheritic or coccic pharyngitis, or rhinopharyngitis.

The prognosis was bad under the following circumstances: sordes on the teeth—perspiration in a feverish patient with no decrease of fever—excessive sleep or sleeplessness—good or ravenous appetite and much eating with rapid emaciation—cold hands and feet and head with a hot trunk—and fever in jaundice.

The science and knowledge of prognosis differ for the modern clinician from Hippokratic prognosis in the same degree as his nosology. Etiology and therapy change the prognosis of individual cases. The duration of an illness, its curability, incurability, and fatality may entirely depend on the power of individual resistance, which is the result of age, previous health, complications, of nursing and medication. Nothing is more deceptive than the determination of a prognosis by the name of the disease. A few instances of what I mean may be acceptable. To what extent pulmonary tuberculosis may be influenced by the management of either the incipient or the advanced stage, we all know. The cases complicated with a mitral insufficiency—which are rare after all—are favorable, those which are found together with pulmonary stenosis—yield a very bad prognosis. Those which run along with healthy abdominal organs, are promising. Urobilinuria, however, and oxaluria are grave symptoms. A pneumococcus meningitis affords a better prognosis than the tubercular form, or that which is complicated with a cerebral tumor or cysticercus.

A sudden fall or abrupt increase of arterial pressure is ominous. Sclerosis of the coronary artery may terminate suddenly, that of intestinal arteries may prove fatal by hemorrhage, also aortic aneurism, or syphilis of cerebral arteries which become suddenly fatal through hemorrhage in the medulla oblongata. With the fatality of blood diseases we are acquainted. But there is none of them in which the prognosis should be absolutely fatal. Leukæmia may get well, mainly that which depends on bothryocephalus, Hodgkin, more frequently than leucocythæmia, also pernicious anæmia though there be megaloblasts, diminution of leucocytes, and poikilocytosis. Infectious fevers permit a cautious prognosis only. Diphtheria, when nasal, is liable to be fatal unless frequently but carefully and gently irrigated, and its myocardial degeneration has often been the cause of sudden death at the hands of nurses who *will* take the struggling patients up for manipulations, or even

without such ignorant criminality. The prognosis of a relapse in a typhoid fever is made by finding the spleen refusing to decrease about the 16th or 17th day. That of whooping cough is rendered doubtful by the neglect of treating it; those of us who cause broncho-pneumonia, or pulmonary or cerebral hemorrhage by our neglect of positive indications, should be punished for their sins of omission.

Sepsis from any source is serious. Streptococci in the blood are dangerous, but not so bad prognostically as staphylococci which give rise to pyæmia.

Thrombophlebitis at any part of the body, both externally and internally, permits of a cautious prognosis only. It requires absolute rest, even when on the lower extremity only, unless you want to run the risk of a pulmonary embolus, and the co-operation of an undertaker. A sudden falling off of the number of leucocytes in a serious illness means a dangerously low grade of blood forming.

Orthotic albuminuria may get well; non-traumatic acute and subacute, unilateral or bilateral nephritis, the former very rare if at all existing, even the tuberculous form, may allow a fair prognosis in instances, and uræmic convulsions every one has seen to recover. Diabetes, though gangrenous, or pneumonia in diabetes, or diabetic coma, may get well, at least temporarily, in opposition to contradictory teaching. Pyelitis, which ten years ago was identified with death, unless it originated in lithiasis, permits a very fair prognosis, mainly in the very young, and whenever it is bacillary rather than streptococcic.

The prognosis of empyema depends mostly on its origin, the tuberculous form is extremely grave; but even that may recover.

The diagnosis of appendicitis should always be combined with a blood examination. A moderate leucocytosis, however, does not always require the operation; from 10,000 to 20,000 have often permitted a favorable prognosis. Extensive ulceration of the colon has lost its terrors since Weir utilized the appendix, which he and his many followers implanted in the abdominal wall these ten years for local irrigations. Lately the transatlantic cable and the American newspapers have in their ignorance or naivete eulogized the doings of an English physician who lately performs the same miracles. Dr. Weir will not mind it, he is only an American, and his method will become more appreciated when it returns to him from Europe. Meanwhile it will be Keetly's method; and Dr. Weir may be satisfied with the position taken by one of the very greatest Americans, perhaps the greatest, of all times, Alexander Hamilton. Him Frederick Scott Oliver credits with the realization of the principle that as long as a thing was done it mattered not who was credited with it. He was a statesman, not a politician.

The prognosis of this ulcerative colitis depends to a great extent on its cause; the amœbic is worse than the bacteric, but the prognosis is not absolutely bad in either; for therapy was not absolutely futile, even before Weir.

Be careful how you form your prognosis in cancer. Early operations heal many when they are, and as long as they are, accessible. Cancer of the stomach and scirrhus of the intestines may last years, and permit life saving or life prolonging operations. My observations of prolonging the lives of those inflicted with inoperable cancers—presented to the American Medical Association three years ago (*Journal A. M. A.*, Nov., 1906), have been repeated since.

The question of prognosis is not exhausted by the actual knowledge of the morbid process from which a patient is suffering. We have no dealing with a Greek name, but with an individual, whose power of resistance, external circumstances, means and nursing modify what appears to yield an inevitable prediction. That is why a prognosis should not hurriedly be pronounced fatal. Tuberculous meningitis is not always fatal. Cerebro-spinal meningitis allows under the influence of our Flexner's serum of a better prognosis than two years ago without it.

There is both for prognosis and salvation no end of legitimate hope. The combination of exact nosology and inventive surgery has accomplished seemingly impossible results. Sixty years ago an American was held up to ridicule for his report on the incision of an accessible brain-abscess; to-day the apparently inaccessible, large or small tumor, or abscess, is diagnosticated and removed, and the doomed patient is cured.

I have mentioned that staphylococcus in the blood, with pyæmia, is not always fatal. Streptococcus still less so. The well informed medical man should be cautious enough not to expose himself to grievous mistakes when asked for a prognosis, and the conscientious physician should be humane enough not to be led by his fears into a sentence of death. Such a mistake was made lately by a most experienced laboratory man. The result was the resort of the otherwise well informed and well meaning patient and his vast number of influential relatives and friends to the Christian Science crowd of New York which has enjoyed and utilized this occurrence, until the patient, after an apparent temporary improvement, lost his thinking and speaking powers. Then hundreds of people asserted that he passed his time, a whole week, not in dying, but in silent prayer. He died, but the injury to the medical profession is irretrievable. Many a fatal prognosis, correct or not, has driven the patient into the fangs of the quacks. The loquaciousness of vanity harms both the patient and the medical man.* That does not, however, cover the case entirely. The sick, unless deprived of intellect, will not endure being told they have an incurable

* It will do no harm to remember what Aurelius Cornelius Celsus says: "Diseases are not cured by eloquence but by remedies."

disease; least of all those who tell you they want to know all about themselves.

Hope is the best stimulant of the nervous and circulatory systems. A few months ago a patient was dragged into my office, after having lost ten pounds in a few weeks and sleep and appetite and digestion and strength. That was when he had been told by his knowing doctor that he had cancer of the liver, and no prospect of a recovery. I assured him he had a tumor, that I could not have him operated upon in his present condition, but that he would be vastly improved by proper medication. So he was; the man who was rapidly dying from his cancer and his doctor, improved, and slept and digested, and walked up to me ten days afterwards. These ten days of encouragement were a clear gain, so were a few more stretches of ten days each. Tell either the exact prognosis, if there be one, or your fears to a reliable member of the family, and another more encouraging to the patient. Encouragement is a remedy, sometimes the best. He may ask you in many a bad case: is he to send for his family, or the absent member? I tell him exactly what you would, viz.: that absent member has a right to know of that illness, or will be offended unless notified, or should be notified at all events, and then be left to his own discretion. He may also ask you whether he should make his last will, or delay. You will answer like myself: What? You have never made your will? I am not a business man, but I have made six different wills in my life, though not in any apparent danger. You should make your will at once, you are strong enough and not superstitious, and if you dislike it in six months, make another one. That is, in my opinion, the correct and humane and practical method of a conscientious physician, who is not merely a medical man given exclusively to diagnosis and the pathological anatomy of the autopsy, but a humanitarian with both medical knowledge and the sense of responsibility towards the body and soul and comfort of a suffering, but hoping fellow man.

In your vocation you have to deal with no crystals, but with the life of a fellow being. You are no mere naturalist, you are a physician. If you cannot cure, you can improve. If neither, you can cheer, and that is to improve. I said a year ago on this platform: Therapy is service; service is therapy.

You may render a tangible service—that is part of your therapy—by improving your phraseology. You will strengthen confidence in your visitor by not telling him he has "consumption," which to most people means a sentence of death. When he asks tell him he has "tuberculosis," and will not be "consumptive" unless he will get very much worse. Be sure not to inform an impecunious person that he is certain to die unless he leaves town and family this very week. Is there anybody here who doubts that a humane physician would be guilty of that? Perhaps you are correct. But what I have experienced hundreds of times is that medical practitioners committed that brutal error. That is no therapy, no service; it is partnership with a destructive disease. Nor is it a serious loss to your dignity to use in a case of cancer when inoperable in place of the word cancer: carcinoma, or better yet, tumor, or enlargement of the liver, or of the glands; or in place of valvular disease—which has a now and then cruel reputation with many—enlargement of the heart; in place of aneurism of the aorta which will be read up in the cyclopædia; dilatation of an artery. Thousands of years ago Charaqua told you: it is not permissible to make any communication of the imminent death of a patient whenever it may injure him or anybody else.

Hippokrates could not build upon extensive anatomical and physiological knowledge. His guides were the history and literature of his art, close observation of clinical facts, and the sense of obligation and responsibility. Therapy means service. His service was preventive and curative. Diet and hygiene play a prominent part. He dealt with no disease, but with diseased men. That is why, while trying to be the minister of nature, he knew he could be minister in individual cases best by turning master. That is why he relied on active treatment both by drugs and by mechanical interference. He was not a "no drug" man, nor a "one drug prescription" faddist. He was an all-round practitioner and teacher, though he recognized the specialistic calculus cutter. As it was in East Indian medicine, so was to him the physician without surgery a bird with a single wing. He shunned improper advertisements, though he displays a certain shrewd willingness to impress the people. He was modest, for the phrase "it seems to me" is met everywhere; but also sometimes self-opinionated when he objects to those who differ with him. While being altruistic, he is also pedantic, and while being philosophic in his views and methods, he is no dogmatic philosopher. His diagnoses were not so local as we try to make them—except when external and palpable and visible anomalies or lesions had to be corrected—but often the recognitions of altered universal function.

Such was the head of ancient medicine, the great Hippokrates. From him we have inherited many principles: close clinical observation, both dietetic and active treatment, absence of metaphysical fads, clear description of symptoms and proper service to the sick not guided by preconceived notions or prejudices, and medicine as a unity, which studies the physiological function, its alterations by what we know to be bacteric and other influences, and the changes of tissues; finally humane ethics.

According to this etiology the therapy is regulated. Hippokrates deals with sick individuals, not with sickness. It is only by Plato that

disease was given a degree of autonomy, and considered an entity. Hippokrates emphasizes individual etiology, symptoms and diet; the mode of living, clothing, the climate, occupation, and age. He prohibits generalizing and theorizing, and relies on "physis," the healing power of nature. No overfeeding, no underfeeding, no inconsiderate stuffing of drugs. Treat empirically and be guided by symptoms. It was only the school of dogmatics after him that speculated where their knowledge failed, even his very sons Thessalos and Drakon, and his son-in-law, Thessalos, were carried away by them. Plato had no realistic foundation, and in mediæval times until a few centuries ago Aristotle was not known except mutilated, and theosophy, neo-platonism and astrology reigned supreme. According to Galen it was only Diokles of Karystos, the same who studied the embryo in the egg, and Praxagoras of Kos that remained soberminded.

It is natural that the Hippokratic mind turns to prevention as a main salvation. The practical value of the book on diet is still great. In acute diseases starvation and low diet and water were recommended. Water seems to be withheld, however, more than to-day we should approve of; still its comparative prohibition agrees with what I remember to have been practiced half a century ago. Occasionally wine was recommended in acute diseases. He did not, I repeat, believe in no drugs, nor in one drug prescriptions, having no text-book to teach him except the traditions and teachings of comparatively a few centuries only, and nature and experience. Enemata are frequent, vomiting is produced by tickling the throat, or by veratrum, which also served as a laxative. Euphorbiaceæ were in frequent use. Altogether laxatives were administered extensively. Copper served as a hæmostatic, iron was used as an oxid (rust) only, metals were not used, except externally, until Paracelsus. Barley teas, preparations of honey, vinegar water, milk, wines, warm drinks as diaphoretics, scilla, celery and cantharides as diuretics, meconium as a narcotic are frequently met with. Scarifications and cups were pet remedies, leeches only later; venesections were made near the seat of the inflammatory trouble. In exhausting hemorrhages the head was lowered and the limbs bandaged. He was not afraid, either of allowing nature to have its way, or of relying on spontaneous recovery under the guidance of rational hygiene, or on the effect of mild medication, or effective treament by drugs or external means. Nor was he afraid, as I have said, of being the minister of nature by temporarily turning her master. He was aware that "what medicines will not cure, the knife may cure, what the knife will not, fire may, what neither will cure, is incurable."

What now-a-days we call therapy comprehends a great many things which must be known, and employed unless the sick is to be punished for our ignorance. Medication, which I shall not touch this morning, should be studied as conscientiously as the nature of disease. Its scoffers satisfy nobody but themselves. Medication is guided by experimentation like other parts of medicine, and is engaged in its progress to greater accuracy. That is mainly so since 1876. From that year on, though there were good hypotheses on the microbic nature of disease these 2,000 years at least since Varro, many diseases have become accurately known to have a bacterial origin, and sera and vaccines are employed to treat them. Malaria, the tsetse fly and glossina have consented to divulge their mysteries and to show their vulnerable parts. Pasteur has enriched agriculture industry and sanitation by the same methods. At present, medication may relieve and cheer when advanced tuberculosis, which so often is hopeful to the last, is not improved or alleviated by nursing, or climate, or sanitarium, in your neighborhood, or in a far away exile. Comfort the sense of annihilation connected with grave anemias, and prolong and ease the misery of a moribund carcinomatous father of a family. Give aid and hope. Do not try to fulfill impossible indications, for instance: The vast majority of my tubercular patients these 55 years have not been millionaires. I have learned that a low-priced attic with no window in Colorado or Liberty is not preferable to an open window in a suburban tenement in New York, and the solitude of a distant institution which takes his last dollar while his wife and children are destitute at home, does not improve the outlook of a man who lacks his accustomed food and a sympathizing eye, and the scanty aids of his poor dwelling.

In our therapy there is no severing of art and nature any more than in ancient Hippokrates. The stimulus given by cold water and friction to local and general circulation and sanquification, the influence of pulmonary gymnastics on abdominal plethora, of the regulating power of the stomach on the action of the heart, the very benefit derived from the proper recumbent or semi-recumbent or erect arrangement of the body in his couch, the determination of the quantity and quality and timeliness of food, the knowledge of when to stimulate the heart or to relieve it, the selection of either cold or warm applications, are part of one therapy as well as mercury or iodine or opium, digitalis or nitrites. Another part is the utilization in our individual cases of the adjuvant forces which add to our diagnosis and our success. One is the clinical laboratory.

With the ludicrous claim of the narrow bacteriologist who thinks that all medicine is limited to his lenses and reagents we have a great pity. They take the place of pathological anatomy which 70 years ago recognized in medicine nothing but itself. But the clinical laboratory, the best part of which should be established in our own office, aids us in forming the diagnosis

without which (in many cases) our therapy is crippled. The other is the help afforded by a specialist when our individual knowledge or art is insufficient. Do not despise it though it may not be the hand of a master which you are able to reach. Great masters are scarce anywhere. But be thankful for the aid given by one though he may not have reached the heights of his art. Crumbs are better than no bread at all. Let us be modest and admit that we may learn and our patient profit from a man who may otherwise be our inferior. Ambroise Pare went a great deal beyond what I here advise, when he said he had some use even for a quack until he could no longer learn from him. Beyond all, however, let us be thankful to the specialist, big or small, who at least upholds and teaches to the unbeliever the advisability of active treatment. I say active treatment, not maltreatment. A conscientious specialist will agree with us, that the warm cavities in which they are being coddled, are better for many a nasal septum and an ovary than a formalin reeking jar.

Which is the relation of modern medicine to specialism? Specialism is not new, ancient Egypt developed it to a wonderful extent, but neither Hippokrates, and Greece after him, nor Alexandria would recognize it, with few exceptions. There was not even a separation between medicine and surgery until 600 years ago. Modern medicine, however, has evolved special studies and practices to a surprising degree. Technical skill—that is true—can be attained best by repeating the same labor indefinitely. That is well known and acted upon in manufacturing; ten different men are required to furnish by the differentiation of labor the best style of a needle, or a tool. The result is twofold: an accomplished article, and an idiotic workman. Now, is specialism the ripest fruit of medical service and art? and the realization of profoundness? It is; look at Albrecht Graefe, or James Paget. It is not; look at the thousands of young men who turn to what they consider an easy road to money and reputation after having escaped from a medical school. The submission of patient after patient affords the self-styled specialist a certain measure of dexterity, the gifted amongst them also a greater facility of local diagnosis. Now it is true that one of the tendencies of the 19th century was in the direction of local diagnosis, but local diagnosis is not the quintessence of medicine, and the horizon ascertained through peering into a speculum is not the universe of a circumspect and wise physician. The latter is the modern Hippokrates, the revered head of his calling, the others are those whom Aristophanes and Moliere ridiculed. Still they may become useful. But when it seems to take an ophthalmologist to make the diagnosis of a chronic nephritis it is not a great feat after all; his opportunity came, because the doctor, such as we, was too obtuse or too lazy. When a peach stone is discovered in the suffering rectum by a proctologist, it required no specialistic acumen; the doctor was too indolent to make his own examination. When half a dozen practitioners treated an offensive vaginal discharge for years, it is their sin of omission in not looking for a twenty years' old rotting pessary, and not exactly the merit of the professed gynecologist. Is there a pain somewhere? They want a nerve specialist. A headache or giddiness? a psychiatrist. An urticaria from overeating? a dermatologist. An earache from a sore throat? an otologist. A renal secretion with a urate deposit after a midnight dissipation? a genito-urinary man, the same genito-urinary brother, when the urine is pale, which is the alleged proof that the uric acid is retained and demands expelling by a specialist. You could not do it. You know it has come to this that a chronic constipation is beyond your ken and requires a "metabolism specialist." The latter is so naive—or something of the kind—that he sends you the announcement of his limiting his practice to the disturbances of "metabolism." Abnormal metabolism was diagnosticated and treated in earnest by one of them—it turned out to be a case of pregnancy. One similar to it in a young woman of 21 years was treated by one of the neurologists—it was absence of the uterus and ovaries. Some of them have gone into partnership with underdone clergymen. The latter publish their neurological associates' names and office hours; they are expected to reciprocate by swelling the attendance upon churches which are no longer filled by sacerdotal eloquence and efficiency. Still they are worse off in other climes. A few years ago a Prussian judge acquitted an unlicensed dermatological malefactor on two grounds: first, because he was ignorant and could not be held responsible for mistakes; secondly, he, the judge, was credibly informed that the culprit had obtained valuable prescriptions from the body servant of a famous specialist and therefore deserved confidence. Will not this judicial wisdom of enlightened Prussia justify what is still revered by equally refined mediæval minds, who still believe in the specialistic powers of saints. St. Agatha restored the milk in the breasts of women, St. Anne cured eyes, St. Judas coughs, St. Valentine epilepsy, St. Rochus the ailments of animals.

The specialistic tendencies in their exaggeration are met with more extensively amongst the public than amongst medical men. When a man presented his child in my office and volubly insisted upon a specialist, I told him that if he were not satisfied with a doctor he might go somewhere else. That is what he meant to do. That is why that same afternoon he turned up in my college clinic and expressed the wise opinion that I might know about children, but not what was good for me. That you are asked by a new patient about your specialty, is your common experience. One of my friends was asked the same question. What he answered was: My

specialty is to treat rich people like yourself. Very many times I hear practitioners complain of having descended to the role of an agent for specialists, because their patients will apply for a diagnosis—perhaps not even that—and at once for the address of a specialist. To a great extent it is their own fault, for too often they will tell their patients to go to a specialist for trifles. That happens so frequently that the public looks upon us practitioners as a subordinate class of medical employees, and considers the word "specialist" as synonymous with "superior physician" or consultant.

Great changes have taken place in the short time of 1800 years. Harnack (*Medical Things from Church History,* 1892) reports that in the second century there was a class of exorcists, something like the modern difference between real physicians and so-called nature practitioners. But sensible people were sceptical. The jurist Ulpian refused to admit them to the position of doctors. He felt also doubtful about "specialists," and hesitated to accept them as practitioners under the rules of the law.

When you are criticised or pitied by a specialist, take your dose and let "no dog bark." A few months ago you could read about yourselves in an editorial of "American Medicine," what follows: "Arsenic is excessively and indiscriminately prescribed by practitioners"—that is you and I—"in the treatment of skin diseases, evidence of its frequent and unnecessary administration is too often brought to the attention of the specialist. The practitioner's rule appears to be when in doubt as to treatment, give arsenic. The specialist on the other hand withholds arsenic except when specially indicated." Where in this pronunciamento the necessary grain of salt is wanting, you know at once. Of another class of specialists Clifford Albutt has this: "I know that at certain spas even in angina pectoris, baths are prescribed, but spa reports require for their assimilation more salt than is always at hand."

The teaching of specialties, indispensable for the making of thorough practitioners and of perfect specialists, leaves much to be desired. If they belong to a full equipment, they should be taught by competent men who should be rewarded at least by satisfactory positions. The first medical school which established in America a full professorship for the diseases of children was the New York Medical College, which after its reorganization in 1860, as one of the vicissitudes of the Civil War, closed its doors in 1864. In 1860 the scanty instruction in the diseases of children which was a nominal appendage to that of the ailments of women was entrusted to a professor. He accepted in 1865 a place in the University Medical College and in 1870 in the College of Physicians and Surgeons. In both schools he enjoyed the title of "clinical professor." His function found no further recognition anywhere else but in the newly-found Bellevue Hospital in 1861. When in 1900 he was given the title of Professor, that advancement was only nominal, for it did not convey a seat in the faculty. The first real professorship was established by Harvard, where Dr. Th. Rotch has worked and taught successfully ever since. Many American colleges have since followed that example, in England none except Kings College, which has established full chairs for the diseases of children, the mind, the eyes, the ears, the nose, the larynx, the skin and the teeth. Thus mere toleration has ceased, and full citizenship been awarded to the special branches of medicine, which were utterly neglected in the curricula and so despised that a long time full fledged specialist certificates were given after courses not extending beyond six weeks, at the University of Vienna.

That has changed since. But our young men spend some of their time in vain. I have never been able to see in the almost compulsory fabrication of an "Arbeit,"—an effort—much more than the vanity of the head of a laboratory who, by printing the painful elaborations of pupils, believes, or wants others to believe, that he has founded a "school."

In Europe they like to specialize more than we do. They set up a specialty by advertising themselves in the newspapers. The pediatrist, the nerve doctor, the woman's doctor, the skin doctor advertises himself, his alleged specialty, and office hours. Our ethics are more refined and I believe our results are better. We expect a man first to deserve his position by impressing his peers and the public with his superiority. And I have known men who would succeed best when they minded what Gowers wants us to remember, viz.: that "specialism is not exclusivism."

Who is to teach therapy in our schools; the botanist who knows all about the structure and classification of plants, the chemist who remembers names of eight syllables and tumbles about H and O and N and C in endless combinations, or the physiologist who, while constantly—I hope—experimenting on animals, cannot always gather experience on the human body; or rather the clinician whose occupation is with the sick, and whose workshop a human living organism? This modern specimen of Hippokrates is imbued with the great principle of his ancient Father: Do not injure. He knows, on the basis of facts and of philosophy, that mere empiricism is sterile, that polypharmacy and polypragmasy are as reprehensible as apharmacy and apragmasy, or as over and under feeding. Our modern Hippokrates objects both to the therapeutic pessimism of the uninformed, or the mere naturalist, and to the optimism of the dilettanti who, mostly in the pay of manufactures, eulogize the latest synthetic chemical, which benefits the writer and his employer, if not the sick. He is also aware

that pharmacology and the clinic have got too far apart from each other.

The ideal teacher knows how to distinguish functional weaknesses from genuine disease, and recognizes the fact that the latter has stages with adaptable therapeutic indications; that a scientific diagnosis can be made on hills and in hamlets, but not without previous clinical and laboratory teaching, and that for city and country we should know enough and be diligent enough, to do most of our tests ourselves, and not to rely exclusively on the knowledge or honesty of laboratories; that a close study of a moderate number of ordinary cases is best for the instruction of the doctor embryo and not the hustling through wards filled with practically inaccessible material; that the same disease is not the same disease in different seasons, climes, constitutions and ages; that with every advancing decade there are increasing complications of lesions and symptoms, and of diagnoses, simple in the infant or child, which become more difficult from year to year and whose prognosis more problematical—indeed I do not know whether all our rising pediatric specialists have an idea of how difficult a task it is to become a real all-round doctor. The modern Hippokrates keeps his hands clean like Billroth, and cleaner than the ball-room dandy, and teaches how to do much with very little.

Oh! I think I understand what the great clinician, the modern Hippokrates, should be and should teach, knowing what many of us like myself are lacking in universal knowledge and usefulness.

There is, however, more in the great modern Hippokrates than a mere modern doctor. The ancient Hippokrates was a philosopher, the great modern physician reaches beyond the sick-room or the hospital ward into public life. His very spirit enters even the most modest country doctor who pays his attention to the prevention of individual and collective disease. The period of individual health cobbling has passed a century ago, or longer. The great clinician is a sanitarian. He teaches and practices the hygiene of schools, factories, mines, city and country; water supply, architecture, ventilation, the care of endemics and epidemics. But he knows quite well that a single measure is no cure all; that is why, being a great and good physician, he is a good citizen. So was Albert von Haller the Swiss, so was Virchow the German. By adopting and alleviating public cares the great physician becomes not only a benefactor but a public teacher, not only of knowledge, but of morals, of ethics, of responsibility to the commonwealth. One such great modern Hippokrates leaves his vestiges forever, though even his name be forgotten, through his imprint on the brain and the heart of his time. The question whether the physician should or may interest himself in politics, need not occur to him; he is a statesman. Being intimate with the four millennia that built up our medicine, he belongs to many generations and is a citizen of the present era and those which succeed us.

The ethics of Hippokrates is worthy of the best ideals of the physician. That is why the sentence:

"It is unbecoming to enjoy the riches of the Persians or to stop the illnesses of these foreigners, for they are enemies of the Hellenic people," is out of place. This sentence has been quoted quite frequently, but it should also be added that it is apocryphal. There is, however, one sentence which should be the daily intellectual food of the physician: "Wherever there is love of mankind, there is love of the medical art." His ethical teachings are frequently found connected with technical lessons, particularly with his indications for treatment.

"The past must be known, the present recognized, the future predicted and cared for. In connection with the disease there are two indications, either to be useful, or at all events to do no harm. Three factors there are in connection with therapy: the illness, the sick, and the physician. In regard to his art the physician is the minister (servant-therapos). The sick and the physician must combine against the sickness."

"The surgeon requires his sight, touch, hearing, his nose, his tongue, and his intellect."

Surgical work demands the consideration of: "the patient, the operator, assistants and instruments, the light, the location of every person and everything, the hour, the how much, the ways and means, the how and where, as regards both the body and the tools; the time, the procedure, and the place."

"I am of the opinion that we should keep our hands off those who have been totally overcome by illness." This warning contained in the book on "art" does not contradict, as it has been claimed (Th. Beck, Hippokrates Erkenntnisse, 1907), a rule laid down in the book on "diseases" which teaches to succor with treatment as much as possible those suffering from incurable diseases.

"It is the uppermost duty to cure the patient. If there be different methods to accomplish that, such a one should be selected as causes least anxiety and perturbation. For that is the nobler way and more appropriate for art for him who does not crave improper popular favor."

By far the noblest and most instructive teaching of the ancient sage, who, in this, like other things, followed the example of the reformed Asklepiads, in his "Oath," of which I extract the following. I know of very few historic manifestos equally impressive and touching:

"I shall give my orders according to my powers, knowledge and conscience, to benefit the sick and to defend him against injury and wrong.

"I shall give nobody a death working remedy, though I may be requested to do so, nor shall I

suggest anything of that nature; nor shall I give a woman a medicine to procure an abortion. I shall manage my art and lead my life honorably and piously, and commit no wrong or work an injury intentionally, nor perform any aphrodisiac action.

"Whatever, within or out of the practice of my art, I shall learn of the life of people, I shall bury in silence as a duty of discretion. If I shall observe and never break this oath, I may be permitted to live happily in my life and my art, and to enjoy the esteem of all men for all times."

At the period in which Hippokrates taught and practiced, the practitioner was a tradesman, or an artist. He had his shop, his office for consultations and operations. Many appear to have had accommodations for those who could not or would not go home—a medical boarding-house, a sanitarium. He was often assisted by young men, free or slaves. The latter might attend slaves, but no freemen. Bedridden patients were visited at their homes, and the young assistants were occasionally employed as nurses. At first presents were given and accepted in place of pay; they were soon substituted by money rewards, scant or rich, according to the means of patients, or to circumstances. There were also traveling doctors, some with irregular routes, others with regular changes like our climatic and watering place doctors, whose cards and letters of appreciation and thanks are immortalized in your waste paper baskets. There were doctors for the army and navy, for the poor and the towns, just as with us, and probably with still less pecuniary rewards, or position. For then as now the profession and the eminent physician were occasionally, from Sokrates to Descartes and Kant and Gladstone, rewarded with appreciation and honors, and the individual doctor was mostly liable to be treated by his patient worse than a tradesman. At present—I need not tell you—often worse than a tradesman. The latter asks and receives a *quid pro quo,* the doctor is required to work for no remuneration, or a small one. He that does no gratuitous work, or he who has merely financial gifts, is fortunately rare. Rich doctors are scarce, but gratuitous work is plentiful. Almost every doctor whom I ever knew to have ample means had them before he was a doctor. The accession of these men to our work has mostly been a great blessing, for there are those amongst them who, while not obliged to work hard for a scanty or moderate living, had the faculty and the ambition of making themselves useful in the laboratory and in literature, some also in practice. Though you may be no demonstrative handshakers your heart goes out to them. They raise the average standard of knowledge and of medical ethics in our profession. It is necessary indeed that we should have something to counteract the blighting influence of the commercial spirit of these decades of ours, and of withering poverty, and of grasping greed, in the overcrowded and carelessly invaded profession. And now let me quote, as an excuse, for the sin I am going to commit, our old friend Jonathan Swift, "I write for your amendment, not for your pleasure." What I wish to say in a few quiet words so that no outsider may notice it, is that our skirts are not clean.

One of the means of obtaining a foothold in crowded communities has turned out to be contract and society practice. In New York City alone there are more than five hundred doctors who either have it or crave it. Competition for such appointments is eager. It might be hailed as welcome if it would result in crowding that feature in its worst shape out of the practice of medicine by forcing men into other walks of life. But what it consummates is the degradation and demoralization both of the public and of the doctors. To earn at the rate of one dollar a year for an individual member of a society, and three for a family, they underbid each other, they coax and flatter and treat and otherwise bribe a society president or influential member. That is why what they arrive at is mutual jealousy and hatred amongst themselves, and contempt and despicable treatment at the hands of their customers or patrons. If they could only remember that the law of nature may be mutual strife, but is also mutual aid, and that what is the noblest of all vocations may be contaminated so as to be the meanest of trades. May the present efforts to efface that stain be successful.

Worse is to be said. There are those in the practice of medicine who demand and take commissions. Do you know what that is? An agent receives it when supplying a new customer. Is it difficult to say who pays it? Is it the employer? Is it the customer? The person insured or a purchaser? It is an indirect tax to be paid by the latter, the consumer, who is robbed in order to sustain a high tariff. Commissions are asked and given from and by apothecaries, truss and bandage makers, instrument manufacturers, even by poor nurses. Do not ask for proofs unless you want to have them. There is also a rumor—call it a rumor—that consultants are called because they offer or grant commissions—that practitioners call their consultant on that condition—a rumor—call it so—that a surgeon is given a case because he is willing or consents to be robbed of a big percentage of his fee, which is raised accordingly. Who is robbed? He? The patient who is unfortunate enough to fall "amongst thieves which strip him of his raiment"? My friends, it is not I that select that word, I found it in the gospel (Luke 13). And in Galen I found a sentence in which he discriminates between robbers and the practitioners. There is also a rumor—call it so—that many of these fleeced and fleecing consultants, medical and surgical, are quite capable, members or adjuncts of faculties and hospitals, and what is still more perilous, teachers of the future physicians of this republic. I love my profession as

you do. I want it to be respected and to respect itself. I want it without the blemish of bribery or mendicancy.

In this republic of ours with its freedom and individualism there is much corruption and graft. How does it endure and live? Because outside the centres of population, and of ill or honestly gotten wealth and temptation there is the big sturdy American people, too honest and massive for topheavy giddiness. Thus where is my hope and trust in our profession? In the tens of thousands of upright, honorable, at the same time shrewd and ever learning professional men as represented in the villages and towns, small and big, counties, states, and the union. If those who do not make it a habit of joining us here, if they but knew the advantage I and we have over them; and that what we, or some of us may carry here, is vastly outweighed by what we take with us in scientific gain, and what is more: in moral poise. Fortunately our profession has what is sometimes, in long intervals, met in political life, viz., a man to brighten millions of intellects, and to brace millions of characters. The Lincolns, the Schurzs, the Clevelands are rare, and their bodies are dead, but there is nobody that does not appreciate the presence and power and immortality of their spirit. So in medicine. The one great ancient Hippokrates is dead, so are Sydenham, and Haller, and Virchow. Their minds and labors, however, have fertilized the fields on which the modern Hippokrates has been growing, he and his class. For there is a whole class of them, and by growing in numbers and powers proves that the golden age was never behind us, but before us.

If I were to characterize the modern Hippokrates, it is thus that I should describe him. You who are fortunate enough to live with open eyes and ears, have seen and heard many of them, or know of them, both here and in Europe; for as medicine has grown and widened, so have her followers and practitioners and teachers.

He loves to behold four thousand years of the history of medicine as at the foot of the pyramid Napoleon's warriors, those of brave efforts. He amasses learning and delights in science; is equally patient and painstaking in study, on the platform and at the bedside; and scrutinizes the patient both for what the sick may add to his knowledge and what he may add to the comfort and welfare of the sufferer. While being searching and exact, he is conscientious and full of pity. He is equally joyful over restored health and over a new fact revealed by investigation guided by erudition and genius. That he will gladly publish; but he is seldom a text-book writer. He enjoys new truths discovered by himself or others; he is no priority hunter and is anxious to give credit. His character is full of simplicity, fidelity and loyalty; loyalty to his duties toward the individual, the hospital, and his pupils. He is the revered teacher of young and old, and a friend to the young colleagues in whom he honors the future of medicine. That is why they feel at home with him though, or because, he is a celebrity on both sides of the ocean. Gossip and low strifes do not reach him. His prototype, old Hippokrates, told him that "disputes amongst doctors cause disrespect of the whole art among the people, so that they begin to doubt the reality of medical art." In his practical work he is nobody's antagonist. His competition is judicious and gracious and guided by the unwritten code of ethics inscribed in his soul. That of the just he invites, that of the unjust he endures with forbearance. Still greater than as a physician he is as a man and a citizen. His eminent place in science and the community he utilizes in the service of the commonwealth. He is its adviser as a sanitarian, who augments for the millions both health and wealth. In that sense, as our modern requirements and responsibilities have grown and persist in growing, his opportunities and labors and his results exceed those of his older brother, Hippokrates of Hellas.

If we cannot reach him, we may try to imitate him. If we cannot be stars, we may try to hitch our wagons to them. If we do not succeed in that, we delight in looking up and admiring them. In connection, however, with our duties and our hopes we remember two great men, Shakespeare, who makes medicin say: "Who chooses me must give and hazard all he has," and Descartes: "If it be at all possible to ennoble mankind, it will be only through Medicine."

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## THE THERAPEUTIC VALUE OF THE MINERAL WATERS OF SARATOGA.*

By D. C. MORIARTA, M.D.
SARATOGA SPRINGS, N. Y.

Saratoga, with her famous springs, which long stood unchallenged as the foremost watering place in America, has, during the past year or two, received much unfortunate notoriety, the cause of which has been the complications evolved from business enterprises in our village.

Some ten years ago, several companies commenced collecting the gas from our springs for commercial purposes; this has continued ever since: and as the demand for this product has increased, they have increased their facilities by drilling more springs, and adding to these the most powerful pumps, to bring the spring water to the surface, where the gas is collected and the water wasted.

During this period, some of the springs in our village have ceased to flow, that is, their water level is so changed that the spring water does not come to the surface: the cause of this condition is a disputed point. The gas companies (those who compress and market gas) maintain that they have not influenced the flow of the spring waters, or modified the gas pressure at the springs; they insist that our springs

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have fluctuated in their flow from time immemorial, and that their present state is due to other conditions than *their* pumping, possibly to there being a number of wells unsealed and uncovered in different parts of the village, which would influence the natural flow of other springs. They further say that if the wells which have ceased flowing were cleaned out, they would flow as formerly.

Many of our citizens (the writer among them) do not accept this version of the cause of the new water level of our springs; but they believe the failure of the springs to flow, as in earlier years, is due entirely to the enormous quantities of water pumped by these gas companies, which exceeds in quantity the former normal flow of our springs by many hundred thousand gallons daily. Accordingly, there was formed a Citizens' Committee, their object being to preserve and restore the original condition of the springs of our village. Through the efforts of this Committee, the last legislature passed an enactment prohibiting the pumping of mineral water. While this measure was before the Legislature, many hearings were had and much feeling and acrimony resulted.

The gas people held that the springs had long been inert, and were "doctored," that is, the mineral qualities of the waters were added, and Saratoga had been marketing an artificial product. Statements were presented to the Legislature, attempting to show that this was so, hoping it would influence the members of the Committee and prevent the measure from becoming a law.

While individual springs may have failed to flow as formerly, or perhaps, as charged, may have been tampered with, as a whole the mineral springs of Saratoga are unchanged, and their virtues and characteristics are as they always have been. A forceful illustration of the absurdity of the statements made by the gas companies, is the fact that these companies obtain their product from the natural mineral waters of Saratoga. As a matter of fact, the water that is wasted after the gas has been extracted, contains about 400 grains of total chlorids to the gallon, which corresponds closely with the analyses of the original springs, which it is alleged were doctored.

This version of the controversy was published in the press generally. Thus it was heralded over the country that "the springs at Saratoga had failed"—an unfortunate, unnecessary and untruthful statement. Eventually, the measure prohibiting the pumping of the waters of our springs became a law, the constitutionality of which was at once attacked, and is now being tried in the courts. The result of this suit will in no manner influence the supply or the value of the waters of Saratoga, the point at issue being the present level of the spring waters, which are not pumped, and the gas pressure.

I believe this plain statement of the controversy necessary, if the medical profession is to have continued confidence in the waters of Saratoga. If, in individual cases, confidence in them has been shaken by such statements, I unhesitatingly affirm that the waters of Saratoga, as a whole, are all they ever were, in their physiological or therapeutic action. My observations as to the value of these waters were expressed in a monograph in 1898; and with increased experience, I have learned to have a still greater appreciation of their value.

For the general information of the profession who are not familiar with the mineral springs of Saratoga, I would suggest the original classification as being the best, which is as follows: saline or cathartic waters, alkaline, or as they are often called, table waters, and the chalybeate waters. Repeated analyses of the various springs do not show material deviation in their constituents from time to time. Thus each glass of water, having a definite quantity of chemicals, has a uniform action, which may be anticipated when taken into the economy, the same as any other combination of drugs. Naturally it is modified in its action, as are other drugs, by the combination of many chemicals, also the general condition of the system and the daily regime, such as food, exercise, bathing and environment. Each above-mentioned condition is of material value as a synergist to the water, in considering a cure at Saratoga.

Often our visitors, and occasionally their physicians, expect that these waters will be the essential factor in the betterment of their condition while at Saratoga, overlooking the necessity of a regulated, methodical life during their stay. In the past, I am sure many guests who have been sent to our village to convalesce or recuperate have been disappointed. This has been so, because they have not appreciated the necessity of having been directed just how and what to do while here. Some of our visitors come to the town and simply drink the waters, ignoring important conditions which must be considered, if they are to be benefited. Others use the different sorts of waters indiscriminately, drinking them at irregular times and in inordinate quantities, and also dissipating in food, drink and pleasure.

Frequently, patients have told me that they have drunk from twenty-five to thirty glasses of water in the course of the day, from the different springs; often the termination of such excess is a temporary indisposition. Thus it would seem that the patients are not aware of the importance of professional advice; and, on the other hand, I do not believe that the local profession realize the value and possibilities of the remedy which is at our very door.

To prescribe mineral waters properly, presupposes a familiarity with their action. Mineral waters are medicines, composite in character, and without doubt are potent both for good and evil. Because they are a mild medication, and

generally palatable, this fact is often overlooked. They all possess two characteristics as remedial agents; first, the immediate action; and second, the remote result. The latter is so slow that it is often not appreciated until the termination of one's course of treatment; even then the general well-being is not attributed to the cure. This thought I would emphasize, as my patients often express their views of the value of the spring water, which generally depend upon the immediate action observed, whether it be catharsis or diuresis. Naturally, after the stimulation of the gastro-intestinal tract, the liver and kidneys, from the use of the mineral waters, there must be an immediate feeling of well-being; but I assure you, it is more than this. The continued use of the water, through constant stimulation, causes a more positive reaction in the circulation, and in all glandular organs, and an improved physical condition is the result.

The saline waters, as a class, contain about 500 grains of total salts; of this amount, approximately 400 grains are total chlorids.

The alkaline waters contain, as a class, about 300 grains of total salts, of which 150 grains are total chlorids.

The analysis of a chalybeate water is not available, but it contains markedly more bicarbonate of iron than the others. As Thorn said: "Analyses of these waters, made at different times, show practically no deviation in their composition. Thus the amount of salts in each glass is readily determinable (it is about one dram); and it would, perhaps, seem simple to deduce the probable physiological action. But, as one observes the effect of those waters, one concludes that the action is greater than one would naturally expect, and that their activity has been materially augmented by nature's combination of chemicals.

The therapeutic action of the saline waters, when taken in quantities of a pint or more before breakfast, is to stimulate the mucous membrane of the alimentary tract, increasing the natural secretion, and exciting peristalsis, producing a copious, watery evacuation. Whether the result on the bowels is aperient or drastic depends upon the quantity taken.

The alkaline waters possess, in a measure, the qualities of the alkaline salts when well diluted. They stimulate the liver, increase the flow of bile, and often modify its character. They stimulate the secretions generally, and have a particularly marked effect on the glandular systems. When taken before meals, they stimulate and increase the acid secretion of the stomach. On the contrary, if taken at meals or immediately after, the carbonate neutralizes some free acid. Personally, I believe that the carbonic acid gas, which is present in our mineral waters, acts as a stimulant to digestion, prevents putrefaction, and serves to establish a general good feeling. If this class of waters is taken two or three hours after meals, they have a marked effect in augmenting the secretion from the kidneys, particularly in cases of high arterial tension.

In the chalybeate springs, the iron exists as a bicarbonate, and is a wonderful reconstructor. The effect is particularly quick and happy, and this is due, I believe, to the fact that all iron preparations are more quickly beneficial if the glandular systems are active and the bowels free. It is a delightful method of giving iron, and never seems to nauseate or constipate. It is most remarkable how quickly a patient responds to the almost infinitesimal quantity of iron found in these waters. If it had not been repeatedly verified, one would question if the result were not due to other factors.

The therapeutic effect of all classes of waters is modified, according to the method prescribed, the temperature, the quantity, the amount of exercise at the time of drinking, the time in relation to food, as well as the habits, diet, exercise, rest, etc. For patients generally, no directions are possible. Each case should have the same careful, painstaking observation as if other more potent remedies were to be employed. Generally, the saline waters are taken in quantities of from two to four glasses before breakfast, either hot or cold; and I believe they should always be drunk slowly, or even sipped; and that a moderate amount of exercise (say ten minutes), should be taken between each glass, and that a half-hour should elapse between the last glass and breakfast. The breakfast should be light. Usually, after taking a cup of hot coffee, the bowels will move. As a rule, this class of waters is only taken in the morning; though a marked diuresis will be the result if four or six ounces are taken every two hours during the day.

The alkaline waters are taken before, at, or after meals, according to the result desired. They should never be taken in large quantities, as is done by so many. Two glasses should be the maximum quantity taken at one time. The iron waters are best taken after meals, in quantities varying from four to six ounces, eight ounces being the full dose; and even this quantity will often produce headache. It is best to direct the use of a saline water, before breakfast, in conjunction with the iron water.

While we do not assume that the Saratoga waters are in any way superior to those of foreign spas where cures are taken, yet we do maintain that the springs of Saratoga are equally efficient; and that they are within the reach of many who could not afford either the time or the money for an extended trip abroad.

While the waters at Saratoga have a distinct therapeutic value when used internally, they also possess the advantages of the foreign waters for bathing.

Saratoga enjoys a moderate elevation, a dry sandy soil, associated with one of the most delightful, bracing atmospheres to be found anywhere. Notwithstanding all these advantages, if our visitors expect to receive the same benefit

as at a foreign spa, they must come prepared to submit to the same general regulation here as there. While our local municipality is not controlled as are those of foreign countries, yet our local physicians must exact of their patients the same attention to detail as is required in taking a cure abroad. Thus we must advise each patient as to the particular spring from which he is to drink and the time at which the water is to be taken. Every detail of the baths must be arranged, including temperature, time, period of rest, etc.; and if massage or exercise is prescribed, it must be done definitely. The habits of the patient must be regulated, as well as the diet, amount of exercise, rest, sleep—in fact, the entire cycle of twenty-four hours must be planned, if the outcome is to be what it may.

A careful history, a physical examination, an examination of the urine and of the arterial tension, are all essential before attempting to outline a regime. All of these, when taken together, constitute a cure. No medical man would ever believe that it was the waters at Nauheim that have made the Drs. Schott famous; on the contrary, it was their wisdom, acumen, and painstaking observation of the effect of the waters, that enabled them to acquire the knowledge of heart, circulatory, and kidney trouble, and gave them an international reputation.

Patients who sojourn at Saratoga, under the conditions just mentioned, will be benefitted in nearly all functional diseases and many chronic ones. Time does not permit me to go into the detail of my individual cases; but they have been many in number and diverse in character. In fact, as I formulate my data in relation to cases in which the mineral waters of Saratoga have been a factor in improving the condition of the patient, it reads so much like quackery that I modified what I originally intended to present here to-day. The fact remains, however, that the relief is obtained, and is due to the use of the waters, internally and externally, and to a systemized, simple life—free from irregularities, aided by a perfect climate and general sanitation. Here an out-door life is natural, and can be as free from the excitement and bustle of the city as one desires.

The more common conditions which improve under a course of mineral waters at Saratoga are constipation, functional derangement of the liver and gall-bladder, and perverted digestion, with their concomitant conditions, such as fermentation, autointoxication, anemia and chlorosis; also many inflammatory conditions of the urinary tract, gout, chronic rheumatic conditions, functional nervous trouble and obesity.

In closing, I would again call your attention to the fact that the mineral waters of Saratoga possess the same natural medicinal qualities as formerly; and those who visit Saratoga in search of health may derive the same benefit from a regulated life and the use of the waters as they could at a foreign spa.

## IMPROVEMENTS IN THE TECHNIQUE OF THE EXTRACTION OF CATARACT.

By LUCIEN HOWE, M.D.
BUFFALO, N. Y.

The object of this paper is to describe two modifications, which seem important in the operation for the extraction of cataract and two very simple instruments whose practical use has been proved by repeated trials.

The first point to which I wish to call attention is a new principle in the fixation of the globe, and to a pair of forceps for accomplishing this.

Practically every operator when extracting a cataract, finds it necessary to fix the globe in a position which will facilitate the making of a satisfactory corneal incision. It is true a few surgeons try to avoid this fixation, depending upon the ability of the patient to look down, when told to do so, thus exposing the upper half of the cornea. The practical fact is, however, that the majority of patients, especially the ignorant, and those who have but slight self-control, find it impossible to look just then in any desired direction—no matter how much they wish to do so. Therefore, although the operator may have commenced with the intention of not fixing the globe, he finds it absolutely necessary to do so, in order to complete the corneal incision.

Now we have all found that the fixation of the globe is attended with difficulties. It is easy enough, of course, to catch the conjunctiva below the cornea with the ordinary fixation forceps. But the trouble is that the conjunctiva is apt to tear. It is especially brittle in old age, and in such persons, of course, most cases of cataract occur. In order to obviate this difficulty forceps have been constructed long ago which have two branches. These afford a double chance of holding on to the conjunctiva.

But the practical fact is that in old persons the conjunctiva is apt to be so brittle that these forceps with two branches also tear away as promptly as any others.

It occurred to me, therefore, that it would be a good plan to find some other point for fixation besides the conjunctiva. When making dissections of the ocular muscles, it was easy to see that it would be possible to hold the globe in place if a pair of forceps could be made, the teeth of which would bite not into the conjunctiva alone, but into the tendon of the external and of the internal rectus muscles. Accordingly, I had such a pair of forceps constructed. Various modifications have been necessary in them as the imperfections in the original model were shown by trial. But the pair which is now presented seems to serve the purpose in quite a satisfactory manner. They are practically double tendon fixation forceps.

Their use is so simple as to be evident at a glance. After using the ordinary five per cent.

solution of cocaine, I am accustomed to apply one or two drops of a ten per cent. solution. Then, the speculum having been introduced, these tendon fixation forceps are first placed nearly over the position to which they are to be applied. Sometimes it is necessary to spring the two points of fixation a little nearer to each other or to separate them from one another to suit the globe as it lies in the orbit of that individual. This preliminary fitting having been done, the branches are first opened wide and then pressed firmly down, to catch not only the tendon, but even to reach partly onto the belly of each muscle. The teeth are closed, the spring clamped, the handle depressed and the eye is then ready for the corneal incision. The advantages of these forceps briefly stated are: First, They hold the eye in position, keeping it from rolling upward. Second, They prevent its rolling from side to side. Third, This obviates the twisting and distortion of the globe so often noticed, with its probable ill effects on the ciliary region. It also enables the operator to make a smooth incision free from ragged indentation.

It is evident that these forceps are useful not only in the extraction of cataract but in all other operations requiring fixation of the globe, such as cauterization or puncture of the cornea, iridectomy and the like. One of the most embarrassing situations in which the ophthalmic surgeon finds himself, and one unfortunately not uncommon, is with a case of acute glaucoma as usual in an elderly person, with perhaps valvular lesions sufficient to make general anæsthesia not altogether safe. In these cases also the double tendon forceps are a real boon.

A second point to which attention is called by this paper is the method of extracting the lens in cases in which the corneal incision has proved too small in proportion to the size of the cataract. The usual methods employed for this complication are well known to every operator and are also rather dreaded for the reason that they are either difficult or dangerous. To make much pressure on the globe, results often in loss of vitreous, to lift the lenses out with a spoon is equally dangerous, and attempts at enlarging the wound with scissors give additional opportunities for infection, besides interfering with the smooth wound which heals easiest and quickest.

In order to overcome these difficulties, attempts have been made by suction and otherwise to apply a *vis a fronte* instead of the usual *vis a tergo*. But these have not proved satisfactory in spite of the fact which every operator knows, that when the lens is in this position, only a slight touch to it, applied in the right direction, will cause its prompt delivery.

Therefore, when the lens thus presents in the wound, but sticks there, I have found the procedure is much facilitated by a pair of forceps especially adapted to that purpose. These forceps are nothing more than what we have long known as the straight iris forceps, only a curve has been given to each blade near its termination of such a form that when the two points approach, they close upon each other in an arc whose chord is less than the length of the minimum incision made for a cataract extraction. That means practically that when in the course of the extraction the operator thus finds the lens caught in the wound, the eye is rotated down with the left hand, the operator taking the cataract forceps in the right hand gently tips the lens sideways and with equally gentle traction, disengages it from its entanglements. Experiences of this kind, now several times repeated, have prompted this description of this very simple, but apparently useful little instrument.

Every surgical procedure of to-day is the result of a gradual evolution as one part after another of the technique has been gradually improved. The time required for that evolution depends on the complexity and delicacy of the operation. I venture to call attention to these two apparent improvements in the technique of the extraction of cataract, with the hope that they may advance a little further, the evolution of an operation which is, beyond question, one of the most complex and delicate in the whole ranges of surgery.

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## THE FIRST INTERVIEW WITH THE PATIENT.*

By WILLIAM S. ELY, M.D.

THERE is often a tendency in the preliminary examination of patients to overlook details which might help to a fuller comprehension of the case, and determine the best plan of treatment or management. A prominent consultant in a central city of this state recently said that it was common for him to see patients whose physicians had not thoroughly examined them before calling him in consultation. Hence, erroneous or inadequate diagnoses were submitted to him. It is this that suggested the subject of this paper—too little dwelt upon in text-books under the head of anamnesis—a word which has never come into general use.

The first interview with the patient—has its significance impressed you? Often you meet as strangers. The patient is in an attitude of distrust, suspicion, reserve—studying you as intently as you are studying him. It is high art to overcome this reserve, suspicion, distrust, while you are making your examination, and to compel the patient's confidence and belief that you understand him and his disease, if you really do, and are the most competent person to treat him and to tell him what he can know, what he ought to do, and what he has to hope for. To this end experience, address, training and knowledge of human nature in health and sickness con-

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tribute, and though it is no discredit to fail at times in winning your patient, success is highly satisfactory.

Every physician evolves his own method of examination and may excel in some particular. If time permitted, it might be interesting to compare and criticise different methods of investigating the problems of disease.

Of the many phases of our subject which deserve attention on the first interview with the patient, we can only refer to four that are at times overlooked:

1. The search for the causes of numerous disturbances that frequently receive only symptomatic treatment.
2. The correct estimate of nutritive changes.
3. The significance of heredity.
4. The psychical aspects of many disorders.

From the study of these factors comes a large part of the satisfaction attaching to our calling. We should consider every case as a problem to be solved, or a riddle to be answered. Without this interest and satisfaction our work would be monotonous. To those content with mere symptom treatment the practice of medicine must often be irksome.

1. Voltaire made an important contribution to accurate diagnosis in his little work called "Zadig," but "the method of Zadig" is yet unknown to the majority of physicians. The Sherlock Holmes of the sixteenth century was Zadig. He saw a thousand differences in nature which appeared to the untrained eye and mind as uniformity.

Perhaps lawyers could give physicians points in the investigation of their cases. Have you noticed the minute details into which lawyers go in tracing the doings of a witness—every movement of his life for days or weeks? While much of this evidence may seem to us irrelevant, it is often of the greatest value in making the diagnosis of a criminal.

Now the sick man has frequently violated some natural law, and in that sense is a criminal. He may deem it disreputable to be sick, and may conceal essential symptoms. Hence the doctor must at times be a detective to search out the causes of disease. If he combine the astuteness of the lawyer, the shrewdness of Sherlock Holmes and the method of Zadig, it may be possible on the first interview to solve the mysteries of many obscure conditions.

He may find that the illness has resulted naturally and inevitably from a mode of living certain to bring on serious disorders. When such information is obtained, and the cause of the sickness for which patients consult us is traced back to errors in food or drink, to overwork, or to excesses of various kinds, it is obviously our duty to have such patients understand that if they would prevent a recurrence of similar or more serious troubles leading to structural, incurable, life-shortening disease, their habits must be radically changed. This seems at times difficult so strong is the force of habit.

In most cases of sickness the appetite is more or less disturbed. A patient's statement that his appetite is good, bad or indifferent should sometimes be questioned. It may be wise to draw out specifically what he has eaten or drunk in the last 24 hours. Write down his answers. They may show that his judgment about the quality or quantity of his food and drink was misleading.

I have records which give in hundreds of cases the number of cups of tea or coffee, and the number of alcoholic drinks taken daily, and the number of cigars smoked. Very often when the patient sees in writing the total of his admissions on these points, his surprise equals that of his physician.

On the first interview with a patient it might be wise to learn the routine activities of his entire day, to determine the hours of work, the sanitary condition of the bedroom and the time given to sleep, the amount of food and fresh air taken, the nature of the occupation, and in the case of working people, the conditions as to fresh air, sunlight and so forth under which their work is carried on. The anæmia, headache, anorexia, constipation, depression, for which the physician is often consulted, may thus be accounted for. Frequently conditions that predispose to tuberculosis will be discovered.

2. All doctors do not have scales in their offices. I should as soon think of practicing medicine without a microscope as without an instrument for determining by weight the gross nutritive changes in patients of all ages. The macroscopic changes in disease should receive as much attention as the microscopic, and the scales are the certain test of the effect of treatment in many cases, especially in that large class marked by defects in nutrition.

3. In the first interview with the patient few physicians pay adequate attention to the factor of heredity in explaining predisposition to disease and susceptibility to disturbing influences, both moral and physical. We should endeavor to determine the degree of responsibility for both physical and moral disorders, which attaches to the ancestry of the individual. "Who did sin, this man or his parents, that he was born blind?" It is not enough to investigate merely the immediate progenitors of a patient—atavistic tendencies may go back a thousand generations.

Oliver Wendell Holmes says: "The body in which we cross the isthmus between two oceans is not a private carriage, but an omnibus." In this omnibus are crowded the elements of a diverse ancestry. If it be axiomatic that every disease has its adequate cause, then in so far as the cause is not in the individual, or his environment, it must be in his ancestry. The weaknesses and sins of one's progenitors may leave marks upon descendants that are indelible.

At times hereditary defects can be modified or removed. There are other times when we bear them through life as burdens, infirmities or limitations, constantly reminding us that in certain directions we are by inheritance weighted, weak

or unable to accomplish what otherwise might be possible. For some of our individual sins we may be directly responsible and should learn from experience to avoid their repetition.

The physician who is an alienist, a criminologist, or a student of sociology and degeneracy will find in heredity an explanation of many problems otherwise insoluble. It must be remembered that civilization is only a thin veneer of three or four thousand years upon a background of a hundred thousand years of barbarism and savagery. Scratch through this veneer and you come at once upon savage instincts and brutal tendencies. Tennyson says: "Where is one that —born of woman—altogether can escape, from the lower world within him—moods of tiger or of ape." The subjects most interesting to the majority of men to-day suggest our savage ancestry—murder, revenge, war, prizefights, bull fights, dog fights and feats of brute strength.

In the infinitely numerous combinations of ancestral elements which form each individual no two human beings can possibly be exactly alike in physical or mental, healthy or diseased conformation. Every man is thus, by the law of variation, his own standard, must be discovered, so to speak, in his capacities for work and longevity, in his susceptibilities to healthy and diseased activities, in his powers of resistance to toxic influences, to disease and death. Though the *average* man is constantly referred to, he has never been seen, does not exist, and can never be treated. Even his ideal varies with every physician, and is constantly changing with added experience. The "average man" in sickness is the "average case" for which the writers of textbooks lay down a plan of treatment so often disappointing at the bedside, where we never (even in the most superficial degree) see the "average case," only some special modification of him. The public knows nothing of the foregoing distinction, and is therefore frequently deluded.

We should not be disappointed because we cannot duplicate the marvelous successes of which we read in reputable medical journals, and hear details at medical meetings. Just as each patient differs from every other by name and residence, by disposition and constitution, so he differs in his behavior under sickness and injuries and operations, and in his susceptibility and response to drug action, and every remedial measure that is employed. Until we know our patient thus differentially, we only know him in part, and are not in the fullest sense qualified to treat him. It is the knowledge referred to that will always keep the faithful family doctor firmly enthroned among the household gods.

4. The physician who has neglected the *moral* and *psychical* study of his cases may on the first interview fail of their comprehension. That psychology is largely neglected in medical colleges and by physicians in practice is evidenced by the widespread belief in Christian Science, mind cure, faith healing and the more recent Emmanuel Church movement. All of these psychical aberrations reflect unfavorably upon the medical profession. The doctor who recognizes the psychical element in his patient on his first interview, and sees a moral element to be dealt with in nearly every case of sickness, furnishes few patients for the different cults referred to.

This subject is inadequately treated in textbooks of medical practice. It should be our duty to promptly recognize the disturbing effect of grief, overwork, worry, anger, remorse, depression, marital coldness or estrangement, upon previously healthy functions. The strain of business worries, of family discord, of social rivalries, of habitual excesses, could be dwelt upon to illustrate what is meant. These factors are too frequently disregarded by the physician in making his diagnosis.

When on the first interview a complete examination has failed to furnish an explanation of the suffering of a nervous patient, the silence, the blushing, the embarrassment which have met the question whether "the patient was happy or unhappy," have proved to be the key which has unlocked a history of neglect, misunderstanding, dyspareunia, sexual excesses, or marital cruelty and estrangement sufficient to destroy the health of the strongest patient.

Often the case has on the first visit shown to be one for moral management. By advice and encouragement, and by insistence upon an adequate amount of nourishment, by the effort to substitute healthful for morbid activities, and by getting the patient into the open air, and to places of entertainment, it has been gratifying to find how much could be done for the class of patients referred to.

If they need but little medicine, yet have great confidence in it, and none in diet, I give them a harmless remedy with instructions that each dose must be taken with a full glass of milk, or other portion of nourishment, and instruct them that if either be neglected it must be the *medicine* and not the food. Thus, it has been found practicable to give an adequate amount of nourishment to patients who otherwise would starve.

The time limit precludes reference to many other phases of a subject fertile in suggestion. Valuable contributions could be made by many in the audience.

We should on the first interview see more than the cold scientific aspects of our case. It has been truly said that the successful practice of medicine is science touched with emotion. A doctor's life is a divine vocation. Seldom give a hopeless prognosis. God and nature sometimes accomplish what seems impossible.

From the beginning of our professional life to its close we should strive after the knowledge briefly referred to, realizing the relativity of our possible attainments and remembering that "art is long, life short, and experience fallacious."

# INTRAMUSCULAR INJECTIONS IN THE TREATMENT OF SYPHILIS.

## AN OBSERVATION OF ABOUT 5,000 INJECTIONS.

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NEW YORK.

IN the *Medical Record* of September 2, 1905, I published the following notes on the subject:

*Convenient Points for Intramuscular Injections in the Treatment of Syphilis.*—"The progress which has recently been made in the treatment of syphilis by injections has been most satisfactory and indicates this method to be the choice in severe cases. The chief objection which has always been urged against the injection method, however, has been the secondary occurrence of subcutaneous or intramuscular nodes and infiltrations. After a little experience the writer was impressed with the fact that possibly these defects arise only because the injections are repeated at the same point or at intervals too brief and spaces too close to allow full absorption of the drug injected. Salicylate of mercury is probably most commonly employed at the present time, and is the preparation preferred by the writer. This method of using this drug and therein preventing the occurrence of nodes is as follows: The gluteal region is regularly employed. It is divided into four quadrants, by the vertical line of the intergluteal cleft and by the horizontal line passing through the upper limit of the cleft. The injections are given once a week in the upper part of each quadrant in the following order, alternating every week between the right and left sides: Right upper quadrant 1 inch from the middle line; left upper quadrant 1 inch from the middle line; right upper quadrant 3 inches from the middle line; left upper quadrant 3 inches from the middle line; right upper quadrant 5 inches from the middle line; left upper quadrant 5 inches from the middle line; lower right quadrant 1 inch from the middle line; lower left quadrant 1 inch from the middle line; lower right quadrant 3 inches from the middle line; lower left quadrant 3 inches from the middle line; lower right quadrant 5 inches from the middle line; lower left quadrant 5 inches from the middle line. The illustration indicates this arrangement distinctly (see page 98 of this article). The injections are then repeated, beginning at the same point as the first. Thus it will be seen that thirteen weeks intervene between any two injections at the same point. Thus all tendency toward the promotion of nodes is obviated and full opportunity is given for complete absorption of the drug. The writer has made several hundred injections in this manner and has never had any tendency toward infection or the production of painful lumps and nodes which persisted more than about two days after the injection, and even these have been rather rare. A large caliber needle 2½ inches under the head is advised, which has been boiled fully five minutes before being used. *Sterilized* suspension of the salicylate of mercury, 1 grain in 10 minims of benzoinol is employed. The skin is sterilized by scrubbing with tincture of green soap, then with alcohol and painting freely with iodin. Where the skin is deeply stained by the iodin the injection is made. Massage of the point of injection is then carried out for two or three minutes gently with sterilized gauze. The mouth of the needle-hole is again painted with iodin and flexible collodion is used as a seal. No other dressing is made. In this way, thus far, no difficulties whatever have been encountered and the patients greatly prefer the injection to any other method of treatment."

For the privilege of quoting this paper and of using the diagram therefrom full and due thanks are hereby acknowledged to the editor of the *Medical Record*.

This contribution was published after many months of experience with this detailed method of using definite points for the application of the injection. About three and a half years have elapsed since the method was first employed and it is purposed to endeavor to bring out the following facts concerning it.

The first important detail for consideration concerns the apparatus for applying this method of treatment as follows:

*a.* A deep tray containing a rack of four bottles, one each of tincture of green soap, alcohol, tincture of iodin and a 10 per cent. suspension of salicylate of mercury in sterilized abolene in preference to benzoinol previously stated with 2 per cent. chlorotone added as an anesthetic. The tray also has a medicine glass filled with 5 per cent. carbolic acid water in which the hypodermatic syringe-barrel is kept immersed and sterile. It is well also to have a glass of cotton applicators on matches or toothpicks and a bottle of collodion. Although mercury is an antiseptic it seems unwise not to scrub the patient's skin with a wipe of gauze with the tincture of green soap followed by alcohol and then with a touch of tincture of iodin with the aid of a swab. Through the spot of iodin thus painted on the needle is driven.

*b.* As the salicylate of mercury is only in suspension in the oil it is necessary to shake thoroughly the fluid before filling the syringe. It is convenient to keep the preparation in a flint glass bottle, so that the thoroughness of mixing the mercury with the oil by the shaking may be directly observed. If an amber or blue glass bottle is used this will be difficult or impossible.

The trituration of the salicylate of mercury is very important. The process should be continued until the mercurial salicylate is reduced to a very fine powder so as not to clog the needle.

*c.* With this precaution it is not necessary to have a relatively large needle (as recommended in the previous article) whose only function is to allow coarse powder to pass through. The syringe-barrel, kept sterilized in the carbolic acid water just mentioned, is plunged directly into the medicine, which renders filling the barrel far more easy than sucking up the drug through the needle itself, attached to the syringe.

The finest needle which will not bend or break, although 2 inches long, gives the least pain. Large needles increase the pain, hemorrhage and leakage of the injection. Rusting of the needles may be prevented by storing them in homeopathic phials filled with albolene. Wiring the needles is important because the mercury increases the tendency of the lumens to close by corrosion slowly with the insoluble, rapidly with the soluble salts. Keeping the needles sharp is most important in preventing pain. For this purpose what is called in the hardware trade a "five-inch, flat, dead-smooth, needle-file" should be at hand with which the needles are frequently repointed by filing after the method shown in Figs. 1, 2 and 3.

*d.* On account of the wide difference in the amount of fat over the gluteal region, the writer selects a needle 1½", 2" or 2½" under head, thus guaranteeing that the muscle and not the subcutaneous tissue shall receive the injection in a given case.

In determining the length of the needle, the gluteal fat should be lifted up between the thumb and finger so as to estimate its amount as accurately as possible. It is well to use a needle neither too short nor too long. A needle too short deposits the injection in the subcutaneous fat and an abscess will follow in many cases. A needle too long reaches the region of the larger blood vessels which increases the danger of embolism. A needle of proper length will deposit the drug about one inch beneath the surface of the gluteal group of muscles.

*e.* A refinement in private practice which

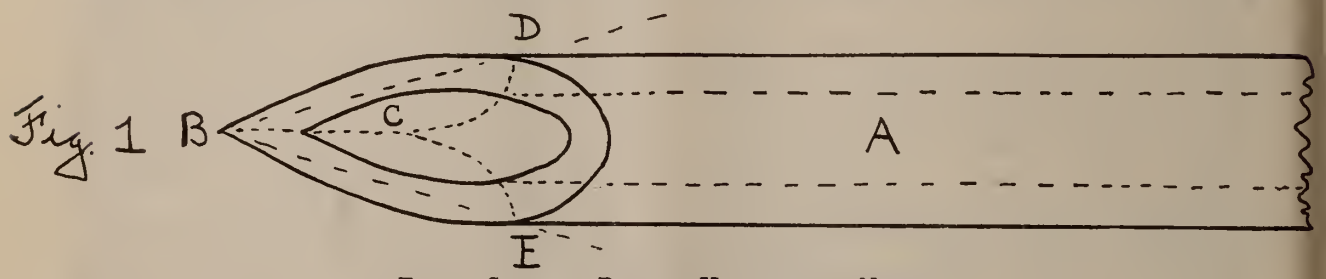



FIG. 1.—STANDARD POINT OF HYPODERMATIC NEEDLE.

Front view. A is in the lumen. The flat surface of the common point is shown reaching its apex at B. The dotted lines B C D and B C E show the part removed from the other side of the needle with the file to produce a pryamidal or three-sided point. The ordinary flat point is neither keen nor permanent. The dotted lines B D and B E represent the two edges of the point after the file cuts, as seen from the front of the needle.

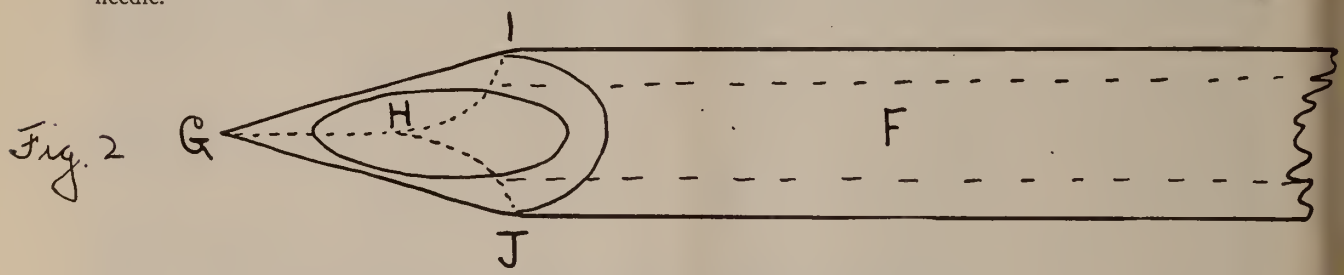



FIG. 2.—PYRAMIDAL POINT OF HYPODERMATIC NEEDLE.

Front view. F is the lumen. G I and G J are the sides of the new pyramidal point whose surfaces on the back of the needle are shown by the dotted lines G H I and G H J.

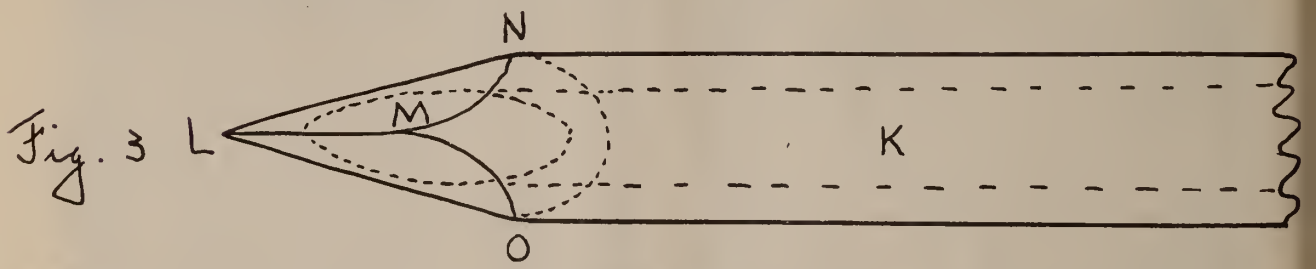
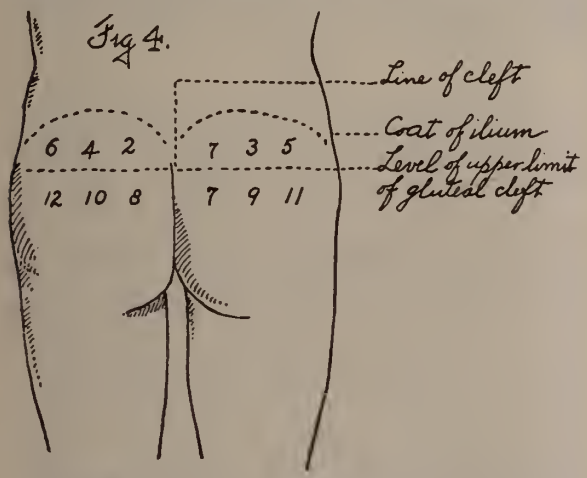



FIG. 3.—Same as Fig. 2, but is back view. K is in the lumen. L N and L O are the side lines of the new point whose surfaces are shown in L M N and L M O. The dotted lines represent the lumen of the needle and what is left of the original flat point.

while not necessary is appreciated by fastidious patients is to have an individual needle for each person. For the full satisfaction of the antiseptic conscience, the needles should always be boiled, and for the sake of making the pain less, the medicine should be warmed.

It is observance of these details which secures a proper outfit of instruments for good work, and all reasonable security against infection and other undesirable outcomes.

The second point to be elucidated in this paper is that of selecting sites for the injections. The first article on the subject of injections in the treatment of syphilis introduced the present monograph, but omitted the cut which appeared therein. Fig. 4 shows this cut.




Quadrants shown, as formed by the vertical line of the cleft and the horizontal line of the apex of the cleft. The numerals 1 to 12, inclusive, show the points of injection which are two inches (*i. e.*, a needle-length) apart in the vertical and horizontal directions, because the two levels of injections are respectively one inch above and one inch below the line indicating the level of the upper limit of the gluteal cleft.

It will be noticed that the quadrants are easily outlined and followed and that the points of injection are regularly two inches apart measured horizontally and also vertically. Each, in other words, is an average needle-length away from its neighbors.

Not only should the thickness of the fat be determined as previously stated, but the general thickness, firmness and arrangement of the glutei. Particularly should the position of the great sacrosciatic ligaments be known. These, in many patients, are much more extensive than the buttock itself indicates by inspection. When thus extensive, injection points 1, 2, 7 and 8 had best be omitted, otherwise the injection is deposited in or on, not into or upon the ligament causing great pain as absorption is necessarily slower from fibrous tissue.

Occasionally, for reasons that cannot be well understood, a given point in a patient always results in a painful injection. Such should be noted in the history and thereafter avoided.

According to definite circumstances the general plan of the injections must sometimes be changed. For example, some patients find that the higher line of injections is regularly more painful than the lower and *vice versa*. In such a case, therefore, the entire system must be either lowered or raised, according to indications. It is usually the high line of injections which causes trouble because the muscle is more ligametous there. In such patients the upper line of injections should correspond with the horizontal line passing through the upper limit of the gluteal cleft. Such facts as horseback riding and various trades requiring sitting at machines with movement of the lower extremities will require shifting the plan of injections upward.

One very particularly successful manner of making the injections painless is to halve the dose into each buttock at the same visit if the patient will permit or at different visits three days apart. The general map of the injections is followed of course.

Not only should the needle be sharp, but also should the plunge thereof into the tissues be very suddenly made in order to decrease the pain. Not infrequently the patients do not know when the needle is inserted, if the thrust is quick and strong.

The position of the patient is also important. The best seems to be either lying upon a table face down or standing and stooping over a table with the limbs far apart and rotated inward. Both these positions relax the glutei and thus make the deposit of the fluid less painful. The latter position is to be preferred because immediately before withdrawing the needle the patient brings his feet together and stands upright, thereby so shifting the muscle fibres as to close the prick of the needle against leakage of drug or blood.

It is not correct to say that an injection is painless because the substance injected is a foreign body in the tissues and must necessarily cause more or less distress. This depends on the sharpness of the needle, the rapidity with which the fluid is injected and the chemical activity of the fluid. A dull or imperfectly pointed needle certainly adds to the distress. Rapid injection of the fluid through its tearing action does so likewise. Immediate combination of the drug with the tissues also increases the pain. For this reason it is probable that the bichlorid of mercury is one of the most painful drugs available, as set forth in the statement of one of my patients at the end of this paper.

What occurs during an injection is exactly like that which is presented in a bruise. In a bruise capillary hemorrhage forms a foreign body which by its presence and pressure in large measure accounts for the tenderness and pain. In injections the fluid inserted into the tissues acts precisely as does the blood extravasated after

a bruise. As the blood or drug is absorbed the pain and tenderness steadily decrease.

Having observed that a 5 per cent. suspension of salicylate of mercury causes more pain than a 10 per cent. suspension, doubtless through the increased bulk of fluid necessary to give a stated dose, and having observed that a half-dose of 10 per cent. suspension injected into each buttock at the one visit to make up a full dose, is less painful than said dose embodied in one injection, the writer has been led to try a 20 per cent. suspension of salicylate of mercury. All authorities whom he has happened to read imply that a 10 per cent. suspension is the best. This may be due to the fact that a 10 per cent. suspension permits of very easy determination of dose. On the other hand, however, a 20 per cent. preparation would require just half the bulk of the 10 per cent. and be, therefore, equally easy to measure. Mechanically and pharmaceutically the 20 per cent, fluid is just as easy to shake up and draw into the syringe as the 10 per cent. It properly requires a little more time to shake it thoroughly into the oil than the 10 per cent., otherwise there appears to be no difference. Therapeutically, the writer has not yet had sufficient experience with it to express at this time a fixed opinion, nevertheless, it seems a suggestive thought that 5 drops of a 20 per cent. suspension will give one grain of salicylate which is half the bulk of a 10 per cent. suspension required for a one-grain dose, and doubtless much less pain will usually ensue if pain there be at all.

Two months of experience, however, have abundantly proved that a 20 per cent. suspension is in every way serviceable, reliable and safe, and that it causes vastly less distress and gives equally good therapeutic results. These observations are based on private patients' and in the New York Hospital on public patients' statements.

Hemorrhage may also be prevented by plunging the needle with a slight double obliquity of direction, for example, downward, forward and outward. When withdrawn, the fibres close over it.

Many authorities believe that the barrel should be unscrewed from the needle and the needle observed for active hemorrhage as an index of entrance into a vein. E. L. Keyes, Jr., in a recent issue of the *New York Polyclinic Medical Journal* states (what the writer, too, has found) that embolism occurs only once in a thousand times and those physicians who unscrew the barrel have no better results than those who do not as far as embolism is concerned. As the manipulation of unscrewing adds to the pain, the writer personally does not practice it.

Attention to these details determines success in this method of treatment, so far as the pain and hemorrhage are concerned.

The third proper subdivision of this matter comprises history-taking.

Recording the injections is important in order to follow the points from visit to visit. The writer has his history sheets quadrille ruled as shown in Fig. 5, which indicates the progression of treatment in rather an urgent case.

The dates of the visits are written at the tops of the columns. The abbreviated names of the quadrants are in the left-hand column, followed by the figures 1″, 3″, 5″, indicating distances from the middle line. The form of salt of mercury employed is written into a special space below the line of dates. The dose appears *opposite* the quadrant and its point used and *within* the column headed by the date of the visit. This patient began on a half-grain every three days, raised to three-quarter-grains every three days, then to one grain every week and finally to two grains weekly.

FIG. 5.

| Dates of Visits | Jan. 1, '08 | 4, | 7. | 10, | 17, | 24, | 31, | Feb. 7. | 14, | 21, | 28, | Mch. 7, | 14, | 21, | 28, | Apl. 4. | 11, | 18, | 25, |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Injections of Salicylate of Mercury in Grains: | | | | | | | | | | | | | | | | | | | |
| RU 1 | ½ | | | | | | | | | | | | 2 | | | | | | |
| LU 1′ | | ½ | | | | | | | | | | | | 2 | | | | | |
| RU 3″ | | | ¾ | | | | | | | | | | | | 2 | | | | |
| LU 3″ | | | | ¾ | | | | | | | | | | | | 2 | | | |
| RU 5″ | | | | | 1 | | | | | | | | | | | | 2 | | |
| LU 5″ | | | | | | 1 | | | | | | | | | | | | 2 | |
| RL 1″ | | | | | | | 1 | | | | | | | | | | | | 2 |
| LL 1″ | | | | | | | | 1 | | | | | | | | | | | |
| RL 3″ | | | | | | | | | 1½ | | | | | | | | | | |
| LL 3″ | | | | | | | | | | 1½ | | | | | | | | | |
| LR 5″ | | | | | | | | | | | 1½ | | | | | | | | |
| LL 5″ | | | | | | | | | | | | 1½ | | | | | | | |

The memory of patients cannot be trusted as to where the last injection was made. One's own memory also cannot be relied on as to the same point and as to the amounts being given. Attention, therefore, to the matter of written records is the cost of a reliable manner of using this method of treatment.

The third logical subdivision of this subject concerns the selection of the preparation mercury.

Considerable controversy has been waged as to the relative advantages of the soluble and insoluble salts of mercury in treating syphilis by intramuscular injections. It is perhaps unfortunate that so much stress has been laid upon purely chemical considerations. The fact that the so-called insoluble salts become in the body more or less steadily and regularly or at times

very rapidly absorbed is proved by the prompt occurrence of symptoms of overdose signified usually by salivation, diarrhea and intestinal cramps. It is doubtless true that a salt of mercury which is soluble in water will probably be more rapidly absorbed into the fluids and tissues of the body, both of which are rich in water, but, on the other hand, we are not at all in position to state what is the precise physiological chemistry of absorption either of the soluble or the insoluble salts. That insoluble salts are of potent therapeutic value is proved by many clinical observations and by the experience of many experts. Most authors are now of common opinion on the point that the insoluble salts are of very great value, particularly in the fact that their slow absorption relieves the patient of the distress of an injection every day, or several days in a week. Commonly in the case of the insoluble salts one injection in five to seven days is ample.

Between the truly insoluble salts, like calomel, and soluble salts of mercury, like bichlorid, there is another group which while slowly soluble in the body is regularly and consistently efficient. To this group the salicylate of mercury belongs and is probably to-day the most serviceable preparation. Upon this point Alexander Garceau in a paper read before the Pierce County Medical Society, Tacoma, Washington, February 20, 1906, says:

"Of the inorganic salts of mercury those that are insoluble like calomel are slowly absorbed, but are very painful, while the soluble salts, though less painful, are absorbed more rapidly. The compounds of mercury with benzoic and substituted benzoic acids are found to possess the advantages without their accompanying disadvantages. Their use has been largely empiric and their action not well understood. The mercury is gradually absorbed, the injections are but slightly painful and as efficacious as those of calomel. An objection to their general use has been getting the same preparation. At one time a mixture is clear and acts splendidly, again prepared by the same druggist from the same ingredients, it is cloudy or even flocculent and painful to the patient. If filtered, part or all of the mercury may be lost. In the light of recent investigations (see Pesci, *Chemisches Centralblatt* 1900, 1097; 1901, 108) (Dimroth, *Pharm-Zeit*, 1901, No. 3) this behavior is easily explained. The chemistry of these mercury compounds is rather complicated. They are not simply salts of mercury with complex acids, but the mercury enters the benzine ring, giving rise to very stable substances, mostly insoluble in the salt solvent. By proper manipulation these compounds may be kept in solution and it is probable that their slow action and absorption is only attained after molecular rearrangement. Such solutions are very valuable in the treatment of syphilis, and the dosage can be made much more accurate than with insoluble salts.

"The simplest of the compounds is that of mercury and benzoic acid, $C^6H^5COOH$. Then comes that derived from salicylic acid, $C^6H^4$ (OH) COOH, but a little more complicated. Then we have the salts of phenosulphonic acid, $C^6H^5SO^3H$, with its derivatives. The paraphenosulphonate and the amidoparaphenosulphonate have been extensively used in France. I have obtained the best results with the sozoiodolate, chemically the salt of diodparaphenolsulphonic acid, $C^3H^2$ $(I)^2$ (OH) $(SO^3H)$. A discussion of the constitution of this salt would be in place were this a meeting of chemists, but would take most of us beyond our depths. A glance at the table of percentages will show that the sozoiodolate contains the smallest percentage of mercury, and yet it was proved so much better than the others in my practice that I am inclined to attribute part of the action to the iodin that it contains. The objection may be urged that the small quantity of iodin in each dose can have little therapeutic value. The usual daily dose contains about 1/8 of a grain of iodin in the mercury sozoiodolate, and less than half a grain in the iodid of sodium and this is generally negligible, compared with the doses given subcutaneously in some of the organic preparations, like lypridol or iodopin. However, we have something similar in the administration of mercury by mouth. We have all seen cases in which an iodid of mercury acts properly where a chlorid fails, and yet the amount of iodin is trifling. Combined with mercury, we get results that we cannot get from much larger doses of either given separately. When this problem is solved we shall know why the sozoiodolate is so efficacious and why the iodin is so necessary. Until then we must take facts as we find them."

The foregoing is the best explanation the author has seen as to the chemical action of the salicylate of mercury in delivering mercury to the system slowly and steadily.

Careful inquiry among my intelligent patients seems to indicate that the real activity of an injection of the salicylate of mercury ceases on the fifth day, so that if the injections are repeated every five days in the severe stages and every seven days in the ordinary stages of the disease it seems likely that adequate treatment will be given. This only bears out the wisdom of the practice which the author follows, namely: of giving a small dose in the early secondary periods of the disease, every four or five days until the patient's capacity for the drug and reaction to the drug have been ascertained, and then of giving an injection representing this determined capacity once a week.

Garceau's remarks about the use of iodin with mercury are true within the writer's experience and within the observation of most syphilographers, namely: that it allows more mercury to be taken and as a rule *vice versa* mercury permits more iodid to be administered.

In passing it may be noted that Garceau in the same paper says on the point of choice between the various methods of administering mercury in syphilis, that:

"However, at the present writing, in Paris, at the St. Louis, Broca, Pascal, St. Lazare, and other large hospitals where so many syphilitics are treated, and where such eminent syphilologists abide, there is very little else used in the treatment of syphilis than the intramuscular or intravenous injection of mercury."

In other words then the method of placing the drug where it may be absorbed independently of the usual physiology of the skin or of the digestive system seems to be steadily gaining ground.

The author thinks he has noticed in reading papers by others on this subject that when they object to the intramuscular injections it seems to be because they have not studied the question sufficiently. Garceau upon this point says the following, which seems to be worth verbatim quotation:

"In Prince A. Morrow's work on Syphilology, edition of 1895, there is an article by Dr. J. A. Williams White, on the treatment of syphilis. In this treatise designated 'The Method of Administering Mercury,' Dr. White devotes much space to the then so-called hypodermic injections, calling attention to formulas, technic, etc. He then sets forth to criticise, in no very complimentary terms, the arguments of those who had at that time favored this method. He says: 'The superiority of this method of treatment to all others has been most extravagantly and persistently set forth by its advocates during the last ten years.' He proceeds to refute this extravagant and persistent advocacy by the written testimony of such eminent dermatologists and syphilologists as Kaposi, Neumann, Kreis, Besnier, Fournier, Brocq, Mauriac, Hutchinson, Taylor, Bangs, Belfield, McBurney, Chismore, Fordyce and Keyes, all of whom stated either that hypodermic injections in the treatment of syphilis were productive of danger, or that they considered other methods superior.

"Many of these authorities had never used this treatment at all. In view of this consideration the value of their testimony is questionable.

"It is thirty years since Lewin first advocated the hypodermatic use in syphilis, and during this time there has been much diversity of opinion regarding it, and reverses and successes have marked its testing; but recently, experience with improved mercurial preparations and technic has turned the balance in its favor and done much to destroy the prejudice and adverse opinion of the medical world."

It would have been more conservative if Garceau had expressed part of the foregoing a little differently, perhaps to the effect that the authorities who in the past did not succeed with the injection treatment failed because they did not have the modern preparations of mercury and their advantages.

On the whole the salicylate of mercury has succeeded best in the writer's hands.

Having chosen the salt, the next or fifth chief heading of the subject concerns the time for beginning, continuing and ceasing injections.

*a.* Concerning the quantity of mercury administered at each injection, as in all other methods of treating syphilis, sufficient mercury should be given to control the patient's symptoms fully.

With regard to determining the dose of the salicylate, the writer starts with a ¼ or ½ grain once or twice a week, depending on the severity of the attack, the nervousness of the patient and his general nutrition. Soon this amount is carried upward until the average dose of about 1½ grains per week is reached, occasionally 2 grains or a little more may be given to large sthenic patients.

*b.* Concerning the time for instituting the injections, the writer believes that all suspected open lesions should be examined for the spirochaeta pallida. If this organism is found injections should be begun at once on the ground that we are dealing with a parasitic disease and that to wait for this parasite to spread through the system actively at large is to let it gain so much headway as to perhaps finally defeat cure. The secondary signs of syphilis undoubtedly mean that the organism has been universally scattered and that the disease is fully established. If we take tuberculosis as a parallel disease, also parasitic, we note that we subject the patient to the best possible treatment at the earliest diagnosis which may be founded on a few clinical signs or subjective symptoms such as breathing signs at the apices, retraction, slight afternoon fever, slight acceleration of the pulse, emaciation, cough, expectoration and the like, all variously associated from patient to patient. It is by following this plan of early treatment that we are securing cures in consumption. We do not wait for the disease to run riot in the patient. So in syphilis, we know now with more and more certainty that the organism tryponema pallidum is the cause. Can there be, therefore, any just ground for not beginning treatment as soon as this organism has been found and before the signs of its systemic invasion appear as evidenced by secondary symptoms in the skin, mucous membranes and elsewhere?

For nearly a year Dr. Benjamin White and Dr. Oswald J. Avery of the Hoagland Laboratory in Brooklyn have been examining all chancre cases at my clinic at the House of Relief, for the organism and we have followed faithfully the rule of beginning the injections of mercury in all patients in whom these organisms are found.

Below is the table furnished to me by courtesy of Dr. White and Dr. Avery as to the results of their investigations of the occurrence of the

tryponema pallidum (spirochæta pallida) in my clinic at the House of Relief. Acknowledgment of their kindness is hereby fully given.

| Lesion. | Total Cases Examined. | Positive Findings. | Negative Findings. | Percentage Positive |
|---|---|---|---|---|
| Primary (untreated lesions).. | 33 | 33 | 0 | 100.0 |
| Primary (local treatment).... | 13 | 7 | 6 | 53.8 |
| Primary (general treatment).. | 1 | 0 | 1 | 00.0 |
| Secondary, untreated: | | | | |
| Macular syphiloderms ..... | 1 | 0 | 1 | 00.0 |
| Maculopapular syphiloderms | 1 | 1 | 0 | 100.0 |
| Condylomata ..... | 3 | 3 | 0 | 100.0 |
| Mucous patches ..... | 1 | 1 | 0 | 100.0 |
| Moist papules ..... | 3 | 3 | 0 | 100.0 |
| Secondary, treated: | | | | |
| Maculopapular syphiloderms | 3 | 1 | 2 | 33.33 |
| Pustular syphiloderms ..... | 2 | 0 | 2 | 00.0 |
| Mucous patches ..... | 6 | 3 | 3 | 50.0 |
| Moist papules ..... | 1 | 1 | 0 | 100.0 |
| Tertiary ..... | 3 | 0 | 3 | 00.0 |
| Nonsyphilitic ..... | 30 | 0 | 30 | 00.0 |

The diagnoses as given were clinical, for the admission of the patients, the endeavor being as far as possible to make each diagnosis very carefully. The classes of case examined are duly set forth by the list.

In addition to the presence of these organisms in the lesion the following are valid rules for the early administration of mercury.

When the chancre is extragenital and particularly when located on the face, as on the lip.

When the chancre is extragenital and located so as to endanger infection of others, as on the hands of physicians, nurses and other attendants of the sick, and on the nipples of nursing women.

When the chancre partakes of destructive tendencies so as to damage the part infected very greatly.

*c.* Concerning continuance of the treatment, the following may be stated:

In general, the treatment of syphilis must recognize the three broad types of invasion met with, namely: first, the benign form from which patients fully recover, go on to have healthy children and live fully unaffected by the disease. Second, the relapsing form, not infrequently benign in general characters but severe and uncertain enough to tend toward recurrence of symptoms, unless the patient is careful of himself and the physician duly watchful. Third, severe form of infection leading to great deterioration of health and not infrequently to death, more or less attributable to the syphilis itself, its complications or its sequels. In modern days, owing to early diagnosis and better management, this form is fortunately uncommon.

Hereditary syphilis is the product of the last two forms as a rule.

Aside from the actual course of symptoms of syphilis, probably the best single factor is the weight, as a guide to the patient's resistance of the disease. The syphilitic who is doing well usually gains in weight because his regular habits of living, his improved food, and increased watchfulness as to bodily and nervous wear and tear, together of course, with proper treatment, all tend in this direction. If, however, the weight of the patient steadily decreases, it may be taken as beyond all question proved that the treatment is either inadequate and improper (although active open symptoms of the syphilis may be absent), or that the resistance of the patient is imperfect or that some associated condition, like tuberculosis is present.

The writer is convinced that the view of those authorities is correct who claim that mercury should be given whenever treatment of syphilis is attempted. Not only in the secondary but also in the tertiary stages. It is undoubtedly true that our best results are obtained when mercury and the iodid of potash are given together rather than when the iodid of potash is given alone, even in large and ascending doses. While the iodid of potash is a most important alterative and adjuvant of the mercury it cannot in any sense be called a curative measure. Mercury is the true curative drug in syphilis so far as our present knowledge is concerned.

*d.* Relative to the interruption of this method of treatment by injections, the writer holds the following views:

Many authorities claim that the injection method of treating syphilis should be interrupted by long periods of rest from treatment and that a distinct total number of injections should be given, for example: E. O. Smith (*Lancet Clinic*, Dec. 8, 1906) says: "The beginning dose should be a quarter of a grain of the bichlorid, unless the case is very severe, repeated every day for a few days, then every alternate day, and later twice a week until fifteen treatments have been given. After an interval of a few weeks the injections are to be resumed. Four series of fifteen injections each should be given the first year, and three series the second year. Very severe cases call for larger doses and more treatments during the first year.

"In order to feel sure the patient is well, severe cases should be treated over a period of three years instead of two. About one hundred injections are required to cure the average case."

If we reduce this statement to arithmetic we find that one hundred doses of a quarter-grain each make twenty-five grains of the bichlorid of mercury distributed over two years of treatment. If the same patient were able to take a quarter-grain of the protiodid or other salt of mercury three times a day internally, he would receive in a year 225 grains (allowing about two months of rest from treatment in a year), and in two years he would receive 450 grains. If we look at these two totals of mercury one is impressed by the fact that the rule laid down by Smith is erroneous, even if due allowance is made for temporary nonabsorption by the digestive system of the drug taken.

The writer believes that the intramuscular injections for syphilis should be continued regularly through the two or three years of treatment unless some special reason arises for discontinuing them. Of course, out of each year about two months' rest from treatment should, in all circumstances, be given preferably at a time when the patient is in favorable surroundings, such as vacation and travel.

A very good plan is, when the patient will submit, to maintain treatment for at least three years with about two months' vacation each year and occasional recessions in the amount given. This rule applies to patients who have been followed from the onset of the chancre, with its contained tryponema pallida.

Patients with relapsing symptoms after many years of freedom from active signs are treated for at least one year which is dated from the time when under resumption of treatment there occurs total disappearance of the symptoms so relapsed.

Grave cases of syphilis tax one's ingenuity to the utmost and require not only the largest possible doses of mercury but also the iodid of potash. Not infrequently, arsenic and quinine must be added in order to gain headway against the disease.

*c.* Concerning the ending of all treatment the following is to be noted:

When the patient is intelligent enough to appreciate the importance thereof and to co-operate accordingly, the writer prefers to make a physical examination every two or three months for a few years after the active treatment has ceased. Here again these patients are analagous to cured cases of tuberculosis, which certainly should be submitted to periodical physical examinations of searching character for several years after the so-called cure has been obtained.

Upon the general prognosis of syphilis which might well be the sixth portion of our subject, H. M. Christian makes the following statements which are worth quoting:

"Syphilis, occurring among the upper and middle classes of our people, in individuals endowed with good health and of fairly good habits, if seen early in the secondary stage of the disease and promptly and properly treated, is, in the great majority of cases, a perfectly curable disease. This is a proposition generally accepted as true at the present day by those having the widest experience in the treatment of the disease. Equally well recognized is the fact that syphilis occurring among the half-starved and half-washed members of the community, and in habitual drunkards. cannot be cured. The same may be said for cases having once developed tertiary lesions. Treatment can cause their disappearance, but cannot now cure the disease."

Our seventh subhead concerns the four dangers, recognized with regard to intramuscular injections: embolism, node-formation, abscess-formation and toxic accumulation (overdose).

*a.* Embolism has occurred in the writer's experience six times in three and a half years among doubtless fully 5,000 injections. Two of these cases of embolism were in the same individual and occurred in both instances when the injection was made at a point corresponding to the emergence of the gluteal vessels through the great sacrosciatic notch. The spasm of coughing which followed was moderate in the first and severe in the second attack and was followed by nausea in the second attack. The heart was not affected, but the patient being an alcoholic was nervous and insisted on a drink of whiskey as a bracer. This point of injection has been avoided since in this individual and he has never had another embolism during two years of regular treatment. Two other embolisms caused the briefest possible cough and no other inconvenience.

The fifth case of embolism was at the first injection in a boy; was moderate in degree accompanied by slight rapidity of the pulse and lasted only three or four minutes. No restoratives were given. At the House of Relief thus far we have had no cases of embolism.

The sixth case of embolism was the severest. It occurred in a police officer of athletic physique. Without any heart depression he had violent spasms of coughing, a sense of oppression in the chest and finally the expectoration of blood which lasted about twenty-four hours and then cleared up. Careful examination of the chest revealed no physical signs. The man ran no temperature so far as he could state and suffered discomfort for only a few hours.

*b.* Node-formation commonly occurs when the medicine is injected not into the muscle but into the subcutaneous fat. This fact only emphasizes again the importance of having sufficiently long needles. If a node in the muscle appears the writer omits the injection at the next visit altogether or greatly reduces it. If it is omitted large doses of iodid of potash are given for the corresponding week. This seems to be only simple, good judgment. Not infrequently the patient will have the subjective sensation of a node when none whatever may be found upon most careful examination, even with one finger in the rectum. If a little massage is exercised over the ordinary node with gentleness it will usually disappear during the following week. The flat of the hand is better than the fingers.

In severe cases of syphilis when a node has followed an injection the proper thing to do is not only to give potassium iodid but also mercury by mouth. If symptoms of overdose of mercury should appear, the pills could then be withdrawn, otherwise mouth-medication could be continued until the node is absorbed or nearly absorbed.

The reason why the writer is so careful in the presence of these nodes is that no one can tell

what they mean, that is to say, a node may mean nonabsorption of the dose, hematoma, beginning infection or all three or any two combined. There is no way whatever of settling this question except by waiting. During this waiting the treatment must, of course, be continued, and no method is better than the giving of iodid of potash alone or with mercury by mouth. When the nature of the node has been established by a few days' waiting the injections may be wisely resumed. It is again attention to these details which has determined success of the injection method in the writer's hands.

*c.* Four cases of abscess have come under observation; the first was from an introduction of bichlorid of mercury into the subcutaneous fat by an inexperienced assistant at the House of Relief before he had received suitable instruction. We were at that time making observations with the bichlorid of mercury and soon gave it up. The abscess was extensive, superficially located and quickly healed after evacuation and with careful surgical dressing.

The second abscess was in a prostitute in the writer's private practice, who had before coming under his care received six injections a few days apart at nearly the same point, namely, in an area about the size of a quarter-dollar piece in the left buttock at a point corresponding with the writer's eighth injection, that is, in the left lower quadrant one inch from the middle line. This was really a necrosis abscess, and in the writer's opinion a monument to the incompetency of the doctor from whose hands she came. Practically any drug similarly injected in any disease would have caused an abscess.

This patient was not only a prostitute but also a morphin and alcohol fiend and the victim of severe syphilis. It was, therefore, impossible to discontinue her injection treatment in any way. As her stomach would not tolerate medicines and as she refused inunctions and fumigations, the writer was compelled to continue the injections notwithstanding the pus present from the other abscess. Although the skin was always thoroughly sterilized, one injection formed an abscess which fortunately healed with rather remarkable rapidity. This abscess clearly caused by the presence of other infection, could hardly with propriety be ascribed to the method of treatment, nevertheless as it is a part of the records it should be published.

The fourth abscess (so-called) was in a private patient in the writer's care, which later developed into a true gumma. It is reported as an abscess because that is what the writer at first considered it, but as the patient developed gummata at quite the same time on the thigh and calf of the opposite side of the body, he is of the opinion that the diagnosis of abscess is incorrect. The patient had been totally neglected as to treatment for nearly four months before coming to the writer and had a vicious attack from the first sign of the disease. In fact, the foregoing four abscesses are narrowed down to one true abscess caused by the faulty use of the bichlorid of mercury and to one due to infection from an existing abscess, so far as the writer's work is concerned.

*d.* Toxic accumulations of mercury in the system due to the injections the writer never has seen, largely because of the precaution he exercises in the presence of even a moderate node. Cases of salivation have, of course, occurred immediately after a large injection. Not a few of these cases of salivation were intentional in order to mercuralize the victim as quickly as possible.

What might be called by many a case of accumulation but in the writer's opinion could not possibly be such is the story told by one patient who some sixty or seventy days after his last injection was attacked by violent diarrhea and purging. The season was the summer and the man who was a traveling salesman, had just returned from a long trip. Since he never developed nodes while receiving his injections I believe this to have been purely a case of summer intestinal infection. It is mentioned, however, through fearlessness of reporting one possibly unfavorable result in this detail of accumulation and overdose.

Conclusions. After having given or been officially responsible for something over 5,000 injections in three and a half years, the writer is convinced of the following facts and advantages in this method of treating syphilis.

1. The injection method of treating syphilis is the most efficient of all methods.

2. It keeps the patient best under control of the physician because he must return once or twice a week for his injections and for other treatment as needed by perhaps new symptoms.

3. Although the medicine used is an antiseptic the injection is a surgical procedure and as such requires the usual precautions of sterilization of the skin and of all instruments used. Rigid asepsis must never be neglected.

4. If the injections are slowly and gently given with a long needle and if the patient in the proper position of relaxed glutei, they are in most cases virtually painless. If painful, the patient may be told that they are exactly like a bruise and of no more importance. In the bruise the extravasated blood is the foreign body while in the injection the medicine is the foreign body causing the slight pain, by separation of the muscle fibres.

5. Node-formation of longer duration than two or three days is very rare if the injection is gently and deeply made into the muscle.

6. Abscess-formation may be totally avoided if sterilized fluid, needle and skin are obtained.

7. Embolism is a real danger but is in fact very uncommon. In the writer's experience a little less than once in 1,000 injections.

8. Toxic accumulation is hardly excusable if palpation of the point of the preceding injection is made at each visit, before giving the next injection.

9. The salicylate of mercury appears to be so ultimately satisfactory that no other salt need be considered. The terms soluble and insoluble salts meaning as they do the *laboratory solubility*, are unfortunate. The soluble salts of which bichlorid is the type give a very prompt and extreme reaction during the first 24 hours. The so-called insoluble salts, with the salicylate as the type give a slower, surer and more prolonged action, apparently lasting five days.

10. Continuation of the injection is as far as our experience is concerned, necessary for the usual two or three years with one to two months' rest in each year.

11. Of course, the patient's strength must be maintained at the highest possible level and in short, the disease must be managed like other parasitic diseases of which tuberculosis is a type. Fresh air, good food, judicious exercise and hygienic habits are indicated.

If the foregoing simple principles of employing this method of treatment are studied and followed the writer is convinced that a larger number of physicians will adopt it as in every way the best means of treating this disease.

In order to win over the patient to this method of treatment, the writer presents the following reasons to him as its advantages:

1. That the taking of medicines through the digestive tract is very rarely of value for longer than two months at the most, and that therefore, at any time his appetite may be lost and other digestive disturbances appear. If, however, he prefers internal measures as a beginning they will be tried, bearing in mind their tendency to cause early diarrhea, cramps and indigestion.

2. With regard to inunctions, statement is made that they constitute one of the best means of treating syphilis but have the disadvantage of requiring at least a half-hour of labor at each inunction and the likelihood that sooner or later the salve will get upon the underclothes and bed linen and betray the victim, and the skin will become irritated.

3. Fumigations are likewise acknowledged to be a very efficient means of treatment but have the disadvantage of requiring special apparatus, not infrequently a particular institution for receiving the fumigations and moreover additional expense.

4. On the other hand, the injections may be given once or not oftener than twice a week, put the medicine into the blood where the disease is, thus saving the digestive apparatus from disturbance and the skin from irritation and secondary discovery of the disease. The dose also may be watched, increased or decreased by the surgeon as needed.

5. If the writer's own opinion is followed the injection method is always given first choice until for any reason the patient seeks a change of method. It has always seemed to the writer illogical for the highest authorities to admit that the injection method of treating syphilis is the only one that will give results in destructive lesions such as gumma of the tongue and deposits in the nervous system, but that as a means of treating the simpler forms of syphilis it does not deserve first place. Conversion from this view to the strongest possible conviction that the injection method properly carried out is the best, resulted from work in the dispensary of the House of Relief (Hudson Street Hospital) in this city. The patients there belong to the lowest walks of life; their personal habits are so filthy that the inunction method of treating the disease is foredoomed to failure because they rarely take baths and their skins are sweaty, oily and dust-covered from their work almost all the time, and because they have neither the intelligence nor the perseverance necessary for successful inunction. Similarly failure follows the use of internal measures in these people very rapidly because their digestions are rendered uncertain by the use of poor quality of alcohol and the eating of improperly cooked food. In order to get good results, therefore, the writer was practically compelled to adopt the injection method. Since doing this, now fully three and a half years ago, there seems to be not the slightest warrant in changing. The results of the treatment are better, the patients do not object to it after a little persuasion and we are obtaining prompter relief of symptoms than ever before seen in that hospital within human probability.

The report of two cases of syphilis, both in medical men, may be of interest. The symptoms are necessarily rather well described by these patients as are also the results of other methods of treatment.

CASE 1.—About six years ago while a medical student he acquired chancre in the usual way during his first intercourse in life. For nine months the disease was treated by one of the professors of surgery at the small medical college in which he was a student, chiefly with internal measures. After the secondary symptoms had disappeared the treatment was continued up to only the said nine months, which, of course, in our modern views of treatment, was very much too little. After four years of active private practice in a railway town epilepsy developed and advanced with rapid strides until he had to abandon practice because he was having grand mal seizures at least once in three weeks and petit mal attacks almost daily, particularly if pressed with responsible cases.

He presented himself to the writer in a pitiable condition of despair, scarcely knowing what to do. Under the injection method of administering the mercury and with ascending doses of

iodid of potash, he now has his petit mal seizures once in two or three weeks and his grand mal seizures once in two, three or even four months. There are, of course, times when worry or excitement will bring on petit mal more frequently, but the foregoing seems to be the rule.

There appears very little question that this patient would not have done nearly as well if a less rapid and energetic means of giving the mercury had been adopted. By following the rules previously stated it is only occasionally that he has had painful nodes, which, however, he states to be comparatively speaking, insignificant.

CASE 2.—This physician acquired the disease by a needle prick of the finger during an operation upon an actively syphilitic patient. When he presented himself he had tertiary lesions of the forehead about the eyebrows, which although partially healed, were not in a healthy condition. The patient was likewise much under weight. All symptoms have totally disappeared and his gain in weight has been steady and progressive. His mental attitude and general spirit have greatly improved and the man is very much more happy than before the treatment had showed its good results.

The following letter from him rather aptly epitomizes the whole question, and as a review of his own personal experience as *patient* in the matter may fittingly close this brief paper, because he diligently tried without results of permanent character both ingestions and inunctions.

"A man afflicted for three years with a specific infection finds no great pleasure in dallying in maudlin regret over the past, nor in peering too anxiously into the future. Even in the ordinary course of human existence there comes a feeling of gloomy certainty that one is doing unwisely when 'we seek to revive memories which had better have been left to smoulder warmly, deeply buried in the embers of the past.' Yet, to speak of the easily taken injection treatment, incisively energetic in its efficacy, is to strike a note so modern and in such striking contrast to the common belief of its terrors, that I readily endure the disagreeable experience of looking backward to the moment when attempting to satisfy the Moloch-like necessities of suffering humanity which demand and devour every offering laid upon its altar this condition was contracted by a needle-prick.

"I write as a convert to the method of intramuscular injection; for within a month of the appearance of the so-called secondaries, after inunctions had been administered daily by a masseur of lifelong experience, the symptoms becoming progressively worse, Dr. W. suggested the use of injections. Inspired by fear, inured by ideas against the injection treatment inculcated by every text-book, and voiced by every practitioner, I begged for some other treatment.

"While passing through the various phases of the disease, since plunging the infecting needle into my thumb, I have contended with its obstinate and recurring evidences with treatments that spelled insufficiency and failure. I have, however, undergone a complete metamorphosis in my feelings toward injections, from the fearful and doubting inexperience I have become the enthusiast from observation and compulsory personal experience.

"Mercury taken internally in any of its various forms, alone, or in mixed treatment, is badly tolerated by the stomach. No matter how carefully taken, if persisted in over any length it impairs the stomach and intestinal digestion, causes dyspepsia, diarrhea and nervous depression; and 'The last state of that man is (surely) worse than the first.' After a prolonged course of ingestion treatment, the painful uncertainty engendered by an unreliable sphincter ani, its anticipated possiblities cause far greater misery than the slight tenderness after an injection. This feeling to be appreciated must be experienced.

"Inunction of mercury is especially objectionable because it is dirty, disgusting and repugnant. It is time-consuming, impossible to carry it out with regularity when one is busy. Not easy to carry it out at any time, most discouraging, and holds out persisting, recurring temptations to abandon treatment. To be at all good it must be carried out by a professional masseur, but is generally in the hands of amateurs. One might as well be accompanied by a crier announcing one's condition. One impregnates the surrounding air with its characteristic odor, which is not always agreeably endured. One is black, and blackens everything one touches, underclothes, bed linen, etc., and the 'back stairs' knows more about conditions existing than one does himself. On hot days one feels as though he needed more skin to perform its functions. Social exactions and every day's necessities are all aligned against it.

"After a long personal experience with the inunction treatment, always indeed with a professional masseur, I have reached the conclusion that the inunction of mercury into various parts of the body hidden by the clothing, until in the course of a week or ten days the entire selected surface is covered with a dirty, sticky, offensive smelling grease, is far down the scale of attractive encouraging methods of treatment.

"Injections of bichlorid give the stomach and intestines a better chance to perform their functions properly. While under them I gained in strength and the disease was kept in abeyance. They were very painful, however; sometimes agonizing. We were compelled to repeat them at such short intervals, and they created so many tender spots and indurated masses, that one's back and gluteal region did not offer sufficient area for the necessitated continuance of this method.

"As prolonged treatment by mercury is necessary to effect a condition that simulates perfect health or to achieve a cure indeed, I believe the ideal is realized in the intramuscular injection of the salicylate of mercury.

"Intramuscular injections keep medicinal treatment abreast of coincident progress in almost every department of human endeavor that characterizes this age. The absence of pain while inserting the needle due to dexterity entirely removes the fear of a visit to the surgeon's office. The method of varying the site of the injection by nicely dividing the gluteal region into twelve sections so that the same spot is not punctured by the needle, nor the same portion of muscle taxed to care for a second injection until a period of three months has elapsed, insures an unlimited continuance of the treatment. Admirable elegance of surgical procedure stands out in contrast to its not too modest old neighbors of an earlier and simpler time. It possesses all the good points with none of the bad. Inunction is filthy, the perfection of cleanliness is attained in the injections. Inunction leaves the patient sticky and uncomfortable; injections do not. The odor from inunctions is repellant; no odor occurs from injections. Inunction treatment is time-consuming and wearisome; no treatment could consume less time than injections, and determination to persevere is strengthened by personal contact and the interest shown by the surgeon as one necessarily visits him each week.

"Ingestion method interferes with stomach and intestinal digestion; injections leave the stomach and intestinal digestion free to be improved or the parts utilized for general medication. Ingestion method causes colic and diarrhea; injections are rarely accompanied by these disagreeable complications. Inunction and ingestion medication are slow and uncertain. Injections are direct, rapid and impressive, bordering on the miraculous. The fear and bugaboo of abscess and pain from intramuscular injections are chimera, mirages to one who has submitted to this treatment or observed its extensive use. The effect along this line produced by reading the usual text-books is misleading and interferes with the perfecting of antisyphilitic treatment. It restricts the usefulness of medicinal treatment and circumscribes the effectiveness of the surgeon. It limits and denies the benefits which might accrue to our suffering fellow man, his innocent associates or descendants. Injection is absolutely necessary in severe cases such as mine. ('Even these cases sometimes get well.' H. & M.) While under their influence I have enjoyed the best of health and least discomfort, and have gained ten pounds in six months.

"I hope that no statement of mine will be taken to reflect in any way upon the ability or kindly interest shown by the five physicians who have at various times cared for me, nor reflect a lack of gratitude on my part toward them. No mother could be more tenderly solicitous for my comfort nor sister be more ready in bringing the necessary relief to pains and discomforts. It is a source of boastful pride on my part that I am a member of the same profession to which they belong and satisfaction that I may in some degree measure up to their dimensions as well rounded citizens."

## SENILE CHANGES IN THE PROSTATE GLAND.*

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THE subject which you have assigned me in the discussion of disorders incident to the aged, has attracted marked attention during the last twenty years. In considering the senile changes in the prostate gland it will be my purpose to devote the time allotted me largely to such points as will interest the general practitioner rather than to discuss the technic of the surgical operations devised for the relief of prostatic enlargement.

I use the word "enlargement" advisedly because it is a recognized fact that we encounter a variety of pathologic conditions in the enlarged prostate gland of the aged. In most instances the growth is of innocent type. However microscopic study has taught that malignant disease occurs much more frequently in the prostate gland than was formerly supposed. In a paper which I read before the Medical Society of Central New York and which appeared in the Annals of Surgery in March, 1901, I reported that a thorough search of American literature brought out five cases to light in addition to the one reported by me. Since that time the number of published cases has greatly increased. Dr. Vander Veer states that in more than 30 per cent. of the glands removed by him there was evidence of malignancy.

Why in such a large percentage of men passing the fifty-fifth year of life the prostate gland increases in size is not known. That it is simply an incident which comes normally with advancing years is being strongly questioned. The claim was put forth that it was the outcome of a gonorrhœal infection of the gland in early life. Investigation has positively proven that this is not true. If I can rely upon the statements of my own patients gonorrhœa has never been responsible for their troubles.

While some observers regard the enlargement as a consequence of the vascular changes associated with age, the view is more generally accepted that the underlying condition is a chronic inflammatory process. It is held that there is no actual increase in the glandular structure, but

*Read at the Annual meeting of the Fifth District Branch of the Medical Society of the State of New York, October 15, 1908.

that there is proliferation of connective tissue sufficient to account for the enlargement. If this proliferation occurs near an excretory duct its lumen becomes narrowed, and as a result of the obstruction there is a dilatation of the acini of the gland together with an accumulation of secretion therein and an enlargement of the component parts of the glandular structure.

Fifteen years ago Dr. J. William White read a paper before the American Surgical Association and attempted to establish an analogy between prostatic enlargement and the myomatous changes encountered in the uterus. It was in this paper that he suggested castration as a means of controlling the pathologic process in the prostate just as removing the ovaries had previously been mentioned as possessing power to limit the growth of myomata in the uterus. It was this paper which aroused increased interest in the study of this subject and since then no field of surgery has shown greater activity.

Every physician is familiar with the consequences which follow prostatic enlargement. Serving as the gateway to the bladder the enlarged gland first of all interferes with bladder function and increased force is required to expel the urine. After a time the organ becomes contracted through hypertrophic changes or dilated because it yields to the pressure. In either event it is unable satisfactorily to perform its duty and the weakened muscular tone leads to faulty expulsion of the urinne, so that a certain amount remains continually in the bladder.

Next in order comes the infection which results from the presence of residual urine and the introduction of instruments to withdraw it. Inflammation of varying intensity is established and the discomfort and pain of cystitis are added to those of difficult urination. The trouble does not rest here, but the infection ascends and together with the inability of the bladder to empty itself produces serious damage to the kidneys. In the meantime, in consequence of the stagnation of urine and the septic changes, we are apt to have added to the other troubles the formation of stone in the bladder; while the constant straining may produce hernia and hemorrhoids.

The physician is called into these cases early, the surgeon only after the situation has become greatly aggravated. The duty therefore devolves upon the medical attendant to recognize the condition as soon as may be possible.

Some difference of opinion exists as to the proper methods of examining these cases. There is no doubt that every medical man should be competent to make a correct diagnosis of prostatic enlargement. We are to remember that the urethra in the male is made up of three parts: the spongy portion which is about six inches in length, the membranous less than one inch and the prostatic 1¼ to 1½ inches, when the gland is of normal size. If therefore upon introducing a soft rubber catheter, and for this purpose no other instrument is necessary, it be arrested at a point seven inches or thereabouts from the meatus and cannot be carried readily into the bladder, we have every reason to believe that the obstruction is prostatic. Stricture of the urethra occurs usually in the spongy and only occasionally in the membranous urethra. However, by means of a rectal examination prompt confirmation of the presence of an enlargement of the lateral lobes of the prostate gland can be readily obtained.

I think a word ought to be said as to the manner of making this rectal examination. I am satisfied that the dorsal position is very unsatisfactory, and believe that to permit the examiner to reach every part of this gland readily, the patient should stand with his buttocks turned toward the examiner, the body bent over and the hands resting upon the knees. In this position the index finger covered with a rubber finger cot can be readily carried to the uppermost part of the prostate gland and even upon the posterior surface of the bladder so as to permit examination of the seminal vesicles. Bimanual examination can be made by placing the left hand over the pubis and pressing it towards the right index finger in the rectum. It is only rarely that we encounter a case in which the middle lobe is alone enlarged. If upon rectal examination the lateral lobes do not appear increased in size and yet the instrument is arrested in the prostatic urethra we can assume that there is an enlargement of the median lobe.

The catheter furnishes further useful information. If it be introduced after the patient has completed the act of urination, the amount of residual urine tells how well this function is being performed. An examination of the urine will indicate the condition of the bladder. In each case a search for the presence of stone should be made. Competent specialists in genitourinary surgery insist that such an examination as just described is all that is necessary. Syms particularly objects to the use of the cystoscope if cystitis be present. In support of his position he refers to the case of a man who was at death's door for fourteen weeks in consequence of the use of this instrument.

We now reach the most important question and that is where is the line to be drawn limiting so-called conservative or medical treatment and when are these patients to become subjects for surgical attention. How long should a patient suffering from bladder incompetence as indicated by the constant presence of residual urine be allowed to continue in this state?

First of all we must consider his general condition. If there be coincident evidence of advanced senile change in the heart and the blood vessels or in his organs generally; if he be greatly enfeebled and his resistance so lowered that he would not be a good subject for any surgical procedure, it would of necessity be our duty to

simply make him as comfortable as possible and avoid a treatment attended with shock or which would subject him to great risk. However, if the prostatic disease be out of proportion to the senile changes in the other organs and the patient possesses a sufficient degree of health and resistance he could by operation be given many years of comfort, years in which he might be able to perform even arduous labor. Between these two extremes the conditions encountered vary to such a degree that each case must be judged by itself.

There is no doubt that so-called "conservative" treatment does not always deserve this name. There are many dangers which attend a catheter life for the ordinary individual. If the patient be a man of means and his social condition permit the attendance of a competent physician so that all of the details of cleanliness and asepsis can be carried out and the progression of the pathologic condition be carefully observed, there is no doubt that the dangers attending this procedure will be greatly minimized. In the average case, where the individual cares for himself or rather fails to do so he will not observe the rules laid down for him with regard to surgical cleanliness in self-catheterization. Then will follow various types of infection; cystitis, acute prostatic inflammation, epididymitis and the ascending invasion of the ureters and kidneys. It is evident therefore that a catheter-life is attended with a great many serious dangers which it seems to me the general practitioner hardly appreciates.

One of the oldest procedures practiced is dilatation of the urethral canal by properly shaped sounds. There is a degree of dexterity required in the introduction of these metal instruments, as without it the urethra may be torn and serious damage result. On the other hand, a method not practiced often enough is massage of the prostate; which in the soft form of prostatic enlargement is often most efficient. I have a great many times been able with massage to reduce the size of the gland sufficiently so that patients who persistently had two or three ounces of residual urine have in the course of a few treatments recovered bladder control and have been able to empty the bladder completely. In these cases the urine should be repeatedly examined and the condition of the bladder watched. Attention should also be called to the fact that habitual catheterization is apt to deprive the bladder of its power of complete contraction and that vesical atony may result.

No different rule can be made in determining the indications for surgical treatment in prostatic diseases than would be laid down for other conditions requiring operations. It is certainly never justifiable to wait until the physical condition is so demoralized or the urinary apparatus so badly deteriorated that even a slight operative procedure would destroy life by shock or provoke such renal congestion as to cause fatal uremia. If we can reach these cases when only the local conditions would have to be considered every one of them would recover no matter which operation might be undertaken.

The degree of shock attending surgical operations on this part of the body is not great. If anything has been established in the last fifteen years in the treatment of enlargement of the prostate gland, it is that the surgical relief of these conditions, other things being equal, is attended with little risk and with great promise of success. The all-important considerations concern first the condition of the kidneys and secondly the degree of general resistance. Whether the bladder be more or less affected is a matter of much less concern and the presence of stone does not materially affect the prognosis. It is, however, of vital importance not to defer operation until the renal function is seriously impaired.

If therefore there be progressive obstruction as indicated by persistent residual urine, increasing painful or difficult catheterization or evidence of inflammatory invasion of the bladder or other parts of the genito-urinary tract, the time has arrived when an operation should be insisted upon by the medical attendant. The case has become surgical and is no longer medical.

When fifteen years ago Dr. White suggested double castration, it was assumed that it would be attended with every little risk, but as the operation was performed upon men in all stages of senile debility, the mortality proved to be far greater than had been anticipated. Later vasectomy was recommended. No longer than two years ago, Dr. White still argued in favor of his original suggestion, while Rovsing, a recognized Danish authority in genito-urinary surgery, insists that no radical operation should be performed until vasectomy has been attempted.

It is not my purpose as I stated at the beginning of this paper to dwell extensively upon methods of surgical technic. However, two lines of surgical procedure are strongly advocated by different surgeons. These are perineal and supra-pubic removal of the prostate gland. A third one, that of cutting through the bar at the neck of the bladder with a galvano-caustery knife as suggested by Bottini nearly a quarter of a century ago, has still some advocates but more opponents. Undoubtedly in the hands of skilled men and in properly selected cases it is a useful procedure.

In this country the removal of the gland by the perineal route is the operation of choice. As it was first suggested by Gouley in 1873, he is credited with being its author. As I read the chapter in his work on "Diseases of the Urinary Organs" which deals with this subject, I am not convinced that he deserves as much credit as Watson accords him. Gouley makes only this brief reference in describing the steps for the surgeon to take. "He should first explore the prostate through the artificial opening, and if he

discover a median outgrowth or isolated tumors he should dilate the prostatic sinus or incise the prostate laterally and enucleate the tumors, or if there be a sudden outgrowth excise it; but the better plan is to remove it by means of the small wire ecraseur and then to introduce a large-sized soft vulcanized India rubber catheter and retain it in position for two or three days." Watson, however, in his address delivered in September, 1888, now twenty years ago, before the American Association of Genito-Urinary Surgeons, brought to the attention of the profession in a most splendid work the subject of prostatectomy and I feel that to him rather than Gouley belongs the credit of reviving this procedure.

It was, however, Goodfellow, who in 1891 showed that by a simple surgical maneuver the prostate gland could be removed by the perineal route without much shock or danger. There is no doubt that his operation is all that is necessary in a large proportion of cases. A staff is introduced into the bladder, an incision is made through the perineum posterior to the bulb and the prostatic urethra opened. The staff is now removed, the ungloved finger is introduced into the perineal wound and the capsule of the gland cut through and with the pulp of the finger turned upward, the gland dissected out of its capsule, care being exercised to keep well away from the rectum. The patient is, of course, in the lithotomy position. No instrument is introduced into the bladder to drag the prostate towards the wound; but flexion of the thighs well against the abdomen shortens the distance from the perineum to the prostate and pressure with the left hand over the pubis crowds the gland down, so that is within reach and it is easily removed. In this way I have repeatedly removed large prostatic masses weighing several ounces.

Cunningham reports a case in which he removed a gland weighing over one-half pound by this method. It is therefore not the size of the gland but rather the adherence to its capsule which makes the removal difficult. If it be free, the operation is of very brief duration; there is little hemorrhage and practically no shock. Formerly Goodfellow drained his cases for a few days, but recently he omits the drainage and insists that the cases have done quite as well. It has been my practice to resort to drainage and usually irrigation, and later to pass sounds while the canal is being restored.

Young has introduced into this country a French operation without modifying it materially and uses a metallic tractor instead of simply, as he terms it, depending upon blind enucleation. He makes an inverted V-shaped incision, cutting well through the superficial structures and exposing the gland sufficiently so that the various steps in the operation can be completed in the sight of the operator. I am quite convinced that to remove the gland by the sense of touch is not doing so blindly, but that many times the work is done not only more rapidly but more satisfactorily with the aid of this sense rather than that of sight. Parker Syms prefers a rubber bag to the metal tractor which he inflates after introducing it into the bladder.

I have occasionally removed the prostate by supra-pubic incision. I have always found it more bloody and attended with greater shock than with the low operation. Freyer has established this method so firmly in England that with most surgeons of that country it is the accepted procedure. With us I believe it is growing in favor and has gained many staunch followers in recent years. It is held that where the presence of stone in the bladder complicates the situation that the supra-pubic route is the better one. While I have for many years advocated the supra-pubic incision for the removal of stone uncomplicated by any other condition, I have, in at least one instance, succeeded in removing a very large stone from the bladder of a man 80 years of age by the perineal route after enucleating the prostate gland, and I was so delighted with the outcome that I am by no means convinced that the supra-pubic procedure offers any advantage.

After removing the gland through the perineal route, I found that I could withdraw the stone with great facility. There is no doubt, however, that one gains the best view of the bladder through the supra-pubic opening, and if, therefore, there is need of studying the condition of this organ it is to be preferred. Moreover, when the enlargement affects only the middle lobe it can be much more readily removed through the upper incision.

When the surgeon is not called until the local condition is so advanced that catheterization is almost impossible, when sepsis has not only invaded the bladder but has extended to the kidneys and the general condition is exceedingly bad, the consensus of opinion to-day is that surgical relief may be attempted in two stages: the first being to secure drainage through a supra-pubic opening. If this be well borne and the future condition warrants it, the removal of the gland can be undertaken at a later period.

In a previous paper I called attention to the high degree of arterial tension present in prostatic cases due either to the pain and distress which attend emptying the bladder or to the increasing vascular degeneration. It is remarkable how greatly this high arterial tension is relieved by prostatectomy and the removal of the discharge of urine.

Objection has been raised to prostatectomy on the ground that sexual vigor is lost thereby. Inasmuch as most of the patients upon whom we are called to operate have been sexually incapacitated long before the operation was performed, evidently no great harm is wrought in this direction. Another occasional sequel of the

removal of the prostate gland is a degree of incontinence of the urine. This cannot always be avoided. But in the few cases in which it occurs this inconvenience surely is vastly preferable to the situation which antedated the operation.

Before an association of representative medical men such as compose this society, who have watched the change in sentiment as to the treatment of the prostatic disorders of old age it seems hardly necessary to argue at greater length against the custom which has prevailed in the past of allowing men to succumb to the dangers which attend a catheter-life. It has been particularly the purpose of this paper to emphasize the small risk assumed and the great benefits to be gained by the timely performance of a surgical operation where the prostate gland has attained a size sufficient to interfere with the functions of the bladder. Upon the medical man rests the responsibility of advising such surgical aid before the pathologic condition becomes so advanced that the operation is attended with great risk and the condition too serious for relief.

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## ON SOME OF THE PROBLEMS RELATING TO PROSTATECTOMY.

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FURTHER experience as operator and consultant has developed some problems in regard to patients with obstructive enlargement of the prostate which in my opinion are not easily solved. Doubtless others have met with the same difficulties, therefore a comparison of views will be mutually helpful.

The first problem which naturally presents itself is the one of determining upon whom to operate. The general proposition that, if a patient has enlargement of the prostate, therefore he must be operated upon, cannot be maintained. All the factors pertaining to the man's physical conditions, local and general, and to his social and economic status, must be analysed; and, a vague fear that unless he is immediately operated on some dangerous symptom will appear in the future, must not be allowed to weigh in the argument. "Sufficient unto the day is the evil thereof." Nor, furthermore, is an attack of complete retention of urine necessarily an indication for immediate operation. There are cases still under my observation who, having had complete retention of urine and having had urinary ability restored, are living comfortably without use of the catheter, excepting at long intervals, either for the purpose of re-examination or preventive treatment. Many subjects of the malady will live to a ripe old age unimpeded by it, able to attend to the duties and pleasures of life without restriction and who may never require radical treatment. But such persons should clearly understand, that without interfering with business, pleasure or travel, they are under observation and that from time to time careful discrimination must be used as to their effectual bladder capacity and as to whether or not their bladders have become infected. As a general proposition it may be stated that cases with 2 oz., or less, of sterile residual urine which shows no tendency to increase in volume, and which shows no tendency to the deposition of calcareous material, do not require operative interference. As such cases are usually under the care of their family physician, this proposition should be qualified by the statement that they should be kept under observation and examined periodically, say, once in six months, in order that any changes in the prostate or nocturnal frequency of urination, or increase of or change, in the residual urine or any tendency to formation of calculus may be noted.

There are cases with small enlargement of the gland and very little residual urine, but with spasmodic attacks of increased but not total retention of urine. This partial retention may become complete, and may be caused by congestion of the prostate which not only temporarily augments the enlargement of the organ, thus further narrowing the urethra, but induces a hyperexcitability and tonic contracture of the sphincter muscle fibres. This congestion and hyperexcitability may be due to sexual stimulation, to reflexes from lesions in the penile and bulbous portions of the urethra and haemorrhoids or anal fissure to alcoholics; to "catching cold" or to a combination of these causative factors. Such cases are sometimes misjudged and subjected to prostatectomy without—at least in my opinion—sufficient trial of simple measures calculated to reduce the congestion and restore the urinary function.

In illustration, take the following case: A well preserved man sixty-one years of age, vigorous, energetic, but neurotic, is suddenly seized with urinary desire and inability to urinate while dining out. He becomes alarmed and repeats the effort every few minutes, with absolute inability to expel a drop. He is then hurried home, where his family physician puts him into a hot bath for two hours, which relieves the congestion and normal urination returns. Two weeks later, probably before he is absolutely normal, he is subjected to a sudden lowering of the temperature of his body. Another attack of retention follows, which is partial at first, for, at this time he voids urine in a threadlike stream, but an hour or two later the retention becomes complete. He is again placed in a hot bath, but the urinary efforts expel only blood in small quantities. Then he is catheterized with the result of drawing an indefinite amount of urine (the quan-

tity at that time was not stated), mixed with blood. This relieves his bladder, stops his frantic efforts and spontaneous urination is restored. A week later I saw him in consultation. The attack is evidently subsiding, but he is still having some frequency of urination and terminal pain. He voids 4 oz. of turbid urine without blood and with but slight tenesmus. The length of the urethra is 8¾ inches and his bladder retains only 1 oz. of residual urine which is slightly turbid. Examination by the rectum finds the prostate to be enlarged in all directions and sensitive, its surface is smooth and median sulcus well marked; the lobes are soft and contract sluggishly under digital manipulation. Under the treatment instituted the infection of the bladder speedily cleared up, all his symptoms disappeared and he remained well for a year, rarely rising at night to urinate more than once, sometimes not at all, and his urinary intervals during the day were three or four hours. Another exposure to a low temperature chilled his body, and suddenly the same night he began to have frequent and scalding urination, but with only partial retention. He has no pain and no blood, but slight terminal scalding. His general health is good and the attack is very much less severe than the previous ones. The prostate is again distinctly congested, slightly sensitive, contracts sluggishly and its posterior margin being thickened is the most sensitive area. At this time he has 1½ oz. of residual urine. This attack subsided in two weeks and a month later he declared himself to be "fine." At this time there is no nocturnal urination, he urinates at 11 P. M. on going to bed and at 7 A. M. the next morning. He has one ounce of clear residual urine. His habits are again regulated, no alchoholics, sexual relations to be abstemious and to avoid excessive labor and low temperature. Three months later I again examined him. There was one nocturnal urination, less than one ounce of clear residual urine and no treatment was necessary. His condition remained so good notwithstanding his almost daily exposure to low temperature in cold storage plant which his occupation required, that I questioned him more closely. He then admitted to me that these attacks of retention had followed ardent sexual relations. The prostatic congestion due to this had no doubt been intensified by the chilling of the body surface and hence the attacks. Subsequently, he had another of these spasmodic attacks while visiting in the country, and according to the report given me he was subjected to violent and painful catheterization which aggravated his condition and terrified him to such a degree that it was found to be impossible to catheterize him without an anæsthetic. Apparently the history of his previous attacks was unknown or ignored, for his little prostate was at once removed. In fairness it must be admitted that in this case conditions had probably arisen which made radical treatment imperative, but I will venture the opinion, that careful consideration of his previous attacks would have spared him the necessity for radical operation, by leading to the trial of some simple measure, *e. g.,* a retention catheter inserted with gentleness and aseptic precautions aided by local anæsthesia. This is a case in which in its later stage there might reasonably be differences of opinion, and it is narrated in illustration of one of the problems not infrequently presented. The subject was neurotic with very little enlargement of the prostate, but the latter was of a soft and succulent variety easily irritated and congested, and therefore, in my opinion, a minimum of instrumental interference was indicated.

Now take another case who had been made apprehensive by his symptoms and by the statement that he would probably require a radical operation. He is seventy-four years of age, does not show signs of senility, is well nourished and retains sexual vigor. For three or four years he has been obliged to urinate three or four times during the night. He is awakened by a vigorous erection and desire to urinate. After waiting a few moments the stream, which dribbles at first, becomes established, but never is as strong and full as formerly. During the day the interval varies, he has no urgency and is able to retain his urine until he can reach a place of convenience. He has no pain, but sometimes a slight tickling in the penis. He was examined in Paris and said to have an enlarged prostate, but as he was on the verge of returning to America, the doctor, very wisely, refused to pass a catheter and told him to let well enough alone. The examination of the prostate by the rectum shows it to be enlarged in all directions, say twice the normal. It is normal in outline with median sulcus well marked, in density it is soft; it is elastic and insensitive, but firm pressure along the median line develops an intense and intolerable sense of burning. He has 1½ oz. of clear, sterile residual urine. He can void all of a measured quantity of antiseptic fluid introduced into the bladder for the purpose of testing the bladder capacity. Under treatment the nocturnal urination takes place but once, rarely twice, the residual urine is reduced and there is no sexual excitability. He is reassured by his sense of comfort and by the belief that operation is not necessary and he is discharged, but with directions to report periodically for re-examination.

This case, like the other, has an organic enlargement of the prostate, but his symptoms were due more to congestion and an irritable urethra, than they were to mechanical obstruction. Moreover each of them had a mental irritation aroused by fear of operation, which confirmed my belief that, certainly in similar cases, palliative measures should first be tried.

On the other hand, there are cases whose conditions are such that radical operation seems to be hazardous and even reckless, but to whom

*with careful preparatory treatment,* hopes of not only prolonging life, but of great comfort, can be confidently given. Very often even in these days of general knowledge, a diagnosis has not been made and an accumulation of urine in the bladder exerts a back pressure upon, or inhibition of, the kidneys. They are doing their work under tension and more or less of the symptoms referable to *"uraemia"* are present. Moreover, notwithstanding intelligent use of the catheter, the purulent urine, for these persons are usually infected when they present themselves, is a constant source of reinfection and torment. The subject has no rest and is devitalized. Although it would seem that the least thing would jeopardize the patient, operative treatment is advisable. It is reasonable to assume that in chronically inflamed kidneys there are always present some normal elements capable of physiological action provided too much is not required of them. Therefore if the obstruction below can be removed and the infection of the bladder modified the irritation of the kidneys will be relieved, and instead of being excited to extra effort to excrete the toxic products which are continuously developing they will functionate with comparative ease and a measurable amount of health and strength will be restored to the patient. It is apparent that in such cases careful judgment must be exercised in weighing the conditions of the patient, for or against the operative procedure. But an important factor in determining whether to operate or not is the degree to which the vital force of the patient can be restored and the pus producing micro-organisms diminished prior to the operation.

The following case is illustrative: A man aged seventy-six who for some years has had the usual history of prostatic obstruction with nocturnal and diurnal urinary frequency and latterly increased frequency with nocturnal incontinence. For the past few months he has emaciated, become weak, lost appetite and has had constant thirst. He is pallid, his conjunctivæ are white and glistening, his movements are made with great effort, and slight exertion causes dyspnœa and cardiac palpitation. There is marked œdema of the lower extremities, increased tension of the blood vessels, and altogether he presents a very unpromising aspect. Rectal examination shows his prostate to be very large, the right lobe much larger than the left; his bladder retains fourteen ounces of purulent urine with a large quantity of free terminal pus. He is voiding in twenty-four hours ℥135, which contains granular casts and shows a marked diminution of urea (315 grains in 24 hours, should be 480-500). The patient is put to bed for two weeks and detailed treatment of his bladder, skin and all other functions is instituted. Under the treatment he improved to such a degree that the plan of operating in two stages which had been proposed, was given up and I removed the prostate by the perineal route. He had no reaction, the drainage tube was removed on the second day and he was sitting up on the fifth day, but gained strength very slowly, not leaving the hospital till the thirty-second day after the operation.

This was nearly two years ago. He is still living in comfortable health and empties his bladder completely.

An infected bladder is always a menace to the patient. Purulent urine even when in small quantity and retained by a minor degree of enlargement of the prostate is an important factor in favor of the operation for, if in spite of faithful and prolonged treatment there is a constant tendency to relapse and especially if a tendency to the deposition of calcareous salts co-exists, it is useless to defer radical treatment provided that the other conditions of the patient warrant it. Notwithstanding the fact that many patients have an individual tissue resistance to the inroads of infectious principles and even seem to bear "catheter life" well, those with complete retention to whom spontaneous urination cannot be restored should also be advised to have the operation. Because, notwithstanding their invulnerability, their bladders are always liable to infection and the tension under which their kidneys are acting renders these organs also more susceptible. The judicious advice often given by the family physician against prostatectomy has been based upon prior knowledge, but our methods and technique have been so improved in late years that we are now able to give a good prognosis both as to risk and urinary results of the operation.

The persistence of urinary fistulæ after the perineal operation is a troublesome problem requiring solution. They may occur at the hands of the most skillful. Many of them will close during the granulating process, but some persist beyond the first three or four weeks of the post-operative period, and if so, provided the entire obstruction has been removed, they are generally due to the irritating and infecting quality of the urine which flows over the granulating surface. It should be borne in mind that the bladder has been pathologic for a long time and demands local antiseptic treatment—gentle, but persistent—and especially with weak solutions of Ag. No. 3. Treat the bladder to improve the quality of the urine and the fistule may be expected to take care of itself. If the fistule is perineal and has persisted indefinitely, it will be found that the narrow canal has become covered with a tough fibrous tissue, the result of the inflammation caused by the pathologic urine. In one such case which has persisted for months, I dissected out the whole length of the canal; but the first day that the patient was out of bed, although the canal was somewhat narrower than previous to the resection, the leak returned much to the disgust and disappointment of patient and surgeon. Realizing that the canal was now sur-

rounded by new tissue which had not yet become fibrous, I located its internal orifice by careful measurement in order to avoid damage to the bladder and covered the whole length of the fistule with tincture of iodine injected slowly and gently by means of a long narrow sinus syringe. This caused sharp burning at first and a sense of heat for three or four days after the little operation, but the stimulating action of the iodine sufficed to permanently close the canal. It is suggested that this procedure might be resorted to in other cases before the fistulous tract becomes old and fibrous.

Urethro-rectal fistulæ, when they occur, are most troublesome and are unavoidable at times even to the most skillful operator. It should be remembered that in some subjects the rectum pouches upward and forward to an unusual degree and is closely adherent to a thin parchment-like urethro-rectal septum from which it is difficult to separate the rectum. Therefore, when radical treatment is contemplated the relation of the rectum should be studied and considered as a factor in determining whether perineal or suprapubic operation shall be chosen.

Another problem is that of incontinence or dribbling of urine even in cases in which there has been no fistule, or in those in which the latter has been healed. It occurs in varying grades of severity, but even a minor grade is a great annoyance to surgeon and patient. As to its causation, my observations accord with those of Dr. E. Wood Ruggles, of Rochester, whose paper on "The Causes of Incontinence as a Sequel of Prostatectomy" is well worthy of careful reading. It seems to me to be due to disarrangement or laceration of the muscular fibres surrounding the membranous urethra and is therefore more likely to follow perineal than suprapubic prostatectomy. As a means of prevention I am careful when doing perineal prostatectomy to make the incision into the urethra as near as possible to the apex of the prostate and to be as gentle as possible during the further manipulations. In time the sphincteric tone is regained by the majority of such cases and the incontinence ceases, but in some, the incontinence persists indefinitely and requires patient, persevering treatment to overcome it. The most efficient remedy in my hands has been the application of strong solutions of nitrate of silver in small quantities to the membranous and prostatic urethra, aided by the method suggested by Dr. Alexander, of training the cut-off muscle to contract.

A problem which has presented itself for solution in my practice has been the return of dysuria and partial or complete retention of urine after the operation, at a time when freedom of urination and absolute emptying of the bladder were to be expected. In each of the two cases which I have had there was a marked development of fibrous tissue in the perineum and in one a general sclerosis of the tissues. They both followed perineal prostatectomy; one was mild and the other severe in grade.

The first patient had a great deal of fibrous tissue in the perineum which was quite evident during the dissection of the first stage of the operation, and was so marked that the attention of my associates was called to it. As the patient had been subjected to treatment by the X-ray for some months by another surgeon, the question was raised whether or not this fibrous development was due to the effect of the Rays. At all events, convalescence was followed by mechanical obstruction to the introduction of the catheter and the retention of a small amount of urine varying from half an ounce for two or three months after the operation, when the obstruction entirely disappeared and the patient emptied his bladder completely.

The second case of this character was much more severe and was that of a patient aged sixty-six who showed marked general sclerosis and had a greatly distended and infected bladder and upon whom I did perineal prostatectomy. There was some difficulty in the enucleation, but the patient stood the operation well and recovered without shock. He was out of bed at the end of a week. Penile urination began on the ninth or tenth day, but was incomplete, the most of the urine coming through the perineal wound. He left the hospital on the eighteenth day, voiding urine at intervals of four hours with occasionally a little involuntary dribbling from the meatus. A month later he began to have gradually increasing dysuria and frequency, which, still later, was accompanied by great tenesmus with violent pain over the pubes, some incontinence, and when he voided urine, the stream which had been full and free had become dribbling and feeble. In spite of the efforts made by his physician to relieve him the agonizing efforts to urinate continued and he suddenly had a little rise in temperature. At this stage I was called out to his suburban home to see him, and on attempting to introduce instruments into the bladder, found that the deep urethra was absolutely obstructed. He was then placed under ether anæsthesia, and further efforts being unsuccessful, I opened the bladder above the pubes. The bladder was fully distended with urine, the tension being so great that when the incision into the bladder wall was made, the urine spurted a considerable distance. Careful examination of the interior of the bladder, repeated both by myself and my associate, Dr. Squier, failed to find any normal internal meatus. But at the anatomical situation of the latter could be felt a shallow funnel-shaped dimple. Inferior to this was a thickened bladder which, aided by by-manual palpation with two fingers of the other hand in the rectum, was made out to be the contracted capsule of the prostate covered by the muscular and mucous wall of the bladder. All efforts to introduce instruments of minute size into this dimple failed.

Consequently, a staff was placed in the urethra and the perineum freely opened. Short, thick, ininterlacing fibrous bands had displaced the normal structures, and although there was a series of shallow pockets between these bands, forming a semblance to an irregular channel, no opening leading from this channel into the bladder could be found. A blunt-pointed instrument was then placed in the conical dimple within the bladder, and being held firmly in place by my associate, I severed the bands in the perineum until the point of the instrument was reached and an opening thus made into the bladder through which the index finger could be introduced. A sound of the size of 26 F. was then easily passed from the meatus into the bladder. Supra-pubic and perineal drainage were established which the patient bore very comfortably and convalescence from this second operation was uneventful. The attending physician was directed to maintain the patency of the canal by regular, systematic use of the sound. This was not done with the precision that had been expected and three or four weeks later it was necessary, aided by cocain anæsthesia, to dilate the channel in the perineal tissues. This was only partially successful, but a few days later, under chloroform anæsthesia, the canal was fully restored. After that there was no further trouble. A sound was systematically passed, at first every four days, subsequently every week, and finally once in two weeks, which was found sufficient to maintain the canal and enable the bladder to completely empty itself. The patient is in excellent health. A letter from him a year after the prostatectomy states that the sound is being passed at intervals of fifteen days and that, in spite of his age and arterial weakness, "my general health is good." It may be of interest to add, that excessive thirst which has been recorded by Fenwick as a symptom of vesico-prostatic irritation, and which had tormented the patient for several years, has entirely disappeared since the removal of the prostatic obstruction and the final healing of the bladder.

In certain patients although the obstructing portion of the prostate may have been entirely removed, the bladder does not completely empty itself for an indefinite period after the operation. The bladder wall has lost its tone, and as some of these patients are in a low vital state the salts of the urine may be excessive and a tendency to the formation of calculi be exhibited. In the *American Journal of Urology* for November, 1908, Dr. E. Loumeau, of Bordeaux, France, calls attention to this possibility and reports two cases. But one case of this kind has happened in my experience, nor have I met with any other cases in the literature, but it is evidently one of the problems to be borne in minnd; for, it may account for some of the distressing symptoms of which a few patients complain after the operation. From my observation I have formed the opinion that long continued post-operative treatment of the bladder is indicated not only by this possibility, but by the necessity of restoring the urine and bladder to as nearly normal as possible if we would have the patient in ideal general and local condition.

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## CLINICAL ASPECT OF THE ENLARGED PROSTATE, WITH A REVIEW OF 67 CASES.*

By JAMES N. VANDER VEER, M.D.

THE presentation of this paper to-day concerns 67 cases occurring in our practice within the last six years, of which accurate records have been obtained in 41 cases, and the facts which will be brought before you bear directly upon this sequence.

If I can impress upon the general practitioners here present the necessity of a closer study and determination of the conditions present in the enlarged prostate, and can induce them the more to bring such cases under the eye of the surgeon at an earlier period, I will have deemed my duty well done.

I judge that most of you are familiar, in a general way, with the anatomy of the gland, and bearing upon this subject I would simply recall, in general, to your mind that it is a very important organ, from a negative standpoint, after enlargement of the same has commenced, so far as the well-being of the patient is concerned.

Composed of bundles of muscle fibres surrounding the outlet to the bladder, one can readily picture the natural sequence of events which occurs when this enlarges and encroaches upon the outlet. More especially is the anatomy to be studied after the period of so-called "old age" has set in, when the muscular fibers are replaced by fibrous tissue —one of those histological elements unyielding in character and distorting in action upon surrounding organs.

Strange as it may seem, the enlargement of this gland, save as a result of some form of urethritis, or sexual abuse, in young men, seldom occurs until the patient is in his declining years, and at a time when we see degenerative changes elsewhere in the body. In the 67 cases, of which, unfortunately, the records are somewhat incomplete in 26, we note that 41 cases are recorded in detail; first, as to age—in which we find the average of the ages of the patients approximated 67 years at the time when the operation was performed. Some authors claim that this condition is never observed until after 50, and in these 41 cases the youngest is noted as being 51 years old at the time of operation, while the oldest is 85. The

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*From the services of Dr. Albert Vander Veer, Dr. Edgar A. Vander Veer and Dr. James N. Vander Veer, Albany, N. Y.

age, however, averaged up to the time when the symptoms first appeared gives us a much lower percentage. In 37 cases out of 41 it is 63 years. The youngest recorded is 44, while the oldest is 83. Some clinicians, Caspar being among them, claim that the condition has been noted as early as the 40th year, and that it is usually due to the chronic enlargement of the gland, followed sooner or later by a secondary slow chronic inflammatory condition which progresses for many years. Personally, I believe, with many other clinicians, that the inflammatory condition is first, and that the enlargement of the gland follows this persistent inflammation. Seldom, however, do we find cases coming under the observation of the family physician before the 50th year.

Authors are found who lay stress upon the fact that gonorrhea is the predisposing cause of enlargement of the organ. In the cases under consideration to-day we find that 15 acknowledge to a previous gonorrheal infection, while 18 (or about an equal number) denied ever having had any venereal trouble, and 8 are indefinite; but some of the statements of the 18 were disproved later. Therefore, one cannot make an absolute statement that gonorrhea is the sole pathological factor.

As regards occupation; out of 34 cases we find there are 17 farmers, 4 laborers, 3 lawyers, 2 merchants, 1 each of expressman, boarding-house keeper, pattern-maker, butcher, salesman, manufacturer, blacksmith and stonemason; 7 are not recorded. Reviewing this number, we note that most of these men have been employed in occupations demanding manual labor in a standing posture, and that the average of intelligence in the social scale would seem to predispose those in the middle walks of life to this malady.

Concerning the marriage state; of the 41, 21 were married at the time of entrance to the hospital, 15 were widowers and 5 were single men, leaving us to reason, therefore, that those who had in a measure carried on the sexual act regularly were somewhat predisposed to the condition.

Reasoning from these facts, we may, therefore, be led to state that in some manner the physiological use of this gland has something to do with the condition.

No direct etiological factor has, however, been found, as witness by the perusal of the various authors and a study of the theories advanced as to the reason for the enlargement. Some base their claims upon the previous history of the patient, as regards sexual conditions, and we find theories that are directly antagonistic one to the other. Others base a theory upon septic inflammatory conditions of steady progress, which seems to be the more logical conclusion when we take into consideration the complications usually present before and during the enlargement of the gland in true prostatic hypertrophy. And, lastly, others base a theory upon a true pathological condition, without regard to previous etiology. Personally, I am sure that in the 67 cases under consideration, taken *in toto,* fully 75 per cent. had a previous gonorrhea, developed eventually a mild cystitis, which was then followed by enlargement of the organ.

*Pathology.*—The study of pathology is an interesting one, in so much as there is an enlargement of one or more of the three lobes, either uniform or diffuse in character, associated with a bulging of the rectal wall, provided the enlargement is of sufficient size to cause a posterior protrusion into the rectum. There is also distortion of the prostatic urethra, change in the bladder orifice, the size of the bladder, the conformation, the muscular and other structures, as well as in the urethral openings; and there may be even conditions of the ureter, and, lastly, of the kidneys, heart, etc., following this disease.

When we take up the pathology of the cases under consideration and deal with 41, as previously recorded and the pathological reports as cited, 13 were malignant and 28 were of the benign type. Therefore, in our experience it would seem that more than the usual percentage were malignant than is commonly recorded by authors in general. In fact, by these statistics it would show that at least one-third of the cases operated upon were of the malignant type, in which we have accurate pathological reports. The usual pathological findings in the benign type assume one of three forms: either a myomatous enlargement, which is by far the most common, and has been surnamed the "hyperplastic myoma of Virchow," but which I personally prefer to call the "discreet myomatous type," and one which has to do with a single portion of one or more of the lobes of the organ; secondly, the diffuse myomatous type, which involves all of the lobes to a greater or less degree throughout; and, lastly, the adenoid, or glandular type, which has to do with the glands of the organ itself and their enlargement.

I will not burden you with the microscopical aspects of these various types, but simply quote the fact, that of the 41 cases we find 5 of the adenomatous type, 10 of the type of adenofibroma, 13 of carcinoma (9 being adenocarcinoma, 2 medullary carcinoma, 2 scirrhous carcinoma), while 4 showed simple hypertrophy of the gland; 8 were gathered under the heading of chronic prostatitis, and one was tubercular in kind.

Concerning the pathology of carcinoma of the prostate, it would seem that upon reference to these statistics at hand, in the 13 cases that of adenocarcinoma was about 75 per cent. in frequency, while the other two forms of carcinoma divided between them 25 per cent. Most of the carcinomatous type were

acute in their character of manifestation, and the remainder were simply looked upon as the usual chronic hypertrophy. At operation some of these specimens were sent to the laboratory, with a clinical diagnosis simply of hypertrophy or pathologically of the adenomatous or myomatous type, and no suspicion was entertained of a malignant growth until the report was returned from the pathologist.

In general, we have come to suspect carcinoma where the prostate is firmly adherent to the capsule and where the capsule was also broadly atached posteriorly to the rectum and refused to give way with ease.

On further reference to the 67 cases it is found that five more were diagnosed as carcinoma, and died shortly afterwards, upon which no autopsies were allowed, two dying in the hospital and three removed from the hospital to their homes and dying shortly afterwards, within the period of a year; while of three more who suffered death, upon whom autopsies were allowed, two were found to have carcinoma, confirming the previous diagnosis; while one in which carcinoma was not suspected showed this to be the case. So that we take the liberty of stating that out of the total of 67 cases there were 16 actual cases of carcinoma diagnosed pathologically, and five clinically suspected cases which died shortly after being seen.

*Symptoms.*—Frequent urinations—pollakiuria. The study of the symptoms has been interesting, insomuch as they are so variable. Chiefly, they may be said to be of frequent urination, noted in 33 of the cases under consideration; a slight burning in 35 of the cases, and in the same number a slowness in starting the stream. These symptoms have usually been observed as being present at night; the general health at this time has not been impaired. In but 3 of the cases was dribbling noticed, while in 25 of the 67 cases, or a little less than half, the condition was ushered in with acute retention of urine in the early stage. The stream became smaller, as noted by the patient in explaining his case to the doctor in only 8 out of the total of 67. Constipation was complained of in 23 of the cases; and congestions, caused by the excessive use of alcohol or condiments, exposure to wet or cold, also pollakiuria, or the increase in the amount of urine voided, were also complained of by various ones in this number.

*Pain.*—The factor of pain is an interesting one in entering into the question, and we find in the following table varying statements by the patients as to where the pain is located. In 27 of the cases, the patients assigned the pain to the perineum; in 14, near the rectum; in 13, along the penis; in 1, in the right testicle; in 1, in the left groin; in 1, in the right buttock, and in 27 it was located exactly over the bladder region.

Most of the patients had noticed the various conditions some years before, and did not go to a doctor until they were driven so to do by their recurring frequent urination or retention.

Especially is the symptom of pain to be carefully noted regarding location and character, as pains which are referred to the back and in the neighborhood of the anus, and which shoot down the thighs, have proven in a large number of cases at operation to portray prostatic conditions of malignant type, or beginning rectal conditions which early involve the prostate and its accompanying nerve plexus.

*Temperature and Pulse.*—19 out of the 41 cases had a normal temperature, but in 16 the temperature was raised somewhat, and in 6 it was at a subnormal point. The pulse was normal in 21 cases; in 16 it was hypernormal, while in 4 it was subnormal.

*Palpation.*—By abdominal palpation and bimanual palpation, 4 cases showed a marked enlargement which could be easily made out with the band upon the abdominal wall. By digital examination, it was possible to note 2 with great enlargement of the right lobe, 3 with enlargement of the left lobe, 4 with suspected enlargement of the median lobe, while 32 showed some enlargement of both lateral lobes. Of the remaining 26 cases, the records of the physical examinations are lacking and it cannot be stated what the percentage was of the various enlargements. It is to be noted that in 13 of the cases the mucous membrane was adherent to the rectal wall, 10 of these being carcinomatous, as proved later; 3 of these 13 cases, however, did not come to operation or autopsy.

*Percussion.*—In general, this has been negative in its results, save as an enlarged prostate, with a retention complete or partial, which has given some idea of the trouble at hand.

*Retention.*—Examination of the urine is also interesting. In 25 of the cases there was complete retention, requiring catheter relief one or more times. In 22 of these cases the retention approximated 80 ounces, which it was necessary to relieve by catheterization mostly in the earlier ones. In 22 cases there was actual residual urine and from 1 ounce up to 40 ounces, while the average is between 4 and 5 ounces.

Macroscopically, the urine out of 41 cases showed 30 to be in a cloudy condition, while in 11 cases it is recorded that the urine was clear. Six cases showed blood in the urine, 3 being proved later to be carcinoma. In 25 albumin was found, ranging from one-half up to 5 per cent. Five showed casts, while in 39 out of 54 pus was in greater or less abundance.

By means of the stone searcher, it was demonstrated that 2 of the cases had a complication of calculi; 1 of these cases was also demonstrated by cystoscope before operation.

The urine, when examined in the first stage, showed a perfectly clear fluid, so far as verbal

report can be depended upon, without impairment of kidney function.

*Loss of Weight.*—The loss of weight averaged between 10 and 15 pounds in our series of cases, accompanied by the usual cachexia, loss of appetite, irritability, sleeplessness, impairment of mental functions, impairment of heart conditions, inability to transact business, general malaise and weakness. One-fifth of the total number of cases exhibited such dangerous lesions of the heart or of the circulatory system, in conjunction with the other symptoms, as to preclude operation.

*Bacteria.*—The usual bacteria found when the urine was cultured out were those of the mild staphylococcus group, accompanied by the colon bacillus, which latter was seen mostly in the advanced stages. In the tubercular case under consideration we were unable to culture out tubercle bacillus, even though the case seemed simple. It was necessary to make a differential diagnosis between the smegma and tubercle bacillus when extraordinary care had not been utilized in cleansing out the urethra before catheterization. In such conditions inoculations of the guinea pig led to a correct diagnosis.

In conjunction with the examination of the urine we found that 25 of the cases suffered at the same time from a cystitis, nine had nephritis of varying degrees, three had at the time, or developed later, a general carcinoma, two were suffering from locomotor ataxia, five had partial atony of the bladder, two exceedingly vigorous old gentlemen were suffering from acute gonorrhea at the time of entrance to the hospital, four of the malignant cases had well developed hemorrhoids, five had chronic endocarditis, three of these cases being diagnosed at autopsy, and in the whole series but one suffered from a stricture, according to the record. (This is questionable.)

So far as the malignant conditions were concerned it may be said that only two-thirds of the 13 cases of the malignant type, or 9 of the total of 41 cases recorded pathologically, were diagnosed clinically or macroscopically, the rest being considered simply as a benign enlargement. And I wish to emphasize this point most distinctly, by reason of the fact that I imagine a number of cases in the country and the smaller cities are allowed to die from a general carcinoma where the acute infection has originated in the prostate and been carried throughout the general system—to the liver in particular.

Every physician should make a careful examination by means of the finger introduced into the rectum and by bimanual palpation, thereby noting whether a tumor can be felt, as to whether there are any hemorrhoids entering in as a complication; for it is many times to be observed that in malignant conditions of the prostate there are present greatly engorged hemorrhoids, and it was by this observation in two cases that we made a clinical diagnosis of malignant disease where our other diagnostic methods had seemed negative. These two developed general carcinoma later.

As to the methods of examination of the patient I might say that we should take a careful history of the patient, *careful throughout* and in every detail; second, make a careful physical examination of the heart, lungs, nervous system, etc., in order to offset misleading diseases which manifest themselves in a secondary manner in the genito-urinary system; third, a careful abdominal examination, including a bimanual one; fourth, the observation as to hemorrhoids; fifth, the direct examination of the part involved, ascertaining as to how the patient voids, etc., then filling up his bladder we proceed to ascertain the quantity of urine which it can contain; or we may just previous to this ascertain the residual urine, by means of a catheter introduced, under the strictest of aseptic precautions, within the bladder. Once more, with the Thompson searcher one can sometimes tell which lobe is involved, where the same cannot be felt through the rectum, and if there is a calculus present; or by means of the cystoscope (which should be among the diagnostic instruments at hand), the condition of the bladder, the hypertrophy of the muscular tissue and the hypertrophy of the gland itself can be noted. This last examination, of course, should only be made by those skilled in the art, because the ureteral orifices are at times so widely dilated from the previous retention, and also because of the fact that the cystitis may be distinctly localized in the bladder, and the kidneys be uninvolved, and the introduction of a new series of bacteria may cause a lighting up of the old infection, as well as giving new families a chance to grow.

Lastly, we should not fail to note the amount of urine voided in 24 hours, together with a complete examination of the same in every detail, that we may be able to prognose regarding the results of an operation.

In general, the method of operating upon these cases has been that of the perineal route, giving means of entrance into the bladder through the posterior urethra, and the introduction of Young's tractor. The prostate has been drawn downward to the engaging finger, and thereby enucleated. This has necessitated what we have been pleased to call—a deal of finger work, and one which has given great satisfaction. There is, however, one great drawback, from the fact that the finger may be too short and that the hemorrhage may be severe, while the danger to the rectum is, of course, not to be disregarded. Then, too, one occasionally sees a patient where the perineum is exceedingly short, and in such cases there is an embarrassment in not being able to enjoy a satisfactory perineal incision. Following the enucleation of the prostate, we have latterly adopted the custom of taking a deep

suture on each side of the perineal wound laterally and in this way obviating the former danger of hemorrhage from the deep urethra. A T-drainage tube has been introduced sometimes into the bladder directly, but more often simply into the wound up to the neck of the bladder, and the external aspect has been drawn together with several stitches of chromocized catgut or silkworm gut.

If it were not unprofessional I feel that each physician should honestly advise every elderly patient who comes to him complaining of bladder conditions from an enlarged prostate that he should seek advice from those who are versed in genito-urinary troubles, and be prepared to undergo an operation for the removal of this organ, which has probably long since become useless in its histological function.

SCHEDULE OF OPERATIONS, ETC.

| Condition | Benign operated on | Carcinoma operated on | Benign not operated on | Carcinoma not operated on | Totals |
|---|---|---|---|---|---|
| Dead | 9—mostly earlier cases.<br>—<br>1 Bleeding polypus.<br>6 Uræmia.<br>1 Pneumonia.<br>1 Atony bladder—uræmia. | 6—Usually 4 to 8 weeks after operation.<br>—<br>3 uræmia; 3 days after.<br>1 embolus.<br>2 inflation of bladder from fistula. | 2—Uræmia.<br>— | 8—<br>—<br>All in hospital, or within 1 year. | =25 |
| Unimproved | 1—<br>—<br>Tuberculosis of organ. | | 4—<br>—<br>3 dead after 2½ years.<br>1 not located. | 1—<br>—<br>Died 4 months later after X-ray treatment. | =6 |
| Improved | 8—<br>—<br>5 cases, located by letter, still improved (some dribbling, etc.) | 1—Only to die 1 year later. | 7—<br>—<br>5 died before three years, following discharge from hospital.<br>2 not located. | | =16 |
| Recovered | 14—Practically each case in last 20, save where complication killed.<br>—<br>10 cases followed by letter. | 6—<br>—<br>3 known to be living today after 3 years, 4 years and 5 years.<br>1 living after 2 years.<br>1 living after 1 year.<br>1 not located. | 0—<br>— | | =20 |

Grand Totals—Living after 5 years..... .. 21
Dead after 5 years..... 33
Not located after 5 years... 11

Number of operations, 45.
Number not operated on, 22.
2 carcinoma cases still have fistula after 1 year and 3 years.
Tuberculosis case has supra pubic fistula after 9 months.

Scientific medicine, as developed by the Vienna school more than fifty years ago, ended in nihilism. Patients, however, would not long be satisfied with being merely percussed and ausculated and autopsied. They had the pardonable wish to be healed and cured. But the only chance they were given was to serve as scientific material. With that they were not pleased and ran off to fill the offices and the coffers of the quacks.—*A. Jacobi.*

When a man is saved from death or rescued from sickness he returns to the support of a family which might otherwise be a public charge, and he becomes again an industrial unit, a factor in the production of wealth, a factor which adds its share to the power and greatness of the common wealth. From the economic view alone, to say nothing of the humane aspect, it actually pays the State to aid teaching hospitals, in which the lessons learned from a single sick or injured man may save valuable lives and cure hundreds in distant places.—*J. C. Da Costa, Jour. Am. Med. Assoc.*, xlix, 7.

Perhaps it woud lead too far to examine all the reasons for that demoralization. But one of them should be generally known and appreciated, which is that there are very few medical schools a graduate will leave, diploma in hand, with the knowledge and practice of writing a prescription. Our medical schools neglect their duties by thus omitting to teach the art of medicine in combination with what is exclusively and pompously called "science." Let the schools remember what every one of us general practitioners can tell them, that medicine means both science and art.—*A. Jacobi.*

When we recognize life as a form of force, we can be reconciled to its appearance on earth and to its ultimate disappearance; but if we must recognize it as a specific, individualized entity, always the same, and the cause a creative force, we should be dismayed at its inability to maintain itself in a world where such a force, as a specific entity, is supreme. It negates reason to believe that the creative force—a supreme creative force—must be subject to the caprice of time, circumstances and conditions.—*Tilden.*

# LEGISLATIVE NOTES.

## BILLS INTRODUCED INTO THE LEGISLATURE.

### January 23 to February 25.

IN ASSEMBLY.

An Act to promote the commerce and improve the terminal facilities of the harbors of New York, Buffalo, Oswego and Whitehall and making an appropriation therefor. By Mr. MacGregor. To Ways and Means Committee. (Same as S. 126.) January 27th. Amended and recommitted. Printed Nos. 203, 335. Int. 203.

An Act to provide a survey and plans for acquisition of harbor terminals in the port of New York by construction of an artificial waterway between Flushing and Jamaica bays, and appropriating $2,000 therefor. By Mr. De Groot. To Ways and Means Committee. February 4. Amended and recommitted. Printed Nos. 278, 469. Int. 277.

An Act to amend section 7, article 1, of the Constitution, relative to drainage of private lands. By Mr. Hamm. To Judiciary Committee. February 10. Reported amended and recommitted. Printed Nos. 280, 543. Int. 279.

An Act to legalize the acts of the Board of Trustees of the village of Waterloo, Seneca County, relative to sewer system and disposal plant and authorizing said village to issue bonds therefor. By Mr. Martin. To Village Committee. (Same as S. 188.) Printed No. 286. Int. 284.

An Act to provide for the keeping of surgical supplies and appliances in factories. By Mr. Stern. To Public Health Committee. Printed No. 288. Int. 286.

An Act to amend the Greater New York charter by adding new sections, 1196a and 1196b, relative to compensation to owners of diseased horses slain by order of the department of health of said city. By Mr. Eagleton. To Cities Committee. Printed No. 312. Int. 308.

An Act to prohibit the manufacture and sale of cigarettes. By Mr. Eagleton. To General Laws Committee. (Same as S. 272.) Printed No. 313. Int. 309.

An Act to establish three workhouses, one each in the third, fifth and seventh judicial districts and a reformatory for misdemeanants in the eighth judicial district and appropriating $500,000 therefor, and for the abolishment of certain county penitentiaries. By Mr. O'Brian. To Ways and Means Committee. (Same as S. 199.) Printed No. 321. Int. 317.

An Act making it a misdemeanor for any physician to sign a death certificate unless he has actually seen the body of the deceased. By Mr. Spielberg. To Codes Committee. Printed No. 330. Int. 326.

An Act providing that the pier at the foot of Gold street, East river, Borough of Brooklyn, shall be a public dock. By Mr. Gillen. To Cities Committee. Printed No. 339. Int. 332.

An Act making appropriations for the support and maintenance of Sing Sing, Auburn and Clinton prisons and for Matteawan State Hospital. By Mr. Merrit. To Ways and Means Committee. February 4, reported; February 5, to third reading, passed; February 8, in Senate. Rec. No. 84. To Finance Committee. Printed No. 341. Int. 334.

An Act to repeal section 218a of the Public Health Law, relative to hospitals or camps for treatment of pulmonary tuberculosis. By Mr. Goldberg. To Public Health Committee. (Same as A. 183 and S. 104.) Printed No. 345. Int. 338.

An Act to amend sections 230-240, of the Public Health Law, relative to the practice of pharmacy. By Mr. Conklin. To Public Health Committee. Printed No. 348. Int. 341.

An Act to amend section 276, of the Village Law, relative to sewers. By Mr. Duell. To Village Committee. Printed No. 349. Int. 342.

An Act to provide for the construction and maintenance of sewage disposal works in and for the town of Pelham. By Mr. Duell. To Internal Affairs Committee. Printed No. 350. Int. 343.

An Act to provide for repair of dikes along, and banks of the Chemung river in the city of Elmira, and appropriating $20,000 therefor. By Mr. Lowman. To Ways and Means Committee. (Same as S. 216.) Printed No. 364. Int. 357.

An Act to provide for the building of an extension of a dike along certain parts of the Chemung river in the town of Corning, Steuben County, and making an appropriation therefor. By Mr. J. L. Miller. To Ways and Means Committee. Printed No. 373. Int. 365.

An Act to amend section 70a of the Agricultural Law, relative to compensation for the destruction of diseased domestic animals. By Mr. Shea. To Agricultural Committee. Printed No. 377. Int. 369.

An Act to confer certain rights on the municipal corporations of Nassau County in respect to the water of such county, forming the part of the water supply of the city of New York. By Mr. W. G. Miller. To Electricity, Gas and Water Committee. Printed No. 386. Int. 378.

An Act to authorize the city of Buffalo to issue bonds for alterations in Swan street trunk sewer. By Mr. O'Brian. To Cities Committee. (Same as S. 219.) February 3, reported; February 9, to third reading. Printed No. 391. Int. 383.

An Act to authorize the towns of Nassau County to acquire by condemnation lands for park, dock and other public purposes and to issue bonds therefor. By Mr. W. G. Miller. To Internal Affairs Committee. February 3, reported; February 4, to third reading; February 8, passed; February 9, in Senate. Rec. No. 90. To Internal Affairs Committee. Printed No. 404. Int. 391.

An Act to amend section 102 of the Consolidated Agricultural Law, relative to compensation to owners of animals slain because of having tuberculosis. By Mr. Lansing. To Ways and Means Committee. Printed No. 417. Int. 403.

Concurrent Resolution proposing amendments to article 7 of the Constitution, by adding a new section, 7a, relative to State water preserve. By Mr. Cuvillier. To Judiciary Committee. Printed No. 418. Int. 404.

An Act to amend sections 1327 and 1328 of the Greater New York charter, relative to tenement house department, by providing for a third deputy and for a separate division in each of the boroughs of Brooklyn, Richmond and Queens. By Mr. Garbe. To Cities Committee. Printed No. 428. Int. 412.

An Act for the supervision of laundries for the prevention of contagious disease. By Mr. Baumann. To Public Health Committee. Printed No. 455. Int. 440.

An Act to prevent the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and to regulate traffic therein. By Mr. Cuvillier. To Public Health Committee. Printed No. 457. Int. 442.

An Act providing for the construction and maintenance of emergency hospitals on inclosed wharves and piers in the city of New York. By Mr. Eagleton. To Cities Committee. Printed No. 468. Int. 453.

An Act to permit the city of Ithaca to raise money by taxation to improve certain creeks and acquire and improve certain marsh lands adjacent thereto. By Mr. Gunderman. To Cities Committee. February 10, reported; February 11, to third reading; passed. Printed No. 491. Int. 473.

An Act relative to the water supply of the village of Peekskill. By Mr. F. L. Young. To Electricity, Gas and Water Supply Committee. (Same as S. 279.) Printed No. 492. Int. 474.

An Act to amend the Greater New York charter by adding a new section, 1169a, relative to establishing

an ambulance service by the board of health. By Mr. Hoey. To Cities Committee. Printed No. 502. Int. 479.

An Act providing for the improvement of Piseco Lake in the town of Arietta, Hamilton County, and making an appropriation therefor. By Mr. Partridge. To Ways and Means Committee. Printed No. 533. Int. 508.

An Act providing for the establishment of a State Labor Colony for the detention of persons convicted of vagrancy, habitual drunkenness or violation of section 426 of the Penal Code. By Mr. C. F. Murphy. To Ways and Means Committee. Printed No. 547. Int. 515.

An Act relative to water supply in the village of Peekskill. By Mr. F. L. Young. To Electricity, Gas and Water Supply Committee. Printed No. 551. Int. 519.

An Act to amend section 319, Public Health Law, in relation to the establishment of hospitals and camps for the treatment of pulmonary tuberculosis. By Mr. Wood. To Public Health Committee. Printed No. 561. Int. 529.

An Act to amend chapter 344, Laws of 1907, by providing that no person other than a physician and a duly licensed dentist shall use the X-Ray machine. By Mr. Goldberg. To Villages Committee. Printed No. 573. Int. 539.

An Act to prevent cruelty by conferring upon the Board of Regents of the State University the power of supervision of experiments on living animals. By Mr. Murray. To Judiciary Committee. Printed No. 578. Int. 544.

An Act to authorize the Board of Public Works of the city of New Rochelle to contract with owners of private streets to lay sewers without cost to the city. By Mr. Duell. To Cities Committee. Printed No. 593. Int. 558.

An Act to amend chapter 356, Laws of 1907, by authorizing the construction and equipment of a complete sewerage disposal works for the city of Syracuse. By Mr. Hammond. To Cities Committee. (Same as S. 352.) Printed No. 600. Int. 565.

An Act to amend chapter 631, Laws of 1906, relative to water supply and water department of the city of Syracuse. By Mr. Hammond. To Electricity, Gas and Water Committee. (Same as S. 353.) Printed No. 601. Int. 566.

An Act to prevent cruelty by providing that experiments on living animals shall be performed only by persons holding certificates of a college hospital or laboratory, or under authority of a State Commissioner of Health, or a local board of health. By Mr. Lee. To Judiciary Committee. Printed No. 605. Int. 571.

An Act to require the city of New York to make certain improvements in connection with its water supply system in villages and hamlets on Long Island. By Mr. W. G. Miller. To Electricity, Gas and Water Committee. Printed No. 613. Int. 578.

An Act to amend section 303 of the Consolidated Public Health Law, relative to the time within which application may be made for a certificate of exemption from examination of optometry. By Mr. F. L. Smith. To Public Health Committee. (Same as S. 364.) Printed No. 618. Int. 583.

An Act making an appropriation for the improvement of the Black River Canal, between the Erie Canal and Rome, and the northerly boundary line of Boonville. By Mr. Boshart. To Ways and Means Committee. (Same as S. 363.) Printed No. 636. Int. 601.

An Act to empower the State Commission of Agriculture to lease farm lands and buildings for the purpose of conducting experiments and investigations to ascertain the best methods of dealing with bovine tuberculosis, and making an appropriation therefor. By Mr. Boshart. To Ways and Means Committee. (Same as S. 368.) Printed No. 644. Int. 602.

An Act to amend section 836 of the Greater New York charter, relative to the removal of ash receiving stations in the Borough of Brooklyn, to designated docks and slips. By Mr. Lachman. To Cities Committee. Printed No. 655. Int. 614.

An Act to authorize and provide for the erection and maintenance of an additional public hospital in the city of New York. By Mr. Hackett. To Cities Committee. Printed No. 660. Int. 619.

An Act to amend chapter 664, Laws of 1899, and to further amend chapter 953 of the Laws of 1895, relative to regulating the cutting and harvesting of ice in the Hudson river. By Mr. Hackett. To General Laws Committee. Printed No. 662. Int. 621.

An Act to amend the Consolidated Transportation Corporations Law by adding a new section, 81a, relative to furnishing water to private premises. By Mr. Garbe. To Electricity, Gas and Water Committee. Printed No. 673. Int. 632.

An Act to authorize the city of Lockport to raise money for the purpose of constructing a dam at the west end of the guard lock, to permit water to flow into Eighteen Mile Creek for fire and sanitary purposes. By Mr. Jordan. To Cities Committee. (Same as S. 391.) Printed No. 684. Int. 643.

An Act relative to the Municipal Commission and the Police, Fire, Sewer, Water and Light Departments of the village of Herkimer, and repealing certain acts relating thereto. By Mr. Fellows. To Villages Committee. Printed No. 698. Int. 653.

An Act to amend the Agricultural Law, by adding a new section, 33a, relative to giving of bonds by manufacturers and shippers of butter, cheese, milk, to secure their patrons. By Mr. Lewis. To Agriculture Committee. Printed No. 699. Int. 654.

An Act to amend chapter 147 of the Laws of 1903, relative to barge canal harbor at Rochester. By Mr. McInerney. To Canals Committee. Printed No. 700. Int. 655.

An Act to release the Syracuse and Suburban Water Company from obligation of supplying State Fair grounds with water. By Mr. McLaughlin. To Electricity, Gas and Water Supply Committee. Printed No. 701. Int. 656.

An Act to provide for a tuberculosis hospital at the New York Soldiers' and Sailors' Home at Bath, and making an appropriation therefor. By Mr. J. L. Miller. To Ways and Means Committee. Printed No. 702. Int. 657.

An Act to amend section 263 of the Consolidated Agricultural Law, relative to packages and barrels to be used in the sale of apples and pears. By Mr. Brady. To Agriculture Committee. Printed No. 710. Int. 665.

An Act to amend the Consolidated Canal Law, by adding a new sub-division, 6, to section 2, relative to Shinnecock and Westhampton canals. By Mr. Lupton. To Canal Committee. Printed No. 712. Int. 667.

An Act making an appropriation for the completion of a dyke for the protection of property adjacent to the Delaware river in the town of Highland, Sullivan County. By Mr. Millen. To Ways and Means Committee. Printed No. 727. Int. 676.

An Act to amend the Consolidated Education Law, by providing State aid for incorporated general industrial or trade schools. By Mr. Robinson. To Ways and Means Committee. (Same as S. 398.) Printed No. 730. Int. 679.

An Act to provide for the printing, publication and distribution of the Consolidated Laws and Code amendments reported to the Legislature by the Board of Statutory Consolidation. By Ways and Means Committee. To Ways and Means Committee. Printed No. 723. Int. 682.

An Act to amend the Consolidated State Charities Law, by adding a new article, 24, providing for the establishment of a State hospital in some suitable locality for the treatment of intermediate and advanced pulmonary tuberculosis, and making an appropriation therefor. By Mr. McGrath. To Ways and Means Committee. (Same as S. 401.) Printed No. 733. Int. 683.

IN THE SENATE.

An Act to repeal chapter 456, Laws of 1906, relative to Seaside Park for the recreation of citizens of New York City. By Mr. Cullen. To Codes Committee. Printed No. 174. Int. 172.

An Act to amend the Agricultural Law by adding a new section, 64a, relative to the destruction of diseased animals. By Mr. Rose. To Agriculture Committee. (Same as A. 275.) Printed No. 180. Int. 178.

An Act to legalize, validate and confirm acts of the village of Waterloo, relative to the establishment of a sewer system and disposal plant. By Mr. Hewitt. To Judiciary Committee. (Same as A. 284.) Printed No. 190. Int. 188.

An Act to provide for the enlargement of the sanitarium located at Otisville, Orange County, and directing the board of estimate and apportionment of the city of New York to make an appropriation therefor. By Mr. McManus. To Cities Committee. Printed Nos. 193, 404. Int. 191.

An Act making an appropriation for repairs to quarantine stations at Hoffmans and Swinburne islands. By Mr. Gledhill. To Finance Committee. Printed No. 194. Int. 192.

An Act to establish three workhouses, one each in the third, fifth and seventh judicial districts, and a State reformatory for misdemeanants in the eighth judicial district, appropriating $500,000, and abolishing certain county penitentiaries. By Mr. Wainwright. To Finance Committee. (Same as A. 317.) Printed No. 201. Int. 199.

An Act to amend sections 172, 177 and 179 of the Public Health Law, to repeal section 179e, and adding a new section, 179e, relative to State Board of Veterinary Examiners and licensing veterinary practitioners. By Mr. Davenport. To Public Health Committee. (Same as A. 221.) Printed No. 217. Int. 213.

An Act to provide for repair of dikes along, and banks of the Chemung river in the city of Elmira, and appropriating $20,000 therefor. By Mr. Conger. To Finance Committee. (Same as A. 357.) Printed No. 220. Int. 216.

An Act to authorize the city of Buffalo to issue bonds for making alterations to Swan street trunk sewer. By Mr. Hill. To Cities Committee. (Same as A. 383.) February 10, reported. Printed No. 223. Int. 219.

An Act to amend chapter 505, Laws of 1899, by extending the time for veterinary surgeons and practitioners to register to July 1, 1908. By Mr. Brough. To Judiciary Committee. Printed No. 230. Int. 226.

An Act to provide for the establishment of a Board of Trustees of Labor Colonies for the detention, reformation and instruction of persons convicted of vagrancy, habitual drunkenness, and violation of section 426 of the Penal Code. By Mr. Grattan. To Codes Committee. Printed No. 251. Int. 246.

An Act to amend the charter of the city of Buffalo relative to city physicians. By Mr. Hill. To Codes Committee. (Same as A. 202.) February 10, reported. Printed No. 268. Int. 263.

An Act to prohibit the manufacture and sale of cigarettes. By Mr. Harte. To Trades and Manufactures Committee. (Same as A. 309.) Printed No. 290. Int. 272.

An Act to amend chapter 301, Laws of 1903, relative to leasing by the Park Commissioner of the Borough of the Bronx, of portions of Pelham Bay Park for athletic purposes. By Mr. Stilwell. To Cities Committee. (Same as A. 82.) Printed No. 291. Int. 273.

An Act relative to the water supply of the village of Peekskill. By Mr. Wainwright. To Villages Committee. (Same as A. 474.) Printed No. 297. Int. 279.

An Act to prevent cruelty by conferring upon the Board of Regents of the University of the State of New York the power of supervision of experiments on living animals. By Mr. Brough. To Judiciary Committee. (Same as A. 544.) Printed No. 369. Int. 346.

An Act to amend chapter 356, Laws of 1907, by providing for the construction of a sewerage disposal works in the city of Syracuse. By Mr. Holden. To Cities Committee. (Same as S. 565.) Printed No. 375. Int. 352.

An Act to amend chapter 631, Laws of 1906, relative to furnishing water in the city of Syracuse. By Mr. Holden. To Cities Committee. (Same as A. 566.) Printed Nos. 2, 376. Int. 353.

An Act to provide for the expense of constructing a trunk sewer for the drainage of portions of the 8th, 29th, 30th and 31st wards of the Borough of Brooklyn, city of New York. By Mr. Cronin. To Cities Committee. Printed No. 383. Int. 359.

An Act to amend section 836 of the Greater New York charter, by providing that all ash receiving stations in Brooklyn shall be removed to designated docks or slips. By Mr. Alt. To Cities Committee. Printed No. 384. Int. 360.

An Act making an appropriation for the improvement of the Black River Canal, between Erie Canal and Rome, and the northerly boundary line of Boonville. By Mr. Cobb. To Finance Committee. (Same as A. 601.) Printed No. 387. Int. 363.

An Act to amend section 303 of the Consolidated Public Health Law, relative to the time within which an application may be made for a certificate of exemption from examination in optometry. By Mr. Cobb. To Public Health Committee. (Same as A. 583.) Printed No. 388. Int. 364.

An Act to empower the State Commissioner of Agriculture to lease farm lands and buildings for the purpose of conducting experiments and investigations to ascertain the best method of dealing with bovine tuberculosis, and making an appropriation therefor. By Mr. Platt. To Finance Committee. (Same as A. 602.) Printed No. 392. Int. 368.

An Act to amend section 319 of the Consolidated Public Health Law, relative to the establishment of hospitals or camps for the treatment of pulmonary tuberculosis. By Mr. Witter. To Public Health Committee. (Same as A. 529.) Printed No. 423. Int. 390.

An Act authorizing the city of Lockport to raise money for constructing of dam at the west end of guard lock, to permit the flow of water into Eighteen Mile Creek for fire and sanitary purposes. By Mr. Mackenzie. To Cities Committee. (Same as A. 643.) Printed No. 424. Int. 391.

An Act to amend the Consolidated State Charities Law, by adding a new article, 24, providing for the establishment of a State hospital in some suitable locality for the treatment of intermediate and advanced pulmonary tuberculosis, and making an appropriation therefor. By Mr. Schultz. To Finance Committee. (Same as A. 683.) Printed No. 436. Int. 401.

## County Societies

### MEDICAL SOCIETY OF THE COUNTY OF ERIE.

The regular meeting of the Medical Society of the County of Erie was held on Monday evening, February 15, 1909, in the rooms of the Society of Natural Sciences, Buffalo Library Building.

President Wall called the meeting to order at 8:30 o'clock, and requested the Secretary to read the minutes of the annual meeting held December 21, 1908. On motion, the minutes were adopted without being read.

The Secretary then read the minutes of the Council meeting, held February 6, 1909.

On motion of Dr. Krauss, the minutes of the Council meeting were approved and the recommendations contained therein adopted.

This included the recommendation that honorary membership be conferred upon Dr. Henry R. Hopkins, who is thereby made an honorary member of the soci-

ety; also the resignations of Drs. W. H. Glenny, Buffalo; Dewitt G. Wilcox, Buffalo; Harry Y. Grant, Falls View, Ont.; A. G. Gumaer, Los Angeles, Cal., and A. P. Squire. Resignations of these members were thereby accepted.

The Secretary stated that, in response sent to State Secretary Townsend, at the direction of the Council, for a copy of report on malpractice suits defended by the State Society during 1908, he had received a complete report made by the Counsel for the State Society.

A summary of this report was then read, it not being considered necessary to read the entire report inasmuch as it is published in the JOURNAL of the State Society.

The President called upon Dr. Eli H. Long, Secretary of the State Delegation, to make a report of the last meeting of the State Society.

Dr. Long presented a verbal report of the work done by the delegates from this county and the results accomplished.

Dr. Lytle offered the following amendment to the by-laws:

"That Section 8 of Chapter II be amended by substituting the words "is dropped from the roll for nonpayment of dues" in place of the words "removes from the State of New York permanently."

Under the rules, this amendment was laid upon the table, a copy to be sent to each member, the same to be acted upon at the next meeting.

Dr. Allen A. Jones suggested the advisability of employing a stenographer to make a verbatim report of the discussions at these meetings, to be published in the State Society's JOURNAL.

The matter was referred to the Council with power.

Dr. Wm. C. Krauss nominated Dr. Ernest Wende for honorary membership. This, under the rules, was referred to the Council.

On the recommendation of the Membership Committee the following persons, whose names were presented by Chairman Thomas H. McKee, were elected to membership in this society:

Dr. Edward H. Kramer, 64 North Ogden Street, Buffalo.

Dr. W. B. Burlingham, 260 West Utica Street, Buffalo.

Dr. Aldona Jankowski, 472 Amherst Street, Buffalo.

Dr. Geo. J. Haller, 1084 Main Street, Buffalo.

Dr. Irving Phillips Lyon, 531 Franklin Street, Buffalo.

The business portion of the session now being completed, the literary program of the evening was proceeded with.

Dr. L. Bradley Dorr presented a paper on "Silver Salts in Typhoid Fever."

Dr. John H. Grant spoke on "Whitlow or Felon."

Dr. F. C. Bush made brief remarks on "Practical Application of Research."

Dr. Jacob Otto spoke on "Tendencies in Infant Feeding."

Dr. Joseph Burke presented the subject—"Diagnosis of Pancreatic Affections."

All these papers were discussed at the end of the meeting, a number of the physicians participating.

At the conclusion of the program a fine collation was served.

About seventy-five physicians were present.

FRANKLIN C. GRAM, Secretary.

## WESTCHESTER COUNTY MEDICAL SOCIETY.

REGULAR MEETING AT WHITE PLAINS, JANUARY 19, 1909.

*Program.*

BUSINESS SESSION.

The Treasurer presented his annual report.

It was moved, seconded and carried that the proceedings of the meeting be published in the NEW YORK STATE JOURNAL OF MEDICINE.

It was moved and carried that a Delegate to the State Society, who was unable to attend, be empowered to appoint an Alternate.

Owing to the inability of Dr. W. S. Fleming, delegate to the annual meeting of the Medical Society of the State of New York, to attend, Dr. A. M. Campbell was appointed Alternate in his place.

Nine new members were elected to membership.

SCIENTIFIC SESSION.

"Resume of Poliomyelitis Anterior Acuta," with report of seven personal cases, followed by a free discussion, M. W. Barnum.

"Epilepsy Improved by Operation on the Brain," G F. Shiels.

"Two Cases of Fracture of Jaw Treated with Internal Dental Splint," M. W. Barnum.

## RICHMOND COUNTY MEDICAL SOCIETY.

REGULAR MEETING, FEBRUARY 10, 1909.

*Program.*

"A Contribution to the Cause and Prevention of Myopia," John Hicks.

A collation was served and enjoyed by all present.

## MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.

REGULAR MEETING, FEBRUARY 9, 1909.

*Program.*

Report of Case Presentation of Patient. Epilepsy with Unusual Ocular Faculty.

"Kleptomania," C. G. Hacker.

"Surgical Complications of Typhoid Fever," J. B. Harvie.

Discussion of New Tuberculosis Law, opened by C. E. Nichols.

"Acute Iodo Thyroid Toxemia," F. T. Stannard.

## MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS.

A scientific meeting was held in connection with the Tuberculosis Exhibit, February 22, 1909, and the following papers were read:

"Diagnosis of Incipient Tuberculosis Cases," A. H. Garvin.

"The Use of the X-Ray in Tuberculosis Diagnosis," A. F. Holding. This paper was illustrated with the lantern.

## MEDICAL SOCIETY OF THE COUNTY OF MONTGOMERY.

ANNUAL MEETING AT FONDA, DECEMBER 9, 1909.

*Program.*

Report of the Comitia Minora was read by the Secretary.

The following officers were elected for 1909: President, W. R. Pierce, Amsterdam; Vice-President, A. B. Foster, Fonda; Treasurer, E. F. Bronk, Amsterdam; Secretary, H. M. Hicks, Amsterdam.

President's Address, Douglas Ayres.

The meeting was well attended, there being an unusually large number of members present. The next meeting will be held in March, at which time Dr. Deaver, of Philadelphia, will present a paper.

## MEDICAL SOCIETY OF THE COUNTY OF GENESEE.

REGULAR MEETING, JANUARY 6, 1909.

*Program.*

SCIENTIFIC SESSION.

President's Address, Henry E. Gainard.

"Occipito-posterior Presentations of the Occiput and Their Management," M. D. Mann.

"Organic Heart Diseases," S. W. Skinner.

## ONONDAGA MEDICAL SOCIETY.

REGULAR MEETING, FEBRUARY 9, 1909.

*Program.*

"Psychoasthenia," B. C. Loveland.
Discussion, Hersey G. Locke.
"Physical Culture in Schools from a Physician's Standpoint," C. A. Covell.
Discussion, D. M. Totman.
"Diabetis Insipidus," W. D. Alsever.
Discussion, W. A. Curtin.
"The Bacilli Coli Communins as a Factor in Suppurative Inflammations," Allen Cone.
Discussion, I. Harry Levy.

## MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

REGULAR MEETING, FEBRUARY 17, 1909.

*Program.*

*Symposium on Hydrophobia.*

"Hydrophobia in Man," Lester Betts.
"Rabies in the Dog," R. D. Austin, D.V.S.
"Dog Quarantine and Dog Muzzling," Clarence M. Abbott, Humane Society.

## MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

REGULAR MEETING, FEBRUARY 24, 1909.

*Program.*

"My Clinical Experience with Gastro-Enterostomy, with a Report of Cases," Edgar A. Vanderveer.
Discussion by L. H. Neuman, Andrew Macfarlane and Arthur W. Elting.
"Spinal Anæsthesia," a report of one hundred cases, Fred E. Lettice, resident surgeon, Sing Sing Prison.
"A Case of Hirschsprung's Disease—Congenital Giant Colon," H. Judson Lipes.

## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

ROTUNDA PRACTICAL MIDWIFREY. By E. HASTINGS TWEEDY, M.D., F.R.C.P.I., Master of the Rotunda Hospital, and G. T. WRENCH, M.D., late Assistant Master. Henry Frowde, Oxford University Press, 1908.

A SYSTEM OF DIET AND DIETETICS. Edited by G. A. SUTHERLAND, M.D., F.R.C.P. Henry Frowde, Oxford University Press, 1908.

DISEASES OF THE DIGESTIVE CANAL (Œsophagus, Stomach, Intestines). From the Second German Edition. Edited and Translated by DUDLEY FULTON, M.D. Philadelphia and London, J. B. Lippincott Co., 1909. 373 pp., 8vo. Price: Cloth, $4.00.

TEXTBOOK OF DISEASES OF THE NOSE, THROAT AND EAR. For the use of Students and General Practitioners. By FRANCIS R. PACKARD, M.D. Philadelphia and London, J. B. Lippincott Co., 1909. 369 pp., 8vo. Price: Cloth, $3.50.

ORTHOPEDIC SURGERY FOR PRACTITIONERS. By HENRY LING TAYLOR, M.D. Assisted by CHARLES OGILVY, M.D., and FRED H. ALBEE, M.D. New York and London, D. Appleton & Co., 1909. 503 pp., 8vo. Price: Cloth, $5.00.

TEXTBOOK OF GYNECOLOGICAL DIAGNOSIS. By GEORGE WINTER, M.D., Professor and Director of the Kgl. Universetäts-Frauenklinik in Königsberg, Prussia. With the Collaboration of Dr. CARL RUGE, of Berlin. Edited by JOHN G. CLARK, M.D., Professor of Gynecology, University of Pennsylvania. After the Third Revised German Edition. Illustrated by four full-page plates and three hundred and forty-six text illustrations in black and colors. Philadelphia and London, J. B. Lippincott Co., 1909. 670 pp., 8vo. Price: Cloth, $6.00.

COSMETIC SURGERY. By CHARLES C. MILLER, M.D. Second Edition, Enlarged. Published by the Author, 70 State Street, Chicago. Price: $1.50.

## BOOK REVIEWS.

THOMAS LINACRE. By WILLIAM OSLER, M.D., F.R.S. Cambridge, University Press, 1908. 64 pp., 12mo. Cloth, 75 cents net.

This little book gives us the Linacre Lecture for 1908 at St. John's College, Cambridge, delivered by the author. By way of illustration it contains the Windsor portrait of Linacre and that at the British Museum, and nine other plates representing Linacre's famous works and translations.

Linacre died in 1524, leaving "an example of a life of devotion to learning, to medicine and to the interests of humanity."

In Linacre's time "the license to practice was in the hands of the church, in fact, it can scarcely be said that medicine existed as a distinct profession." Graduates of Oxford and Cambridge were exempt. Linacre received preferment in the church and held many livings (nine), which he is supposed to have successively sold. Osler thinks he took orders with this course in view, in order to obtain the necessary leisure for literary work. Surely, if our present-day clergy were to read this, would they not weep for the days that are no more? Would they not cry out as with one voice: "Lord, wilt Thou not at this time restore again the kingdom to Israel?"

Linacre was versatile, to say the least. "It is questionable whether he was a better Grammarian or Physician." He was the physician of Henry VIII, tutor of Prince Arthur, the Princess Mary, Sir Thomas More, and Erasmus. With Grocyn and Latimer he translated Aristotle. He translated Galen and wrote Latin grammars that had a great vogue on the continent. He was one of the founders of the College of Physicians in London. He introduced the study of Greek at Oxford and so became the "restorer of learning in this country (England)." For with Greek came light, breaking Arabian domination and restoring to medicine the uncorrupted spirit and ideals of the Fathers. "Observation and experiment were again made the Alpha and Omega of the science." He was a mathematician and a philosopher, and "to the greatest perfection." It is said that he taught medicine at the famous school at Padua. The two Linacre lectureships at Oxford and the one at Cambridge were founded during his lifetime. He was a busy practitioner, too, throughout his life, never relinquishing practice. Besides his court employment he was the popular physician of the distinguished men of the country.

Linacre lived at the dawn of the intellectual renascence heralded by that "glorious Aurora," the Thirteenth Century, whose meaning has been so well set forth by Dr. James J. Walsh, "that good son of the Church and of the profession," as Osler characterizes him in this Linacre Lecture.

Says J. Nigel Stark in the *Glasgow Medical Journal*, October, 1908: "Medical or surgical machines are manufactured nowadays, highly specialized, certainly, but able to move and think only in narrow and well-defined grooves." We need more Linacres, Oslers, Walshes. Philosophy and *belles lettres*, said the old Ferrara professor, Leonicenus, author of the first treatise on syphilis, should be joined to medicine.

A. C. J.

SURGERY; Its Principles and Practice. By Various Authors. Edited by WILLIAM WILLIAMS KEEN, M.D., LL.D., and JOHN CHALMERS DA COSTA, M.D. Vol. IV. Philadelphia and London, W. B. Saunders Co., 1908. 1194 pp., 1 pl., 3 fold. pl., 8 col. pl., 4 to. Cloth, $7.00 net. Half morocco, $8.00 net.

This fourth volume of Keen's Surgery has been awaited with much interest by those who have seen the three preceding volumes The features which have

been noticeable in them are also conspicuous in this. They are a striking up-to-dateness, completeness of text, and omission of superfluous and untried expedients. Most works of this sort written by several authors have abounded in repetitions by one author of statements made in one part of the work by another. The supervision which the editors of this surgery have exercised has prevented this, and so closely does each writer confine himself to his own field that there is an absence of this unnecessary overlapping of one chapter onto another.

Hernia is treated by Coley in his best style, the illustrations by Fry being among the best in the book. The surgery of the rectum and anus is by Abbe. He calls attention to the dangers of carbolic acid injections in the treatment of piles. Genito-urinary surgery is discussed in several chapters by Edsall, Rensohoff, Lewis, Cabot, Young, Horwitz and Bevan. These chapters contribute a very complete work on genito-urinary surgery, all contained in 460 pages.

The surgery of the abdomen is treated by Van Hook, Kanavel and Murphy. Murphy in discussing appendicitis takes no compromise ground; he is for operation in practically all cases and presents adequate reasons for his views. This is a strong chapter. The surgery of the ear is written of by Dench, and that of the eye, by De Schweinitz. The chapter on military surgery by Surgeon General O'Reilly, and that on Naval Surgery by Surgeon General Rixey, are admirable. Two chapters which add to the peculiar value of the work are on tropical surgery by McCaw, and on the influence of race, sex and age in surgical affections, by Rodman. As we have already said of a former volume, this is the best work on surgery that has been offered to the English speaking profession. To complete the set there remains another volume to appear, and we are assured by the publishers that that may be expected early this year. We hope that it will maintain the high standard of excellence of the four preceding volumes.

N. J.

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A TEXTBOOK OF OPERATIVE SURGERY. Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Designed for Practitioners and Students. By WARREN STONE BICKHAM, M.D., Phar. M. *Third Edition, Greatly Enlarged.* Philadelphia and London, W. B. Saunders & Co., 1908. 1206 pp., 8vo. Cloth, $6.00 net.

This work in its first edition was very popular. This third edition should even exceed the popularity of the two previous editions. Over two hundred pages have been added, and some three hundred illustrations.

A most valuable feature of this work is the descriptive or surgical anatomy. Just the anatomy of the part which the surgeon should know is given as a preliminary to the description of each operation. Then the position of the patient is described, the landmarks and the incision. This gets the operation started right. Then the steps of the operation are given; and this is followed by comments upon the peculiar features and practical points.

The illustrations are good. The text is excellent. The book is a splendid guide in the operative treatment of surgical diseases.

J. P. W.

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CONSUMPTION: Its Prevention and Cure Without Medicine, with Chapters on Sanitation and Prevention of Other Diseases. By CHARLES H. STANLEY DAVIS, M.D., Ph.D. *Second Edition, Enlarged.* New York, E. B. Treat & Co., 1908. 218 pp., 12mo. Cloth, $1.00.

This book, written in popular style by the author of one of the "How to Succeed as a Physician" efforts, postulates that consumption, from its first beginnings to its last stages, can be cured in at least 95 per cent. of the cases. This, in spite of the fact that "with nervous disease multiplying in variety and increasing in numbers, and insane asylums adding extensions, it is evident that the vital stamina of the race is in the rapid decline, and the causes which are leading to this result are themselves on the increase." (p. 174.)

The alarming statement is made that consumption claims a fourth part of all who die.

"Man's physical, mental and moral character is a matter of heredity. . . . Children inherit not only the general form and appearance of their parents, but also their mental and moral constitutions, not only in their original and essential characters, but even those acquired habits of life, of intellect, of virtue, or vice, for which they have been remarkable. . . . The acquired ill of the parent becomes the inborn infirmity of the offspring." These remarks would interest our own Dr. James J. Walsh, after all his efforts to instruct the *laity* in respect of the non-transmission of acquired characteristics. Dr. Walsh has been going far afield. He should work nearer home.

The author has been careless with his quotation marks (pp. 41-200) and also his grammar. "The evidence of the most experienced physicians are decidedly against them." (p. 52.) In the fourth line from the bottom of page 61 some words have been omitted, leaving a sentence without any sense or meaning.

Appendix III contains a very useful list of the principal tuberculosis sanatoria in the United States.

A. C. J.

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CONSUMPTION. How To Prevent it, and How to Live With it. Its Nature, Its Causes, Its Prevention and The Mode of Life, Climate, Exercise, Food, Clothing Necessary for Its cure. *Second Edition, Thoroughly Revised.* Philadelphia, F. A. Davis Co., 1908. viii, 172 pp., 8vo. Price: Cloth, 75 cents net.

Davis's book was evidently written for the guidance of the layman. The terminology is rather old-fashioned. The author appears to be inordinately fond of the word "tubercular." Tuberculous is used on page 14, misspelled. Sanitarium is used for sanatorium. Codliver-oil the author appears to rate with eggs in point of nutritive value, but it should not be given if the stomach is "inflamed." Alcoholic beverages will also irritate an "inflamed" stomach. Chest-protectors may be serviceable, but should not be made of *leather!*

A commendable feature of the book is the author's plea for the better physical education of children, which of itself would operate materially as a preventive of tuberculosis.

A. C. J.

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CLINICAL TREATISE ON THE SYMPTOMATOLOGY AND DIAGNOSIS OF DISORDERS OF RESPIRATION AND CIRCULATION. By Prof. EDMUND VON NEUSSER, M.D. Authorized English Translation by ANDREW MACFARLANE, M.D. Part II. Bradycardia and Tachycardia with Bibliography. New York, E. B. Treat & Co., 1908. 150 pp., 8vo. Cloth, $1.25 net.

In this little book the significance of tachycardia and brachycardia, as they occur in various conditions, is pointed out. It will prove an interesting and instructive book to all who wish to improve themselves in diagnosis. A special study of the Stokes-Adams Syndrome is given.

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MEDICAL GYNECOLOGY. By HOWARD A. KELLY, A.B., M.D., LL.D., F.R.C.S. (Hon. Edinb.) New York and London, D. Appleton & Co., 1908. 662 pp., 8vo. Cloth, $6.00 net.

The comprehensive and wide scope of this volume will appeal to the general practitioner; for to him the book is inscribed; for him it is a message carrying wise counsels, mature experience, and pregnant with many medical truths in gynecology. It should be of as much keen interest to the surgeon as to the internist, for surgeons are apt to gloss over and to neglect the medical aspect of a gynecological case. There is surely a medical as well as a surgical side to gynecology. The specialty emphatically presents certain medical features which respond and are amenable to hygiene, suggestions, office treatments, and medication. There is no book as yet written, with medical gynecology as its

text, which so completely fulfills its aim and purpose as this latest contribution from Dr. Kelly's facile pen. Profusely illustrated with faithfully executed drawings of Broedel and Horn, with its excellent typography, and its series of articles, many of them by well-known specialists, it takes its place in medical literature as one of the ranking reference books. This volume bears the hallmark of sincerity, of cases actually observed, and makes an effort on the author's part (the first so far recorded) "to return to the general practitioner that portion of my special field which he ought to recover by right of his prior lien." The book could well serve as a model to the future generation of medical authors. CLARENCE R. HYDE.

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GENERAL SURGERY. A Presentation of the Scientific Principles upon Which the Practice of Modern Medicine is Based. By EHRICH LEXER, M.D. American Edition Edited by ARTHUR DEAN BEVIN, M.D. An Authorized Translation of the Second German Edition, by DEAN LEWIS. New York and London, D. Appleton & Co., 1908. xxix, 1041 pp., 8vo. Cloth, $5.00 net.

The day of the textbook on general surgery by a single author has not yet closed, for this is an admirable example of such a work. It deals, of course, with the essentials of surgery. It is a groundwork of the principles upon which the practice of surgery is based. It does not deal superficially with regions, but with the disease. The chapters on the treatment of wounds and that on anesthesia are especially good, and up-to-date. The discussion of infections and immunity is up-to-date. The chapter on tumors is particularly full. It is surprising how much of the whole of the essentials of general surgery can be put into a single volume. The translation has been well made, and the book is a distinct addition to our surgical aids. J. P. W.

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DISEASES OF THE LUNGS. Designed to be a Practical Presentation of the Subject for the Use of Students and Practitioners of Medicine. By ROBERT H. BABCOCK, A.M., M.D. New York and London, D. Appleton & Co., 1907. xix, 809 pp., 12 col. pl., 8vo. Cloth, $6.00.

Like the volume on diseases of the heart, by the same author, this is essentially a practical treatise. The large clinical experience of the writer is truly utilized in the presentation of concrete illustrations. The case-histories quoted, while stating some non-essential details, are thoroughly well-chosen to illustrate various points in diagnosis and treatment. As a whole the book fulfills, excellently well, its stated object—to be a practical presentation of its general subject.

The first section deals with the various forms of bronchitis, bronchiectasis, and bronchial asthma. It includes also chapters on tracheal stenosis, foreign bodies in the bronchi, and perforation of the bronchi. In the second section, on diseases of the lungs, the most noteworthy pages are those devoted to lobar pneumonia and pulmonary tuberculosis. Both of these are written with especial fullness from the side of the treatment. The third section embraces the pleura and its diseases.

Dr. Babcock's book is readable, simple, and useful. It deserves, and doubtless will command, a favorable and appreciative reception at the hands of the profession. G. R. B.

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INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. By Leading Members of the Medical Profession Throughout the World. Edited by W. T. LONGSCOPE, M.D. Vol. I. 18th ser., 1908. Philadelphia and London, J. B. Lippincott Co., 1908. xi, 309 pp., 8vo. Cloth.

This quarterly volume of the International Clinics contains twenty-two articles. Those on treatment, medicine and surgery are further subdivided into thirty-three parts. There are seven colored plates, fifty-eight uncolored, and ten figures, all admirably executed.

Lawrason Brown's article on "The Sanatorium" is interesting and thorough.

Dardel, of Paris, gives his notes on the treatment of syphilis by the injection of soluble salts of mercury. In the order of what seems to him their importance he recommends the benzoate, the biniodide and the salicylate.

Fordyce, of Edinburgh, while declaring that the opsonic test, as employed for diagnosis, allows a margin of error so small as to be of the greatest possible value, nevertheless is cautious in saying positively that this patient is tuberculous, or this patient is not, that is, in cases on the border line of infection. There are very many of these cases. "The boundary between immunity and infection is a very varying one, in its ultimate essence an extremely delicate one, and yet again in its degree of latitude a very broad one. Within its limits the greater parts of many lives are spent, and in many cases the limit on either side is, I believe, too subtle for detection.

With regard to tuberculin, Fordyce thinks it an extremely potent agent for good or evil—infinitely more powerful as a destructive than as a remedial agent. If injudiciously employed the harm done is out of all proportion to the greatest benefit which can be hoped for when it is properly administered under strict opsonic control.

Sir Dyce Duckworth reminds us that there is no fashion in truth. He believes that we are too much engrossed with the daily widening revelations and conceptions which reach us by the way of bacteriological researches. He admits their fascination, appreciates them, does not decry them. But they tend in some degree to withdraw our attention from other clinical factors now relatively neglected.

We are much engaged with the seed and insufficiently mindful of the soil. The personal factor must be taken more into account.

We seem inclined to drift at present into the position of abstract scientists and to lose our proper relation to the patient as medical artists.

Duckworth believes that we could revert profitably to a consideration of the old doctrine of diatheses, which has been allowed to pass into unmerited oblivion since the microscope and bacteriology have so fully engrossed the minds of our active observers.

The younger men, Duckworth fears, are not now set on acquiring the skill and art which our great predecessors laid so much store by. We use unproved, synthetic novelties, while acquiring but little knowledge of the true value of many of the older approved drugs. Our patients are the worse for this disregard of the experience of our more skilful predecessors.

*"We think our fathers fools, so wise we grow;*
*Our wiser sons, no doubt, will think us so."*

Rudolf, of Toronto, has studied the normal temperature of the body. 97.2° Fahr. is the lower limit and 98.4° the upper. It more frequently approaches the former than the latter point.

Thiroloix, of Paris, writes interestingly of "fixation abscesses." These are aseptic abscesses deliberately induced by the injection of turpentine (one c.c.). It is claimed that unquestionable therapeutic effects follow in all cases of ordinary, simple septicemia. The author reports a case of puerperal infection in which a remarkable remission promptly followed the local reaction, recovery ensuing. In this case there had been respiratory anxiety, a temperature of 40° C., swollen face and extremities, scanty and albuminous urine, enlarged spleen, congested right lung, painful joints and constant, green vomiting.

The dangers of this method of artificial pyogenesis are frankly discussed and its mode of action summed up.

Tuley does not believe in the practice of circumcising male infants. He calls it a barbaric relic. It may all be true, but we confess ourselves not convinced after reading his reasoning on this point.

Flick, in a three page article, sums up the whole story of prophylaxis against tuberculosis and gives it as his opinion that infection is always by way of the lymphatics of either the alimentary canal or respiratory tract.

Deaderick believes that hemoglobinuric fever stands in the same relation to malaria as do tabes and dementia paralytica to syphilis. The analogy extends to the therapeutic relations. In both malaria and syphilis our so-called specifics are useless in their respective "para-affections."

His somewhat elaborate hypothesis of the pathogenesis of hemoglobinuric fever seems adequate and sound.

Olmer and Terras conclude that the ophthalmic tuberculin test is more reliable than the von Pirquet.

Bloodgood's articles on surgery cover forty-eight pages. He writes on the preparation for operation and operative technic and discusses the latest surgical literature of thirteen important regions. It is an excellent piece of work.

He points out that the danger of employing the Bier method too enthusiastically is that indicated operations may be postponed too long. An illustration shows sinuses following post-typhoid osteomyelitis of the ribs, not relieved by prolonged use of Bier's vacuum cup.

The vaccine therapy has not worn very well. It is of no value in very acute infections and in some of the chronic affections it has not accomplished results much better than are obtainable by other and simpler methods.

A very simple and valuable method of eliciting a sign pathognomonic of early cancer of the breast is well described and illustrated on p. 274.

Benze, in text under figures opposite page 280, should be Bence.

Thyreoid is spelled thyroid throughout the article on the surgery of the thyreoid. A. C. J.

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WHY WORRY? By GEORGE LINCOLN WALTON, M.D. Philadelphia and London, J. B. Lippincott Co., 1908. 275 pp., 12mo. Cloth, $1.00 net.

This book is mighty good reading. Any one can read it with profit; and it will be of immense help to the individual who is inclined to worry—which means most of us. It is full of helpful philosophy. That this is taken largely from the ancients is much to its credit, for the philosophy of India, Persia and Egypt, transmitted to us through the Greeks and Latins, is the best we have. The thoughtful have always found more comfort in Marcus Aurelius and Epictetus than in any of the organized systems of superstition.

The author of this book applies the helpful philosophy in a practical way. He discusses mental healing, psychotherapy, worry, obsessions, the doubting folly, hypochondria, neurasthenia, sleeplessness, occupation neuroses, the worrier at home, and the worrier on his travels. All of these things are discussed with a view to help the worrier overcome his difficulties.

Here are some of the trite sayings: "The greatest intellectual gift is the ability to forget."

"The tendency of the average American is to live at least several hours in advance. On the train he takes no comfort and makes no observations, for his mind is on his destination rather than on his journey."

"There are two things that no one should worry about: first, the thing that can't be helped; and second, the thing that can."

"A financial magnate was once asked how he succeeded in keeping his mind free from worry. He replied, by contemplating the two worst things that could happen to him; losing all his property and going to jail. He had learned the lesson that one thought can be driven out only by another."

Then there is the incident of the doctor interrupting the neurasthenic patient recounting her multitude of ills by exclaiming, "Ah, what splendid health you must have in order to be able to stand all these complaints!"

"'Suppose that this here vessel,' says the skipper with a groan,
'Should lose 'er bearin's, run away and bump upon a stone;
Suppose she'd shiver and go down where, save ourselves, we couldn't.'
The mate replies,
'Oh, blow my eyes!
Suppose again she shouldn't.'"

Much comfort is found in the words of Goethe, "Submit to what is unavoidable, banish the impossible from the mind, and look around for some new object of interest in life."

This is a practical and delightful book. J. P. W.

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INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. By Leading Members of the Medical Profession Throughout the World. Edited by W. T. LONGCOPE, M.D. Vol. II. Eighteenth Series, 1908. Philadelphia and London, J. B. Lippincott Co., 1908. viii, 304 pp., 8vo. Cloth, $2.00 net.

This volume of the International Clinics contains twenty-four articles covering a wide field of medicine.

Under Treatment of Scarlet Fever, Louis Fischer discusses mild cases without rashes, the seriousness of which is apt to be minimized.

From 1,000 to 2,000 units of antitoxin should be injected early in every case of scarlatina, as a prophylactic against the complication of diphtheria. At the Riverside Hospital this treatment has greatly lessened this complication.

Fischer uses a seltzer syphon, to which a rubber tube is attached, to play a stream against the tonsils and pharynx in cleansing those parts.

Hallopeau, of Paris, writes about the use of atoxyl (sodium anilarsinate) in syphilis.

"In spite of the name that has been given to it, and that it does not deserve, atoxyl is a poison, that is in itself capable of bringing on sypmtoms often very disagreeable." Thus there is a shadow on the picture.

Hallopeau's results confirm those of Salmon. The efficiency of the drug is sometimes striking. It is curative. A 10 per cent. solution is used. Three gluteal injections a week are given, varying in amount from 0.50 to 0.75.

The symptoms of intolerance are usually abdominal or gastric pains, and general málaise, or heaviness in the limbs. There may be headache, vertigo, prostration, fever, anorexia, vomiting, deafness, dryness of the throat, dry cough, somnolence and retention of urine.

In the hands of Metchnikoff and Salmon, atoxyl has, after local inoculation, prevented syphilis if injected before the appearance of the chancre. Postchancroidal injection is useless as a preventive measure.

Turton, of England, in writing on bacterial vaccines, says that he has found it inexpedient to insist on estimations of the opsonic index as a routine plan, in treating tuberculous and staphylococcic affections. He works on the following basis. Having carefully analyzed his cases in which the index was worked out very frequently, he uses the minimum dose which was found to maintain the index above normal for a good length of time.

"An element which diminishes the usefulness and value of opsonic estimations is, that very great and rapid changes take place in opsonic power as the result of rest, exercise, menstruation, digestion, etc., which interfere with the conclusions to be drawn unless the estimations are performed at intervals so frequent as to be impossible in practice." Many times the opsonic index is not an exact indication of the clinical condition of the patient. He may be going rapidly down hill with his opsonic index above the normal line on the occasions on which it has been examined.

A large number of cases are reported by Turton, the results in the main being good, in some cases "wonderful." His results in acne are not so favorable as have been Wright's and Western's.

Vaillard and Dopter, of Paris, report the results in

their hands of the Pasteur Institute serum treatment of bacillary dysentery. They declare it to be a specific agent, lessening the death rate in an evident manner.

20 c. c. daily in average cases, and from 40 to 100 c. c. in severe cases, should be given.

Urticaria, polymorphous erythemia, arthralgia and myalgia may follow its use, as with other sera. They may be avoided or lessened by administering two or three grammes of calcium chlorid on the day the injection is made and on the two following days.

Deaderick, of Arkansas, writes on hemoglobinuric fever. He gives a table showing that the mortality in 1,931 cases treated with quinine was 25 per cent., while the mortality in 898 cases treated without quinine was only 10.3 per cent. Yet Deaderick shows that these data do not by any means decree that quinine shall not be used in this disease under certain circumstances, which he describes.

We don't like the use of preventative for preventive in Deaderick's article.

Cecil, of Louisville, in summing up the management of valvular heart disease, says wisely that nothing is usually indicated except good hygiene, and regular, orderly methods of living. When we see evidence of interrupted or broken compensation, then it will be time enough to administer medicines which are distinctly known as heart remedies, but not until then!

James J. Walsh writes in his usual interesting style upon some curiosities of lead poisoning. Some curious modes of poisoning are detailed.

Young, of Boston, discusses the alleged fact that the children of mothers who suffer with gonorrhea during pregnancy are less healthy after birth than other children, and more liable to succumb to mild sickness. He quotes Lobenstein and Harrar, who have found that 100 children born under the above circumstances gained only 10.9 per cent. at the end of 10 days, while the children of 150 normal mothers gained 49.3 per cent.

Buchanan, of Glasgow, reports among other interesting cases one of blindness of the left eye undiscovered (and unsuspected by the patient) for forty years.

Hudson, of Philadelphia, gives a detailed report of a case of congenital scoliosis.

Simon, of Baltimore, discusses recent research into the pathology of malignant disease.

We note several typographic errors on page 4.

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THE MIND THAT FOUND ITSELF. An Autobiography. By CLIFFORD WHITINGHOUSE BEERS. New York, Longmans. Green & Co., 1908. viii, 363 pp., 8vo. Cloth, $1.50 net.

Mr. Beers presents in an exceedingly interesting manner his experiences during the onset and course of an attack of manic depressive insanity during both its depressed and manic phase, and while under treatment in two private and one State institution.

Of undoubted neurotic temperament, the author in June, 1894, following his graduation from High School, suffered a severe mental shock; a brother developed a brain tumor with resulting convulsive seizures, and from the beginning of his brother's illness the author became possessed with the obsessional fear that he also would become the subject of epilepsy.

In September, 1894, he entered Yale University. During all this time the obsession persisted. In November, 1895, during a recitation in German, he felt "as if my nerves had snapped," and for the remainder of the term he was unable to attend recitations. "At this time, and on many subsequent like occasions, the one thought uppermost in my mind, though I gave no outward evidence of my great despair, was that my psychic convulsion would become physical." He was, however, able to complete his course, and graduated in June, 1897. For three years he was employed. In March, 1900, he had a severe attack of grip, followed by a depression which became more and more intense; during the night of June, 23d, his obsession became a fixed delusion, "I believed myself to be a confirmed epileptic." He had resolved that he would rather kill himself than live the life of an epileptic, and five days later attempted suicide by jumping from a window, receiving fractures of the small bones of the feet. He was removed to a general hospital for treatment; there he passed into a delirious condition with numerous persecutory ideas and terrifying hallucinations; after the subsidence of his delirium his condition changed to a typical manic depressive depression. The delusions continued, becoming more numerous and systematized; he believed that he was to be punished for a crime, that he was in the hands of the police; was unable to recognize his relatives, considered them spies; made numerous misinterpretations of actual occurrences bringing them in line with his delusions; later became mute. His analysis of the delusions, false sense perceptions, emotional states is exhaustive and lucid, and a contribution to the subject of abnormal psychology.

This depressed period, during which he was under treatment in two private institutions, continued for a little over two years, and was followed almost immediately by a typical period of elation. During this period a transfer to a State hospital was brought about; there he improved sufficiently to be discharged September 10, 1903. In January, 1905, he suffered another short manic attack, and was again treated in one of the same private institutions.

The object of the work which was written in 1905 is to expose the abuse in institutions for the insane in order to arouse action calculated to improve the methods of treatment, especially of violent and disturbed cases. The author cites many instances of tactless treatment and abuse, not only at the hands of the attendants, but also of assistant physicians.

So long as the statements are made concerning actual experiences, notwithstanding the fact that the alleged abuse occurred almost entirely during the period of elation, considerable weight must be attached to them. That abuse exists in many instances is a fact that must be regretfully admitted; that it is certainly becoming less and less frequent in occurrence is equally true; in fact, marked and progressive improvement, year by year, has taken place in the care of the insane. No longer is a patient given only custodial care, but determined endeavors are being made for the individual treatment of each case; the character and intelligence of the nurses is decidedly better; and in most all hospitals training schools are in active operation and each year many thoroughly competent nurses are graduated, and at no time has this important subject been receiving such thoughtful consideration by alienists as during the past few years.

While admitting the truth of some statements as to the abuse, deductions such as the following seem to be made without sufficient foundation: That the attendants have "a code of dishonor * * * a part of which is that a restless or troublesome patient placed in the violent ward is assaulted the very first day. * * * That it is the character of the attendants in charge of the troublesome cases, and not the disposition of the patients themselves, which makes the ward a violent ward. * * * That a 'violent ward' is not a place where insane patients violently attack their keepers or fellow patients except in the rarest of instances, and then as a rule only after they have been goaded into a revengeful madness by unremitting cruelty." Or, when speaking of the suicide of a patient who has been discharged one month previously as improved, "No message did he leave, in my opinion none was necessary; for aught any man knows the memories of the abuse, torture, and injustice which was so long his portion, may have proved to be the last straw which overbalanced his desire to live. * * * The doctors will say, and truthfully, that it was a suicidal impulse which drove him to his death, * * * but can they surely deny that that suicidal impulse might never have gained control had he been committed to an institution where not only he, but all other patients would have been treated kindly and scientifically?" Many other instances might be mentioned, but the above seem

sufficient to indicate that false deductions have been drawn from many actual occurrences, this not from lack of truthful intention, but rather because of the observer's state of mind at the time of the occurrence, and the lack of experience in properly interpreting the facts. The mistreatment occurred almost entirely while the patient was in the disturbed wards of the hospital; while in the other wards he states "I was treated with consideration by doctors and attendants alike. Fortunately in all hospitals for the insane, patients in a passive condition are very likely to receive kind treatment."

Many improvements long under consideration by those interested in the care and treatment of the insane, or already being carried out in various parts of the country, are mentioned by the author with a plea for more universal adoption. Among these being Psychopathic Hospitals; Elimination of Political Influence; Higher Salaries and Larger Number of Attendants; Better Class of Attendants; Female Nurses in Male Wards; Abolishment of Restraint (although this question of abolishment of restraint cannot be dismissed as lightly as the author believes); After Care Treatment; etc.

The author's suggestion that spies be employed in the wards, either as patients or attendants, would be most undesirable in its influence, and defeat one of the principal objects aimed at, the securing and retention in the hospital of a better class of attendants who will conscientiously perform their duties. His suggestions of a "country wide black list" of undesirable workers and a universal statute making it a misdemeanor for a discharged employe to obtain re-employment, etc., and also of the establishment of a national society "for reform and education in the field of nervous and mental diseases" are worthy of much consideration. Many other suggestions, such as correspondence, visit of the clergy, relations, etc., seem matters best left to the judgment of those in whose care the patients have been placed to be decided in each case individually.

This autobiography may be read with considerable benefit by all medical men, alienists, and especially by nurses and attendants employed in hospitals for the care and treatment of the insane, and within certain limitations, by the public. P. G. TADDIKEN.

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THE IMMEDIATE CARE OF THE INJURED. By ALBERT S. MORROW, A.B., M.D. Philadelphia and London, W. B. Saunders Co., 1906-7. 340 pp., 8vo. Price: Cloth, $2.50 net.

The author begins his preface by saying that he has endeavored to prepare a book that would be useful alike to physicians, nurses and laymen, and at the same time serve as a text-book for the use of First Aid Classes.

For this latter purpose the book is well fitted. It is not, however, the sort of book that a nurse or a physician would be likely to buy. The chapters on Hemorrhage, Fractures, Poisoning and Monsportalin of the Injured are especially good. The last chapter mentioned indeed suggests that a book written for the ambulance surgeon and the ambulance corps would be serviceable.

The publishers give well marked evidence of their preference for veteran illustrations, but as the book is intended for laymen it is no great fault in this case. A good manual for First Aid Classes.

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THERAPEUTICS: Its Principles and Practice. By HORATIO C. WOOD, M.D., LL.D. Thoroughly Revised and Rewritten by HORATIO C. WOOD, JR., M.D. *Fourteenth Edition.* Philadelphia and London, J. B. Lippincott Co., 1908. xix, 778 pp., 8vo.

So long as we have works like Wood's we need not despair of drug therapy. Like the "bright star" of Keats' last sonnet, they shine steadfastly in the therapeutic night.

There is a drug therapy that is rational, efficacious, scientific. Certainly no efforts have been spared to undermine utterly our faith in drugs (notably the latest, Altara's demonstrations of disease germs in various popular medicines, especially in pill form.) Yet a sane drug therapy there is that is not built upon the sands of empiricism.

The preface to the first edition, which follows that to this, the fourteenth, remains as much a masterpiece as when it was written. Empirics and empiricism are castigated. Empiricism is an insecure foundation whereon to develop rational therapeutics. What to-day is believed is to-morrow cast aside. "What has clinical therapeutics established permanently and indusputably? Scarcely anything beyond the primary facts that quinia will arrest an intermittent, that salts will purge, and that opium will quiet pain and lull to sleep.

"To (supposedly) established facts the profession clings as with the heart and hand of one man—clings with a desperation and unanimity whose intensity is the measure of the unsatisfied desire for something fixed. Yet with what a Babel of discordant voices does it celebrate its two thousand years of experience.

"Experience is said to be the mother of wisdom. Verily she has been in medicine rather a blind leader of the blind; and the history of medical progress is a history of men groping in the darkness, finding seeming gems of truth one after another, only in a few minutes to cast each back to the vast heap of forgotten baubles that in their day had also been mistaken for verities. * * * There is scarcely a conceivable absurdity that men have not tested by experience and for a time found to be the thing desired.

"Looking at the revolutions and contradictions of the past, listening to the therapeutic Babel of the present, is it a wonder that men should take refuge in nihilism, and, like the lotus-eaters, dream that all alike is folly—that rest and quiet and calm are the only human fruition?"

Wood and a few others have raised drug therapeutics from the position of an empirical art to the dignity of applied science.

This deservedly popular book contains practically all the facts which the practitioner should know regarding drug therapy. Recent literature has been well gleaned and the book is fully abreast of pharmacologic progress.

The opsonic therapy and the iron theory are briefly discussed.

Gant's method of using sterile water for the production of transitory anesthesia is described, credit being given to Schleich, however, for his original recognition of the fact.

There is an appendix containing metrical and apothecaries' weights and measures, with tables showing their relations; also a table of the alcoholic strength of wines, malt liquors and distilled liquors. This is followed by an index of diseases and a general index. The book carries a number of illustrations, chiefly photographic reproductions of blood-pressure and respiratory curves. A. C. J.

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## DEATHS.

JOHN W. ATWOOD, M.D., of Fishkill-on-Hudson, died February 21, 1909.

WILLIAM T. BULL, M.D., of New York City, died February 22, 1909.

JOSEPH HUBER, M.D., of New York City, died February 21, 1909.

JOSEPH B. MAUCH, M.D., of New York City, died February 2, 1909.

ROBERT A. MURRAY, New York City, died February 27, 1909.

# NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

ALGERNON THOMAS BRISTOW, M.D., Editor
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Vol. IX. APRIL, 1909 No. 4

## EDITORIAL DEPARTMENT

### PRESENT STATUS OF THE TUBERCULIN TESTS.

IT is surprising to note the enormous interest which the profession has taken during the past year in the study of the local and constitutional tuberculin reactions. We are once more reminded of the fact that all scientific medicine aims at utility and service to mankind. While it may be said that the discovery of the tubercle bacillus was the begining of the diagnostic science of tuberculosis and that it opened a way to the more thorough understanding of the distribution of the disease, we agree with Wolff-Eisner in his conclusion that it is the mission of tuberculin to compensate for the loss of the value of the tubercle bacillus for the purpose of early diagnosis.

The tuberculin tests constitute extremely fine biological methods by which tuberculosis may be discovered in its earliest stage.

During the past fourteen months over one thousand references to tuberculin as a diagnostic agent have been added to our medical literature. These dealing mainly with local reactions for diagnostic purposes, a new era has been opened in medicine. These tests can only result in strengthening and reinstating older and tried methods; they accentuate the necessity of thorough physical examination and of painstaking consideration of all that is offered by the individual case. The medical profession and the lay world are equally anxious to establish methods which will make the early diagnosis of tuberculosis possible.

All tuberculin tests serve only to substantiate associated clinical data. The agglutination test of Arloing, based on the Widal reaction of the agglutination of typhoid bacilli by means of immune serum has never been seriously considered by the profession. It requires an elaborate technique. It is difficult to be sure of the agglutination of tubercle bacilli because of their slow growth, and the further fact that they often group spontaneously. Arloing, however, in his paper recently read in Washington at the Tuberculosis Congress expresses himself very positively in favor of the method. Until the introduction of the Calmette and Pirquet tests the subcutaneous or hypodermic injection of tuberculin was practically the only tuberculin test. Most authorities to-day express themselves in favor of the injection of tuberculin only as a last resort. Those of large experience have during the past year rarely used this method. Severe reactions have followed in a large number of cases. The reaction may occasionally be absent in the presence of tuberculosis. It is contra-indicated in cases with fever and a reduced general condition.

The three tests which are to-day claiming the attention of the profession are (1) the Pirquet or cutaneous test, (2) the test of Moro which includes the local application of a 50 per cent. tuberculin ointment, and finally, the simplest of all, the conjunctival or ophthalmic, also known as the Calmette and Wolff-Eisner test. Wolff-Eisner says, "all disadvantages are done away with by the application

of the local reactions, they do not expose the patient to the danger of being injured or having his sufferings increased. They can be used in clinical practice; they do not require a tedious observation of the course of the reaction, and most important of all, they produce reaction just as specific as the subcutaneous tuberculin reaction."

In the majority of cases these reactions are convincing and demonstrable before the appearance of tubercle bacilli and this is what is most needed. The Pirquet test is particularly valuable in recognizing tuberculosis in children, and in the recognition of latent and inactive tuberculosis. The conjunctival test, which includes the instillation of a diluted tuberculin solution—usually one per cent.—into the eye is most valuable in detecting incipient and active tuberculosis. Calmette objects to the use of the old tuberculin of Koch because of its glycerine content; which latter he believes irritates the eye. In a one per cent. old tuberculin solution of Koch there is .02 per cent. of glycerine. Wolff-Eisner and others contend that the glycerine is by no means harmful. Calmette recommends the use of tuberculin precipitated by alcohol in water to avoid the irritating action of glycerine on the mucous membrane. Authorities who have recently written on this subject and those who have compared the results following the cutaneous test of Pirquet, the use of tuberculin ointment and the ophthalmic test believe as the result of their experimentation that there is no material difference in the number of reactions obtained. If after sufficient clinical test the Moro ointment is found to give as satisfactory results as the cutaneous and ophthalmic tests it may in the end displace these as diagnostic agents.

All tuberculin it must be remembered is poisonous. It is injurious if improperly controlled. The Calmette test in the hands of the majority of clinicians has given very satisfactory results; occasionally the resulting reaction has been violent, has persisted during a number of weeks, in rare cases ulcerative processes have followed its use, and some reports include deep-seated tissue change.

In considering the ophthalmic test we must call attention to the fact that harmful results are in all probability due to the instillation of tuberculin into diseased eyes, to infection after instillation, or mechanical irritation, to the introduction of secretion by the fingers of careless patients into the untested eye and to the use of poor or faultily prepared tuberculin.

Calmette reports 13,000 instillations and states that in no case in which the tests were properly applied and controlled were there serious complications. Petit tabulated 2,974 instillations with no ill effects in 698 positive reactions. Smithies and Walker in 450 instillations in 377 patients had four stubborn reactions. It is wise to remind the profession that the eye needs to be thoroughly examined before the test is made and with the slightest abnormality, tuberculin should not be used. Tuberculin should not be used twice in the same eye; the organ is promptly sensitized after the introduction of tuberculin and the reintroduction may lead to violent reaction. If the untested eye reddens it is probable that the patient with his finger introduced the tuberculin from the tested eye. Those who have made the larger number of ophthalmic tests oppose its use as a diagnostic agent in eyes which are inflamed or diseased, though Kalt, Citron and Stevenson have used tuberculin locally in cases of tuberculous iritis without bad results. Olliver has recently spoken in favor of the Calmette test in the diagnosis of suspected tuberculous disease of the eye. If in non-tuberculous subjects the eye is hypersensitized by the repeated instillation of tuberculin and the untested eye is subjected to the Calmette test no reaction follows, proving that anaphylaxis is not transferred. Under these conditions tuberculin injected hypodermatically also gives negative results. When tuberculin is injected cutaneous and conjunctival spots which were originally affected by tubercular tests inflame anew. Weight of authority is in favor of the conclusion that incipient and favorable cases react promptly to the ophthalmic test. Unfavorable and acute cases are unlikely to react to local tuberculin tests. Advanced cases with cavity formation react feebly or not at all. There is no relation between the intensity of the reaction and the gravity of the lesions as shown by feeble reaction in advanced cases with cavity formation; while initial lesions localized in a single organ may give violent reaction strongest reactions may be found in cases where tuberculosis was hardly suspected.

The Calmette test is frequently of value in differential diagnosis of inflammatory, malignant and tuberculous disease. The writer has subjected twenty typhoids seen during the past year to the Calmette test with a positive result in only one; this was a young girl who had tuberculous adenitis.

As already mentioned the Pirquet test is preferable for children; children resist the Calmette test, cry, and are likely to wash out the tuberculin. As children are not born with tuberculous foci they do not react to any of the tests until active tuberculosis is present, hence the moment of infection is easily determined.

Tuberculin tests offer very little aid in the differentiation of miliary tuberculosis and typhoid as the reaction to tuberculin is likely to be negative in the former disease. In doubtful cases it will prove valuable to corroborate the ophthalmic test with the Pirquet or Moro tests.

The majority of hospital and advanced cases of tuberculosis have failed to react to the Calmette test. In over 300 tests made by the writer the following conclusions were justified. Positive reaction in 85 per cent. of incipient cases, from 60 to 65 per cent. of the patients in the second stage of pulmonary tuberculosis gave positive results; in the terminal stage 16 per cent. gave positive reactions. Whenever the reaction was positive in supposedly healthy patients the conclusion was reached that the patient at sometime had come in contact with tubercle bacilli and that a focus of tuberculosis was somewhere present but inactive. With advanced cases of tuberculosis disease tuberculin reactions are weakened because the body is incapable of continuing the battle; protective substances whatever these are have been exhausted.

The writer's conclusions may be formulated as follows:

There have been a number of failures where physical signs of incipient disease were positive and subjective symptoms suggestive; no tubercle bacilli were found. If interpreted according to some this would offer an unfavorable prognosis.

An overwhelming proportion of the tuberculous, particularly incipient cases and those in the second stage give positive reaction.

The reaction is of great value in deciding upon early treatment of incipient cases or suggestive conditions, and we have, because of demonstrable reactions, without other positive symptoms, found patients and those interested more ready to take prompt advantage of our advice.

Advanced tuberculosis gives negative reactions in most cases.

There was no reaction in over 80 per cent. of the tuberculous meningitides.

There has been but one reaction in cases of typhoid tested since September of last year.

The test is of great value in deciding upon the nature of abdominal pleural, renal vesical and other visceral conditions.

It is wise to consider all reacting cases suggestive in spite of the fact that no positive physical signs are present, and we have placed subjects in the best possible surroundings where they can be carefully guarded and watched.

Negative reactions and suggestive, subjective and objective signs have not prompted less rigorous treatment of the suspected tuberculous. Failure to respond to the Calmette test in subjects with positive symptoms of tuberculosis offers an unfavorable prognosis. Our invariable rule is not to exclude tuberculosis because of negative results with persisting symptoms. This is particularly true of febrile cases, but in these we have also found the prognosis bad.

It is probable that the cutaneous and ophthalmic tests will be found sufficient and that these will practically displace the use of tuberculin hypodermatically for diagnostic purpose. It is positive that these methods have decided advantages, being easily and promptly applied can be used where tuberculin hypodermatically is unsafe, particularly with febrile conditions; their use is not associated with great expense. Weak patients are not disturbed by the ophthalmic test. Differential diagnosis will often be materially aided by the use of the ophthalmic or tuberculin tests, particularly the former. Here as with all other refinements of diagnosis we must continue to be receptive; weigh all facts, never failing to give subjective and objective symptoms their true value in reaching conclusions. It is unwise to remain inactive in the treatment of suspects because of negative reactions. The Calmette test must be used with caution; the causes which lead to unfavorable and persisting reactions are not to be ignored. In spite of the large and encouraging literature the entire subject is still sub judice, we are justified to look with hopeful anticipation to the future for a satisfactory verdict.

Henry L. Elsner.

## AN ACT TO ENABLE THE MEDICAL SOCIETY OF THE STATE OF NEW YORK TO ALTER THE TIME AND PLACE OF ITS ANNUAL MEETING.

THE full text of this bill may be found on page 173 of the current issue of this JOURNAL. In 1875 a bill passed the Legislature enabling the society to change the time of its meeting by a two-thirds vote, on a year's notice. This bill had been long forgotten until resurrected recently by counsel, when it became necessary to draw up a statute complying with the unanimous vote of the House of Delegates. The clause in italics has been added so that the place of meeting may also be changed, if thought desirable. The measure is cautious to a fault. In view of the diminished attendance at the last Annual Meeting, and the fact that although the membership of the State Society has leaped from less than a thousand to more than 6,500 members, nevertheless the attendance at the Annual Meeting has remained substantially the same, it does not seem altogether iconoclastic or revolutionary to try the experiment of an autumn or an early summer meeting. All the other State Societies of the United States meet at one or the other of these seasons, and a change of time or place, or both, may possibly result in an increased attendance, and a consequently increased interest in the Annual Meeting. At least, this is the opinion of a good many men who have been members of the State Society for many years. There are numbers of busy practitioners both in the crowded cities and in the country who now find it impossible to attend a mid-winter meeting of the State Society because of the exigencies of professional work. These men ought to be given an opportunity to come to Albany at a more convenient and pleasanter season that the end of January.

A. T. B.

## AN ACT TO REGULATE THE INTRODUCTION OF EXPERT TESTIMONY.

THIS important measure is to receive a public hearing on April 6th, in the Library of the Assembly Chamber at Albany. There is no act which has ever been introduced into the Legislature which so closely touches the honor of the medical profession. The bill is not ideal, yet if passed will do something at least towards curing an evil which has become well-nigh intolerable. As Judge Clearwater remarked at the last meeting of the Joint Committee of the State Bar Association and the Medical Society of the State of New York, "A better bill than this might easily have been devised in an hour or two." This short bill, however, is the result of days of effort on the part of the chairman of the Joint Committee. It is not all we should like to have, but is all we are likely to get, and we are lucky if we get it at all. When we administer a remedy to a patient, if we are wise we always take into consideration the ability of the patient to retain our dose. There are many drugs of excellent effect in themselves, but unfortunately not seldom the stomach refuses to retain them, and the patient is not apt to be benefited in that case if we persist in cramming them down his throat. Any reform in the present system is likely to prove a nauseous dose to a great many lawyers and not a few doctors. Accordingly it has been the effort of Judge Clearwater and his associates to concoct a remedy which the patients will take and keep down after they have swallowed it, even at the cost of a few wry faces and some faucial reflexes known to the laity as "gagging." Able lawyers have expressed the opinion that the bill is constitutional. Others to whom, perhaps, the wish is father to the thought, say it is not. The courts only can decide that. We are now all anxiously waiting to see whether the Legislature will be as receptive in the matter as have been the State Bar Association and the Medical Society of the State of New York.

A. T. B.

## HEARINGS BEFORE THE JUDICIARY COMMITTEES OF THE SENATE AND ASSEMBLY ON THE ANTI-VIVISECTION BILLS.

A HEARING was held before the Judiciary Committee of the Assembly on March 23d on the Davis-Lee and Brough-Murray Bills, both aimed at regulating experimentation on animals. There was a large attendance of prominent members of the Society and other medical men and laymen. Dr. John G. Schurman, President of Cornell University, and the Rt. Rev. Richard Henry Nelson, Bishop Coadjutor of Albany, both spoke against the restrictive measures proposed in the bills.

Prof. George W. Kirchwey, Dean of the College of Law of Columbia University, presented the legal side of the case showing that the law governing the practice of animal experimentation is at present adequate to punish vivisectors if cruelty is practiced.

A letter was also presented on behalf of the Rt. Rev. Bishop Doane, of the Diocese of Albany, urging the defeat of the proposed bills.

On March 24th a hearing was held before the Senate Judiciary Committee on the Davis-Lee Bill. Prof. Frederic S. Lee, of the Department of Physiology of Columbia University, spoke in opposition to the bill.

On March 25th, the Assembly Judiciary Committee voted against reporting either of the so-called Anti-vivisection Bills.

## Original Articles.

# SOME FURTHER OBSERVATIONS ON PROSTATECTOMY BASED ON ONE HUNDRED CASES.*

By J. BENTLEY SQUIER, M.D.

NEW YORK.

AMERICAN prostatic surgery, conceived in New York, born in the West some twenty odd years ago, attending finishing schools in the East and South, has finally reached its majority with many claiming its parentage, the question even being one of international dispute. Without going into all the deviations of the detail of technique which have given rise to the many named operations, two definite methods of attack remain—the suprapubic operation and the perineal operation; the choice between them being the question of next importance after the advisability of operation has been decided. The primary factor which would seem to affect the choice would be the relative degree of mortality. This certainly is in favor of the perineal operation. The death rate being about one-half as large as with suprapubic prostatectomy. Nevertheless the death rate having so steadily diminished with both operations as our experience has grown, I believe that this increased mortality in the suprapubic operation should not absolutely militate against it. The operation is quicker, requires less dissection, and in the hands of the general surgeon will probably give better average results in regard to uncomplicated restoration of the bladder function than the low operation.

Five years ago in reporting my first cases, I made the statement that every prostate could be removed by the perineal method. I still believe this to be true, although I now believe that many could be better removed by suprapubic incision. Other things being equal, my preference is for the perineal operation; nevertheless, when we see the many brilliant results from suprapubic operations we must necessarily admit that there is some middle ground for us to take for our position in operative choice. In a patient of large physique, with a deep perineum, one in which the hypertrophy is enormous or is complicated by the presence of calculi, there is no comparison of operations. The perineal operation in such cases is more formidable than the suprapubic, the greater mortality of which is thus more than offset by the surgical advantage accruing to the patient. Again, many lives have been saved by operation in two stages—first draining an overdistended bladder and relieving the back pressure on the kidneys, and later removing the prostate, which is made ideally possible by the suprapubic operation. There is no one "best" operation for all cases, but there is one "best" for each case. Unfortunately this is not always self-evident before operation.

Whether the suprapubic or the perineal operation is decided upon, two operative factors stand out as paramount in influencing the completeness or functional restoration. One, the degree of preservation of the compressor urethræ muscle, the other the completeness of prostatic removal. Nature has, with its usual lavishness, endowed the bladder with a double set of doors at its urethral outlet. The inner one, the internal sphincter, may be damaged with more or less impunity, but the outer one, the external sphincter, must be left approximately intact if it is to be of service after weathering the storm of prostatectomy. As the compressor urethræ muscle is located between the two layers of the triangular ligament, it is more exposed to injury during a perineal operation than a suprapubic. This undoubtedly accounts for the fewer cases of post-operative enuresis following suprapubic operation. The safeguard against this accident is simply a matter of technique, but a most important one. In the suprapubic operation possible injury to the compressor urethræ muscle is avoided by making positive that the finger is in the proper plane of separation before freeing the apex of the prostate. The covering of the prostate is formed of its inner or true capsule and its outer capsule or sheath, which is composed of recto-vesical fascia. Anterior to the anterior margin of the levator ani muscle the deep layer of the triangular ligament is adherent to the recto-vesical fascia, and especially to that part forming the outer capsule or sheath of the prostate gland. The proper plane of separation is, therefore, between the true capsule and its outer sheath. If this plane is followed the triangular ligament and its enclosed compressor muscle are always anterior to the field of enucleation and consequently out of danger. The details of technique to render injury to the compressor urethræ muscle less liable during perineal operation are more complicated and less certain. There are at present two principal modifications of the perineal operation, namely, removal through an external urethrotomy incision guided largely by the sense of touch, or by a more elaborate dissection of the perineum, visual identification of the structures, retraction of them and enucleation of the prostate through a lateral capsular cut. The point in the first method is to make the opening into the membraneous urethra near the apex of the prostate and to avoid, as much as possible, anterior tearing and laceration while delivering the prostate through the opening made secondarily in the prostatic urethra.

In the second method, by visual dissection, it is possible to retract all muscular tissue forward, before opening the membraneous urethra, and as the enucleation is carried on outside of the urethra injury to the compressor urethra muscle is less apt to occur.

*Read before the Medical Society of the State of New York at Albany, N. Y., January 26, 1909.

Post-operative enuresis has been scoffed at, and one very able operator has asserted that in two hundred cases of perineal prostatectomy "a continued incontinence has never been more than a temporary affair." This, however, has not been the happy experience of the many.

Upon the completeness of prostatic removal may depend not only the ability to void any urine, but also the ability of retaining it. The portion remaining may act as an obstruction to the outlet or an overlooked nodule may prevent the proper closure of the bladder. Lateral enlargement is quite as often the cause of urinary obstruction as median enlargement or outgrowths. This is caused by deviation in the course of the urethra or compression of the urethra between the two lobes, owing to the fact that their anatomical surroundings do not allow of extension outward. Namely, the triangular ligament below and the pubic arch laterally. The importance of removing every vestige of prostatic tissue is thus evident. It is in operations where the lobes of the prostate come away in lobules that it is necessary to exercise the greatest care not to leave one little mass behind which may defeat the whole operative process. It is surprising how easily a small median outgrowth may escape notice, after the lateral lobes have been removed during the perineal operation, especially if one of the varieties of two-armed prostatic tractors are used. Always make sure by the finger in the bladder that no growth is left behind. I have now under my care an instance of this. The patient was operated upon three years ago by a most careful surgeon. The prostate, which was a large one, was removed through the perineum and presumed to be removed *in toto*. Following operation there was only a slight return of voluntary urination, and after the perineal wound healed cystoscopy revealed a pedunculated growth obstructing the internal meatus, causing not only partial retention of urine, but incontinence as well.

Among my cases of suprapubic prostatectomy I have had but one case in which incontinence of urine was present after operation. Some months before coming under my care, Chetwood's modified Bottini operation, through an external urethrotomy incision, had been performed upon the patient. When sent to me, he was suffering from painful, frequent attempts to urinate with bloody urine. He was using a catheter. A searcher demonstrated the presence of a large calculus, and a catheter drew a large amount of residual urine. The patient requested that I remove the prostate as well as the calculus because he had experienced so little benefit from the cautery operation. This was done through suprapubic incision. Following healing of the wound and a return to work, incontinence of urine developed when the patient walked about. It was not present when the patient was in a sitting position or when reclining in bed at night. The patient was able to urinate without difficulty and to interrupt the stream of urine at command. The leakage does not take place if he keeps his mind upon controlling his vesical sphincter or empties the bladder at frequent intervals. I am convinced that the scar tissue formed in the deep urethra after the cautery operation is more responsible for the incontinence than the suprapubic removal of the prostate. The reason why it did not develop until after removal of the prostate being, that the cautery operation did not remove the efficient barrier which the prostate offered against the leakage.

Flaps of mucous membrane forming during the healing of prostatic wounds causing post-operative obstruction are almost impossible to obviate. Fortunately they are exceedingly rare.

In my experience there has been but one. In February, last year, I operated upon a gentleman seventy-six years of age, suffering from complete retention. He had been on catheter life for two months. A perineal operation was performed and a two-lobed prostate of moderate size was easily removed. Voluntary urination was present nine days after operation. The perineal wound was slow in closing and, as there was a considerable degree of cystitis present, bladder lavage was necessary for some months after operation. During the treatment of the cystitis it was noticed that an increasing amount of residual urine was continually present, and it became necessary to supplement his voluntary urination by the frequent use of a catheter. By the first of May he was again wholly dependent upon the catheter. In addition to this, the passage of the catheter was difficult owing to a distortion in the course of the urethra. A gum elastic catheter with an exaggerated natural curve being the only one which could be passed, led me to believe that some prostatic tissue still remained, causing median obstruction. Cystoscopy did not bear out this supposition; it gave practically negative findings. In October I performed a suprapubic cystotomy to give the bladder drainage and to find, if possible, the cause of the failure of the perineal operation. A rectangular flap of mucous membrane about half an inch square was found attached by one side to the lower border of the internal meatus, effectually closing the vesical outlet to any outflow of urine. This flap was excised and found to contain no prostatic tissue. The patient had a normal convalescence and now empties his bladder to within one and a half ounces.

Freyer claims that residual urine should never be present after prostatectomy, provided the prostate has been properly removed, that no matter how long or how great the overdistension of the bladder has been before operation, the obstruction removed, it will empty itself absolutely. The theory of this may be correct, but practically many bladders whose muscle has become de-

generated from long overstretching require months of time and much treatment before regaining an approximation of their normal vigor and sometimes never do.

Injury to the rectum, which in the early history of prostatic surgery was a commonly reported accident, has largely disappeared owing to the improved methods of technique. It occurred in two of my early cases which were reported in detail at the time, one of which was of special interest and therefore may bear repetition.

The patient voided all urine after operation per rectum. He refused to have the tear repaired because he had perfect control over urination, and the only discomfort was the necessity of having to take his trousers down to urinate. He was under observation for some years after operation, during which time his bladder remained uninfected.

A peculiar injury to the rectum following perineal operation happened to a patient of my colleague, Dr. James Pedersen. The patient was an emaciated old man, with a thin, dilated rectum. The operation was performed without any injury to the rectum at the time of operation. Both Dr. Pedersen and I satisfied ourselves on this point before sewing up the perineum. The third day after operation an enema was ordered, and an over-zealous attendant succeeded in pushing a rectal tube through the rectum into the perineal wound, and then wondered why the patient could not retain the enema.

Rectal tears should be repaired at once and not left for some future time, hoping that nature in the meanwhile will repair the rent. It practically never does. The steps of the operation for repair should include divulsion of the sphincter ani, a purse string suture of silk around the tear tied from the rectal side of the tear, and at least three layers of Lembert sutures of catgut invaginating the wall of the rectum over the tear, on the perineal side of the tear.

These and other complications of prostatectomy are not insurmountable. As the individual operator is taught by the experience of others, and learns from that of his own, he finds fewer and fewer untoward sequelæ among his post-operative results. The operations themselves offer everything in the way of brilliant success. It is the attention to detail in the management of the case before, during and after operation that will insure it.

Of the hundred cases upon which this paper is based, seventy-one have been operated by perineal route and twenty-nine by suprapubic. Death as a probable result of operation has occurred in seven cases: four following suprapubic operation and three perineal, the immediate cause of death being uræmia in four cases, shock due to hemorrhage in one, suppression of urine in one, and cerebral embolus in one.

The patient who succumbed from cerebral embolus was the only death in the last fifty cases of perineal operation. In this case the patient bled profusely at time of operation and extensive packing of the wound was necessary to check the hemorrhage. He recovered from operation without incident. At the end of the fifth day after operation, following the removal of the perineal packing, which had purposely been left in so long so that granulations would be well formed, he had a sharp hemorrhage from the wound. Almost at once his speech became thick and he developed hemiplegia. He shortly lapsed into coma and died twelve hours later.

In reviewing the statistics of various operators, the most frequent causes of death are, uræmia, sepsis and shock. It should be borne in mind that the palliative treatment of prostatic hypertrophy is fraught with the same dangers. With the exception of the last named source, they are ever present throughout the treatment, whereas, in radical operation, after convalescence has started these dangers become relatively more and more remote. If reliable data could be collected, the percentage of deaths directly due to catheter life would probably exceed that of prostatectomy at the hands of competent operators. With these considerations in view, the general practitioner, who is usually the one first consulted by those suffering from prostatic obstruction, should consider the value of surgical intervention before catheter life has inflamed the bladder and infected the kidneys, rather than to keep it as a last resort, suspecting that surgery will deliver the *coup de grace* when the patient's life has become unbearable.

## OTITIS MEDIA PURULENTA—ETIOLOGY AND PATHOLOGY.*

**By J. E. SHEPPARD, M.D.**
BROOKLYN, N. Y.

ETIOLOGY.—The causation of middle ear suppuration is varied, yet relatively simple, owing to the fact that it is an infective inflammation, with but one *usual* avenue of entrance for the causative factor, viz., the Eustachian tube. The immediate exciting cause is the presence in the tympanic cavity or mastoid of some one or more of the pyogenic bacteria, surrounded by conditions favorable to its, or their, development. As contributing, or predisposing, causes may be mentioned the ordinary catarrhal inflammations of the nose and naso-pharynx, including, and, I believe, to be especially mentioned, the catarrhal and suppurative inflammations of some one or more of the nasal accessory sinuses, which constitute most of the so-called "colds in the head"; further, and of much importance, the exanthemata, of which the worst offenders are scarlatina and measles, and influenza, which in its earlier and more

*Read before the Medical Society of the State of New York at Albany, N. Y., January 26, 1909.

virulent years was a most prolific source of purulent inflammations of the tympanum and mastoid.

Then there is a group of cases which might perhaps be classed as due to direct irritation, among which may be mentioned those few cases following incision of the membrana tympani for conditions other than purulent; the occasional cases following operative work in the nose and naso-pharynx; a large number of cases due to too forcible inflation of the tympanic cavity, by blowing the nose improperly and too hard, by Valsalva's method, and by the Politzer bag, especially in an insufficiently cleansed nose and naso-pharynx. Closely allied with these last mentioned causes may be named the nasal douche, which is the cause, in my judgment, of a large and ever-increasing number of cases of otitis media purulenta. In parenthesis, I wish to arraign the medical profession as to a very large extent in error in their more than generous recommendation of the nasal douche; certainly, from the otologic point of view, nasal douching as a general proposition, from the snuffing of salt water from the palm of the hand, through the familiar little duck-shaped outfit, to the more elaborate forms of apparatus, is to be unqualifiedly condemned, and that too in no uncertain language.

Among the more distinctly predisposing causes may be mentioned diathesis; probably the syphilitic, and certainly the tubercular; lowered resistance of cell tissue, as seen, *e. g.,* in typhoid fever; further, the considerable number of cases due to obstructive conditions in the nose, hypertrophied turbinates, deflected septa, tumors, etc., and finally that largest of all classes due to adenoid, or lymphoid, growths in the naso-pharynx, to which may probably be atributed more cases of running ears, acute and chronic, than to all the other causes combined.

Again in parenthesis, I wish to urge upon the medical profession the very great importance of recognizing and removing adenoids in children, also in adults, not only as a curative measure in suppurative middle ear conditions, but also as the surest means known to us at present whereby such troubles may be prevented.

It may be noticed that I have not yet spoken of sea-bathing, although it is a well-known frequent cause of the condition under discussion. The reason for this is that it comes under the same general heading as the nasal douche, the trouble being caused in all cases, except those having an already perforated drum membrane, by the entrance of the water, and with it the infection, through the nose and Eustachian tube.

Nor has there been anything specifically said as to the etiology of chronic middle ear suppuration, for the reason that it is the same as for acute middle ear suppuration, plus an improper or insufficient treatment of the latter. An occasional case, due to tuberculosis, has the features of a chronic suppuration from the start.

Before taking up the pathology of middle ear suppuration, permit me to recall to your minds a few anatomical considerations. It should be remembered that the middle ear consists of the tympanic cavity, with its contained ossicles, the Eustachian tube, and the mastoid cells; that it is lined throughout with a mucous membrane, continuous with that of the nose and naso-pharynx; that the portion of mucosa lining the Eustachian tube and the adjacent part of the tympanic cavity is of the ciliated variety, the motion of the ciliæ being toward the naso-pharynx; that the Eustachian tube is thus indicated as the physiological drainage canal for the rest of the middle ear, and is at the same time the channel through which, under normal conditions, sufficient air passes, with each act of swallowing, to equalize the air pressure on the inside and outside of the tympanic membrane. It should be further remembered that the membrana tympani forms practically the whole of the outer wall of the tympanic cavity, and is its only yielding wall; and that, if there should occur an acute middle ear inflammation, with a more or less obstructed Eustachian tube, and with an increasing exudate retained in the tympanic cavity, it is only by an early rupture of this same drum membrane that nature provides against the more serious complications.

Remember, finally, that the only possibility of drainage from the mastoid cells into the tympanic cavity is through the aditus, a narrow passage at best, and apparently rather badly placed, which may be very easily shut off by swelling of the mucosa or by granulation tissue; and if under these conditions, the mastoid cavity be the seat of a suppurative process, unrelieved by any artificial opening, the constantly increasing amount of pus must find a vent for itself either through the outer or inner cortices, by erosion of the lining membrane, ulceration, and bone necrosis. It follows, therefore, as a necessary corollary of these facts, that prevention of complications is to be obtained through early relief of tension—early incision of the membrana tympani to avoid mastoiditis, and, if this be not achieved, early opening of the mastoid to prevent the deeper and more serious intra-cranial complications.

With the bacteriology, I need not detain you more than a moment. A healthy, normal tympanic cavity is now generally considered to be free from pathogenic germs. Acute middle ear suppurations are in the beginning very usually mono-microbic; the infection, sooner or later after opening of the membrana tympani becomes a mixed one, and this is the condition found in practically all of the chronic suppurative conditions. The germs most frequently met with are

the diplococcus of pneumonia, the streptococcus, and the staphylococcus, of which the streptococcus is generally supposed to originate the most severe and dangerous of the middle ear infections. While others are found, it is so occasional as not to require detailed mention in a paper such as this.

Bacteria, in the vast majority of cases, gain entrance to the tympanic cavity by way of the Eustachian tube; in occasional cases, by way of the lymph and blood vessels, or by way of the labyrinth from the cranial cavity; also, by way of the external auditory canal in cases of rupture of the membrana tympani through direct or indirect violence, or in cases of fracture of the skull, involving the temporal bone. The usual pathological routine for an otitis media purulenta is about as follows: Injection of the blood vessels, swelling of the mucosa, exudation, serous, mucous, purulent, erosion and ulceration of the thin membrane lining the middle ear, rupture of the membrana tympani, and sooner or later bone necrosis. Through the varying extent of this latter process the following structures may become involved; the larger ossicles, most often the incus, with resultant chronicity of the middle ear discharge; any portion of the walls of the tympanic cavity, with at times extension through the interior wall to the bulb of the jugular vein, or through the anterior wall to the internal carotid artery, with resultant venous or arterial hemorrhage, or through the inner wall and involving the facial nerve with a consequent facial paralysis or the labyrinth with a resulting labyrinthitis and occasionally further extension of infection therefrom to the posterior cranial fossa; again, the roof of the tympanum or antrum may become necrotic with resultant extradural abscess, virtually a pachy-meningitis, intradural abscess, or abscess in the substance of the temporo-sphenoidal or occipital lobes, or finally a suppurative meningitis; or the infection may extend by the same necrotic process from within the mastoid cavity, outward, with a resultant subperiosteal abscess, downward, internal to the mastoid tip, causing a so-called Zezold form of mastoiditis, or inward, with a consequent lateral sinus phlebitis and thrombosis, meningitis, or cerebellar abscess, thus accounting for all of the more important complications of middle ear suppuration.

## MODERN METHODS OF NON-OPERATIVE TREATMENT IN SUPPURATIVE OTITIS MEDIA.*

**By EDMUND PRINCE FOWLER, M.D.**
NEW YORK CITY.

OWING to the intricate anatomical construction of the middle ear and its adjacent structures, the many connective tissue reduplications and limited blood supply about the ossicular mechanism, the narrowness of the natural drainage channels, and the deep-seated disease, Nature's efforts to successfully combat infections in this locality are at a great disadvantage. The inflammatory phenomena often tend to block free drainage, and consequently to bring about extensions of the suppuration to important nearby structures, and assistance is necessary to prevent serious complications. Often a very simple local measure suffices to turn the tide, while its neglect invites calamity.

To intelligently manage a case of suppurative otitis media, one must inspect the canal, and drum and flaccid membranes at least daily during the acute stage, and at regular intervals throughout the course of the disease, for at any time conditions may present which call for the surgeon's interference, and it is incumbent on him to note the progress of the affection, and to see that the patient or his nurse is obeying orders. During about 98 per cent. of the time treatment must be carried on by the patient himself or by a nurse, and this home treatment is therefore of the utmost importance, for a speedy and successful cure. We all know how difficult it is to procure efficient home care for our patients, and how many failures are due to neglect, or to unintelligent or faulty treatment by those whom we imagined thoroughly understood what was required of them.

The object of treatment, aside from the possible abortion, shortening, or permanent cure, is to prevent complications, to preserve the function of hearing, and the general health. The latter is prone to suffer from long-continued or virulent suppuration, and especially is the patient liable to contract tuberculosis, anæmia, marasmus, and such like.

The means at our command for promoting an adequate reaction of inflammation, increasing the hyperæmia, phagocytosis, opsonins, or other agencies by which the tissues must combat the invading bacteria, are many, but space will permit of my mentioning with the most efficient mode of application, only those which I believe are the most important, because of their long-continued and successful employment.

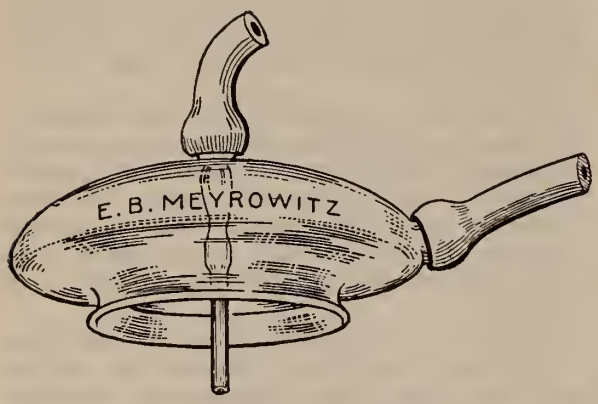
In its incipiency, an inflammation of the tympanic cavity cannot be definitely diagnosed as a so-called catarrhal or suppurative process, and it is prudent to consider all such as likely to prove of the suppurative variety, and to act accordingly. It is the custom to apply heat or cold, anodynes and depletions, inside and outside of the ear, but I will not go into these at this time except to state it as my belief that the most efficient measures during this stage are those brought to bear on the naso-pharyngeal conditions, and on the Eustachian tube.

I regularly administer calomel, put the patient to bed and on a fluid diet, and in four or five hours give a saline cathartic. All stimulants are avoided, and as perfect rest as possible is se-

*Read before the Medical Society of the State of New York, at Albany, N. Y., January 26, 1909.

cured for the body and auditory apparatus. To diminish the fever which is always present in children, and usually in adults, and for comfort, Dover's powder and hot drinks are serviceable, and for high temperatures the tepid or cold sponge bath. If an acute rhinitis exists, remedies for this affection are indicated. I am convinced that a properly adjusted cold compress about the neck is of real value, and that its action may be augmented by an overlying band of elastic webbing, drawn just tight enough to produce a slight flushing of the cheeks. The sense of well-being thus brought about I can vouch for, having personally experienced its beneficent action.

In this stage of an otitis I employ my suction apparatus at least every two hours, using a normal salt solution at about 115 degrees F., and find that the pain is regularly relieved, and that a favorable effect is seemingly exerted, not only on the middle ear but reflexly—it may be—on the Eustachian tube. If the inflammation subsides under treatment, I institute gentle inflation of the tube and middle ear by a method which I have devised, and which I believe to be safe and efficient. For its description, I must, for lack of space, refer you to the literature.




If the temperature, pain, and tenderness do not promptly subside, it is probable that the disease is beyond the control of abortive measures and that there is pus behind the drum membrane. As soon as the presence of pus is diagnosed, the drum should be freely incised, and it is my practice to carry the incision through the bulging section up to and slightly out on the superior canal wall. A properly executed incision of the drum membrane is the most important measure at this stage of the suppuration to assist the tissues in their fight against bacterial invasion, as it not only establishes free drainage and relieves tension, but, on account of these and of the hemorrhage, new blood is enabled to reach the battlefield and replace the exhausted and stagnant fluid that escapes through the wound. To cleanse the external auditory canal, preliminary to incising the drum membrane, I know of no more satisfactory method than suction douche irrigation with a suitable antiseptic solution.

The suction need not be brought into play, but I always employ it, as it renders the irrigation less painful and disagreeable, and seems to augment the action of local anesthetics applied immediately following its use. The following local mixture is often satisfactory in this connection, and seems also with hot suction irrigation to lessen the post-operative pain.

Cocaine, ℥ ii. 8.00.
Menthol, ℥ i. 4.00.
Carbolic, ℥ i. 4.00.

Drop into canal or insert on cotton pledget, and allow it to remain in contact with the drum membrane for at least fifteen minutes. Follow by flooding canal with alcohol, and gently drying with sterile cotton.

Personally, I prefer nitrous oxide gas, as I know I can do better work if the patient is beyond doubt insensible to my cutting. Chloroform is dangerous, and its use should be avoided if possible.

If adequate drainage has been established, the temperature, pain, tenderness, and other symptoms quickly abate, as does also danger of extension to the mastoid cells or cranial cavity. A smear of the pus should be made immediately following the incision of the drum membrane, for its morphology is often of service as a guide to treatment. Differential leucocyte counts and blood cultures may aid in obscure cases.

In influenza otitis, even with free drainage, though the pain disappears, high fever and tenderness over the mastoid process may remain for some days, and these cases require close watching on account of their liability to serious complications. The usually profuse and bloody discharge may remain viscid for days, and to accelerate its liquefaction normal salt or boric acid solution should be employed—preferably with the suction douche every two hours (two quarts of solution) at about 115 degrees F.). Gradually discontinue the frequency of irrigations as the amount and character of the discharge indicates, and after each irrigation dry the external ear with cotton; and for cleanliness and comfort place in the concha a small piece of cotton or sterile gauze, to be renewed as often as necessary.

Ordinary gauze drains, because of the impracticability of their employment by the patient or nurse, are apt to become irritating pus-soaked poultices, and block drainage. $H_2O_2$ is dangerous during the acute stage of the suppuration, because its explosive action may drive infectious matter into the mastoid antrum. As the discharge ceases and the perforation heals, gradually cease all irrigations and institute daily gentle inflation of the Eustachian tube and middle ear, discontinuing this gradually as the pneumatic balance in the tube and tympanic cavity is permanently re-established.

To prevent a return of the affection, it is important not only to protect the patient from cold winds and other shocks to his auditory or general economy, to rectify pathological conditions in the nose and naso-pharynx, but to build up the general health by all the means at our command. This latter is usually neglected, with the result that the ear never approximately regains its normal state, and therefore remains as a constant menace to health and happiness.

If the treatment of an acute suppurative otitis be neglected or faulty, exacerbations and the chronic conditions are prone to occur—especially in lowered constitutional states and with the diseases which go with these, notably tuberculosis, syphilis, anæmia, marasmus; and chronic suppurative otitis may develop without reactive phenomena in these diseases.

In a series of over one hundred cases I found that with but few exceptions all patients with chronic running ears gave a positive reaction to the tests of Calmette or von Pirquet; whereas in acute cases the percentage was small, and as a rule only those who gave tuberculosis histories or went on to exacerbations or complications reacted positively.*

These facts eloquently emphasize the necessity for general constitutional treatment in acute or chronic ear disease.

As in acute, so also in chronic suppuration must we establish and maintain adequate drainage and remove all granulations, polypoid growths, or other obstructions to the usually profuse, purulent, and putrid discharges.

Bone caries cannot be definitely diagnosed macroscopically by the character of the discharge, as the most foul and irritating discharges often speedily lose their odor and cease, and those that are scanty and thin often occur with necrotic processes. The detection of exposed bone by means of the probe, the unabated continuance of the suppuration in spite of faithful and intelligent treatment for several weeks, the recurrence of granulations, polypi, or the presence of cholesteatoma in inaccessible recesses, all point to the uselessness of non-operative measures, as the trouble lies beyond the reach of these.

Our treatment is subject to many modifications, depending on the quantity and quality of the discharge, the location and size of the perforation, the condition of the Eustachian tube, external auditory canal, and surrounding structures, and the patient's general health. Remember that the secretion is always septic, and therefore liable to set up complications in the temporal bone and abutting dura, and that we are justified in performing the major operations if we are unsuccessful in arresting the suppuration and reducing the inflammatory infiltration of the middle ear structures within a reasonable time.

With the exception of bone caries, retained caseous purulent secretions in inaccessible pockets in the tympanic cavity, petrous, or mastoid portions of the temporal bone, the causes of chronic otorrhorea are, in the great majority of cases, removable; and even small areas of denuded or dead bone may become covered with granulations, epidermatize and heal, if we assist them in their fight for recovery.

There are numerous methods and medicinal substances for combatting the disease—all of which have their uses and limitations, according to the varying types and stages that present.

Though I deprecate the use of powders on account of their tendency to block drainage, they are of value in selected cases if cautiously used and thoroughly removed before repeating the insufflation. Antiseptic solutions seem to exercise a beneficial influence on the purulent processes by their anti-bacterial, anti-putrefactive, and anti-decomposition actions, and the choice of these depends largely upon individual preference. I usually use hot boric acid and salt solution or bichloride of mercury in strengths of from 1-10,000 to 1-1000, according to the degree of chemical irritation I wish to exert on the infiltrating round cell degeneration in order to further its destruction and absorption.

Caustics are useful for their influence on the circulation and nourishment of the tissues, and the marked reaction they produce. If exuberant granulations occur about the perforation or in the canal or middle ear, they should be removed by 10 per cent. trichlor-acetic acid, ortho-chlorophenol, or other caustic, but they are seldom troublesome if the disease has been properly treated.

Alcoholic and glycerol solutions are valuable for their antiseptic, irritating, astringent, and hydrolytic actions.

Solutions for introduction into the ear should not be cold, and I prefer them about 115 degrees F., which is well tolerated by the patient and adds to the action of the medication the stimulating, astringent, and dissolving powers of hot solutions, and besides the few drops remaining after the irrigation quickly evaporate, and we thereby overcome one of the chief objections to solutions—their tendency to remain and further soak the already water-logged tissues.

There are many rational methods of treating suppurative otitis media, but success depends not so much on the method as on the mode and thoroughness of its employment.

Briefly stated, we may use, locally, heat, counter-irritation, dry cleansing and draining, irrigations, antiseptics, hydrolytics, astringents, suction cupping, depletion; and all of these have their advantages and disadvantages, one of the

* *Amer. Journal of Obstetrics*, Vol. lviii, No. 2, 1908.

latter being the inability to bring them to bear on the diseased tissues without trauma, discomfort or pain to the patient. Especially is this the case with infants, children, and nervous individuals.

To overcome most of the difficulties of non-operative treatment, I use my suction bell douche, as it enables me to combine in one method all the local measures just mentioned, and to add many beneficial influences otherwise unobtainable. Anyone with ordinary intelligence can be easily instructed in its use, and except for possible asinine stupidity—or the use of caustics—it is fool-proof. The apparatus may be employed without disturbing the patient, so long as the ear to be treated is within reach, and in children if the head is held between the two hands, one of which steadies the glass bell, perfect control is obtained, and no damage or wetting occurs.

The negative pressure depends upon the length of the drainage tube, and the force of the irrigating stream upon the height of the fluid supply-bag. The suction and nozzle pressures approximate 22½ mm. of mercury for each foot of water fall in the drainage and supply-tubes, respectively. I find that two feet above the head is about right for the supply-bag, and two and one-half feet for the length of the drainage tube. If it is desired to obtain in and about the ear a hot poultice action, pinch the outlet tube and allow the hot fluid to accumulate inside of the bell until the latter is one-half to two-thirds filled, when, on releasing the outlet tube, the suction will be resumed, and the solution will remain in the bell as long as the rim is closely approximated to the skin about the auricle, and the fluid continues to fill the supply-tube. If no suction is desired, allow a few hairs to remain beneath the rim of the douche, or elevate the distal end of the drainage tube. Dizziness is seldom noted during this douching, but if complained of, move the head far forward, lower the supply-bag, or place the ear under treatment in such a position that its canal will fill with fluid, and thus provide a buffer for the jet and lessen its impact.

After a few applications, as the patient experiences relief and comfort, the treatment is not only quietly tolerated but often anticipated with pleasure. The negative pressure is of advantage aside from the hyperæmia engendered because it prevents the water-logging of the tissues and actually enables us to obtain the advantages of both the dry and irrigation treatments, with none of their disadvantages. It relieves the tension throughout the middle ear and communicating cavities, draws the exudate with its toxins and bacteria to the surface, allows fresh blood and all that this entails to reach the field of conflict, and as far as I have observed exerts no deleterious action if used in connection with irrigation to wash away those elements drawn to the foreground, and the stench from their decomposition.

The local effects of the fluid can reach only to the innermost part of the canal, unless there is an abnormally large perforation, or unless the douche is used alternately for suction and for condensation. This is accomplished by alternately releasing and compressing the drainage tube while holding the cup firmly against the head. The pressure will force the fluid in the canal into the middle ear to an extent depending on the height of the supply-bag, and if the Eustachian tube is permeable, fluid may be forced through it into the naso-pharynx. This latter procedure I often make use of in both acute and chronic cases, and after unsuccessful mastoid operations. It is impossible to thus enter the mastoid cells if the head is inclined forward, as the air pocket in the cells and antrum prevents the entrance of fluid in this direction. On releasing the drainage tube, suction is re-established, and the fluid forced into the middle ear is withdrawn, having bathed the tissues during its entrance and exit.

To better break up tenacious or inspissated masses in the middle ear or canal, I employ hydrogen peroxide before each suction douching. In some cases, Politzeration or catheterization is of service to help clear the tube and tympanum, but I endeavor to avoid the use of these measures, except in the presence of the partial vaccum existing during suction irrigation, as even the theoretical objections to inflation are overcome by this method, for any matter blown into the ear will readily find exit through the road offering the least resistance—the external auditory canal, and the fluid draining therefrom.

The maintenance of a patent tympanic membrane opening without repeated incisions is often difficult under the older methods of treatment, and likewise the avoidance of adhesions between the drum and the inner tympanic wall, and while it is unthinkable that we can remove connective tissue bands or prevent their formation, if the two surfaces between which they occur are immediately or mediately joined together, we can lessen the tendency to and the effects of adhesions by prompt, free and maintained drainage, removal of the exudate, and the keeping of the surfaces in question as far apart as possible. These results the suction irrigation tends to accomplish.

I am convinced that the treatment outlined has many advantages over the older methods, not because it utilizes any new theory or drug, but because it combines in one procedure all those remedial actions which we know to be beneficial, and enables the patient to obtain, without annoyance—simply, safely, and efficiently—regular home treatment for his disease.

Acute cases regularly progress without complications to a satisfactory recovery, and in the great majority of chronic cases a cure may be obtained without resorting to major operative measures.

# THE INDICATIONS FOR AND RESULTS OF OPERATIVE TREATMENT, INCLUDING THE SIMPLE AND RADICAL MASTOID OPERATION.*

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THE purpose of this paper is to mention the surgical procedures employed in the treatment of acute and chronic purulent otitis media, to outline the indications which necessitate these procedures, and to emphasize their value and results.

On account of the limitations of time, the operative treatment herein described is confined to the tympanic cavity proper, the attic, aditus, mastoid antrum, and mastoid cells, without reference to the operations required in the management of meningeal and labyrinthine complications.

## INCISION OF THE DRUM MEMBRANE (PARACENTESIS).

Paracentesis is employed principally for the purpose of evacuating the purulent contents of the tympanum, the ultimate object being to relieve pain, limit the extent of the infection, shorten the course of the disease, and prevent complications.

*Indications.*—Paracentesis of the drum membrane is indicated in acute purulent otitis media when attended with intense redness and bulging of the drum membrane, in whole or in part. With these objective symptoms there are coexisting pain and fever, the latter being more marked in young children. The syndrome above described, viz., bulging of the drum membrane, intense aural pain and fever, is invariably of sufficient import to warrant this operation. In infants bulging is a later manifestation than in adults.

Occasionally the purulent process may have continued for some days without rupture, especially in infants, in which event the intense redness gradually assumes a yellowish color, due to attenuation of the membrane and the accumulation of purulent exudate in the tympanic cavity. An early paracentesis, when performed under strict aseptic precautions is preferable to a delayed spontaneous rupture. It is a safe rule to open the drum membrane as soon as the diagnosis of purulent tympanitis becomes positive.

A clean-cut incision in the drum membrane (and by this I do not mean a puncture) immediately relieves pressure, establishes drainage, and the subsequent healing of the wound takes place with but little damage and no scar tissue. Nature's opening is usually a small, jagged hole, the borders of which are more or less necrosed, which, as healing takes place, is prone to result in scars, and considerable deposits of new connective tissue in the drum membrane.

Paracentesis is also indicated for enlarging perforations which already exist, providing they are too small or are unfavorably located for purposes of drainage. A pin-hole perforation in the presence of an extensive intra-tympanic purulent process affords insufficient drainage. These small perforations are usually accompanied by a sensation of throbbing or pain in the ear or mastoid region. They do not entirely relieve the bulging of the membrane, especially at the site of the opening. In enlarging the pin-hole perforation it is often necessary to cut both upwards and downwards, in order to establish drainage both of the tympanic and attic region.

The operation should be performed with a long, slender-handled, small-bladed scalpel, and, if possible, under nitrous oxide anesthesia, inasmuch as the procedure is attended with severe pain. The general direction of the incision should extend upwards and downwards. It may be curvilinear or straight, according to the requirements of the individual case, freely opening the drum membrane throughout its entire extent. The old-time spear-shaped lancet should be discarded for this operation.

Before operating, the external auditory canal and drum membrane should be carefully cleansed by prolonged douching with a warm bichloride solution 1-3000, and dried with sterile cotton, in order to prevent, as far as possible, the invasion of new bacteria from without.

Immediately following the incision, similar douching may be continued until all secretions and clots are removed. The patient should remain in bed until the more acute symptoms have subsided. The canal might be lighty tamponed with sterile gauze, to be changed as often as it becomes soaked with secretion, and the suction douche employed according to the methods outlined in the previous paper.

*Value.*—The operation releases pent-up pus from the tympanic cavity, and thereby retards the tendency to bacterial invasion of contiguous structure, establishes free drainage of inflammatory exudate, shortens the course of the disease, and lessens the danger of mastoiditis, intracranial and labyrinthine complications. These results come chiefly from the rapid removal of the inflammatory products from the tympanic cavity, which otherwise might be forced under pressure through the aditus into the mastoid antrum.

*Removal of Aural Polypi.*—Coming to intratympanic operations the most frequent procedure is the removal of polyps of granulation tissue. The presence of polyps or granulation masses in the tympanic cavity and external auditory canal almost invariably indicates a chronic purulent process in the tympanic cavity and its adnexa. The most common attendant symptom is otorrhea.

This tissue is adventitious and should be removed or otherwise destroyed. When accompanied by offensive discharge and by extensive bone necrosis some form of operation must be

*Read before the Medical Society of the State of New York at Albany, N. Y., January 26, 1909.

employed which will not only remove the polyps, but exenterate the necrosed tissue as well. A simple method of removing large polyps is by means of a small aural snare. By this procedure the projecting portion of the mass is easily cut away. The remaining base is then cauterized, preferably with a bead of chromic acid fused upon the end of a probe. The latter alone is usually sufficient for the destruction of small granulation masses. In this manner the obstructing lesion is removed, but, unfortunately, inasmuch as these growths result from an underlying necrotic process, the proliferations are prone to recur, and recurrence is usually rapid.

Recurrent proliferations of aural polyps in cases wherein all improved methods of local treatment have been faithfully carried out during the interval, indicates a chronic purulent process with bone necrosis which involves the spaces which are accessory to the tympanic cavity proper, for the cure of which the radical mastoid operation becomes imperative.

It will thus be seen that while the results of removal by snare or destruction with escharotics are favorable in the simple cases wherein the disease is confined to the borders of the drum membrane, perforations or portions of the tympanic walls, the results are unfavorable and almost invariably attended with recurrence when the necrosis is extensive, deep-seated or located in the adnexa, the latter cases always requiring the more radical procedures in order to effect a cure.

It occasionally happens that the large polypoid masses which project into the external auditory canal spring directly from the exposed dura mater or lateral sinus, in which event their forcible removal is attended with considerable danger to the meninges.

### OSSICULECTOMY.

Ossiculectomy, or the intra-tympanic operation is an operation by which the drum membrane and ossicles are removed, together with the curettment of granulations and such diseased portions of the tympanic walls, the attic with its outer wall, and the annular ring as may be reached through the external meatus. This operation is employed as a means of curing chronic purulent otitis media by the removal of diseased tissue and the promotion of drainage, and for rendering the tympanic walls more accessible to local treatment. It is an intermediary between the non-operative method of treatment and the radical mastoid operation.

*Indications.*—The intra-tympanic operation is indicated: (1) When a purulent inflammatory process in the middle ear does not respond to local measures of treatment in cases wherein the diseased process is chiefly confined to the drum membrane, ossicles and the tympanic walls. (2) After recurrence of polypoid proliferations, *unless* such recurrence is associated with evidences of extensive necrosis in the aditus, mastoid antrum or labyrinth, clinical evidences of which are: continued discharge with foul odor; perforations in Schrapnel's membrane, or along the upper posterior walls of the tympanic membrane; pain in the mastoid region; vertigo, nausea and vomiting. (3) As a preliminary to the radical operation, either on patients who never have given evidences of complicating symptoms, and in whom it is hoped that improved drainage and subsequent persistent local treatment will effect a cure of the disease; or in patients who demand a preliminary operation rather than submit to the more formidable procedure as a last resort. Proportionately the number is not large.

*The Results.*—In my own experience the results have been favorable in a considerable proportion of all cases operated upon. In carefully selected cases or localized chronic otorrhea with large perforations in the drum membrane proper, and who furnish no history of recurrent mastoiditis, the results have been good, complete recovery being the rule. By recovery is meant a cessation of otorrhea.

The removal of the tissues above mentioned improves the drainage from the tympanic cavity, attic and the mastoid antrum. Hence even though the otorrhea may continue, the establishment of drainage tends to lessen the complicating dangers of the disease.

The operation is not wholly without danger. The facial nerve, denuded of its bony covering in the region of the labyrinthine (mesial) wall of the tympanum, may be injured during the operation, with resultant facial paralysis. Dehiscences over the jugular bulb sometimes lead to injury of the blood vessels at these points with serious consequences. Curettment of polypoid proliferations from the parietal surface of the dura in cases where the tegmen has become destroyed by necrosis, has been known to cause serious meningeal involvement.

The chorda tympani nerve which runs in the posterior fold of the drum membrane is often severed with resultant derangement of taste on the corresponding side of the tongue. This injury is negligible.

### THE SIMPLE MASTOID OPERATION.

*Indications.*—A simple mastoid operation is indicated wherever a purulent inflammatory process has invaded the mastoid antrum and mastoid cells with the following evidences:

(1) Pain over the mastoid region. The pain is deep seated and continuous, and radiates over the entire side of the cranium. The facial expression is that of anxiety and suffering.

(2) Tenderness on pressure over the mastoid cortex. The localizing points of tenderness are found over the mastoid antrum, the mastoid tip, along the zygoma and about the entrance of the mastoid emissary vein. Tenderness is sometimes entirely absent.

(3) Drooping of the postero-superior canal

wall, and bulging of the drum membrane, which does not diminish as a result of paracentesis.

(4) Fever. The rise in temperature is not characteristic, but is more marked in infants and young children.

(5) Discharge. The discharge may be simply excessive with a tendency to increase rather than diminish; it may be of virulent type, or a sudden cessation of discharge may take place with simultaneous increase of mastoid pain. A prolonged profuse aural discharge which resists all approved measures of local treatment, including paracentesis, is considered by many otologists to furnish sufficient indication for the performance of the simple mastoid operation. Some recent experiences have led me to believe that, given an acute purulent otitic inflammation with fetid odor wherein it has been demonstrated that the invasion has been one of the more virulent types of pathogenic bacteria and in patients of weakened vitality, if the discharge manifests no tendency to abate after six or eight weeks, a mastoid operation must be seriously considered. In the majority of cases of this type occurring in my practice extensive disease of the mastoid cells has been found.

(6) Sub-periosteal post-auricular swelling, with or without superficial abscess.

(7) The operation is imperative in the presence of symptoms of intra-cranial complications or of purulent labyrinthinitis.

(8) The advent of facial paralysis. This complication invariably indicates the necessity for an immediate mastoid operation, on account of the intimate relationship which exists between the facial canal and the labyrinth.

(9) Blood examinations in conjunction with other symptoms of mastoiditis are of great diagnostic value. A high leucocytosis and polynuclear percentage indicates the presence of infection in some portion of the body.

In addition to the above-mentioned indications, it may be stated that on account of the manifest danger of serious complications, the mastoid operation is a life-saving measure, and although it is performed primarily in the interest of the life of the individual, there are secondary considerations which materially enhance its value, and, as a consequence, are worthy of note at this point.

The mastoid operation in acute mastoiditis quickly terminates a purulent necrotic process which otherwise might become chronic and attended with all the train of deleterious and dangerous results which accompany this troublesome affection. To mention them is sufficient: (1) Necrosis of bony areas which are closely related to vital structures. (2) The prolonged and constant danger of serious labyrinthine and intercranial complications. (3) Loss of hearing.

It will thus be seen that even though a patient suffering from acute mastoiditis might recover from the acute symptoms without loss of life, such recovery is prone to be followed by the sequelæ above mentioned, whereas an operation, skilfully performed in due season brings to an end the purulent process, *with perfect hearing results.*

The time for operative interference is ever dependent upon a satisfactory diagnosis of the presence of destructive purulent inflammation in the mastoid cells. Just when the exact time has arrived may not be measured by days or hours, but the simple mastoid operation should be performed in acute purulent inflammation which involves the mastoid cells, whenever a permanent remission of symptoms has not been effected either by drainage through the drum membrane, rest in bed, or the employment of local measures such as have been described in a previous paper.

Much has been written in favor of a so-called early, simple, mastoid operation, and if by this is meant operation as soon as it can positively be demonstrated that a purulent inflammatory process has invaded the mastoid cells, which is too virulent and too extensive to offer any hope of spontaneous cure either by drainage or absorption, then the early operation is to be recommended.

On the contrary, it is not wise to operate immediately upon every patient who has tenderness on pressure over the mastoid antrum, during the first three or four days of the attack, for the reason that in the milder cases, it is quite possible for drainage through the aditus, combined with local absorption, to effect a cure without operation, and, further, it is deemed safer in the interest of the patient to operate after Nature has thrown out some protective limitations to the disease within the mastoid cells.

There are some dangerous indications which call for immediate operation, whatever the concomitant symptoms may be, and among these are:

(a) An acute mastoiditis occurring in an ear which is the seat of chronic purulent otorrhea.

(b) Upon the advent of symptoms of labyrinthinitis, the chief of which are nausea, vertigo and nystagmus.

(c) The appearance of facial paralysis.

(d) The appearance of symptoms of intracranial involvement.

Without entering into a description of the operation, it may be stated that the simple mastoid operation, when properly performed, should extend to the limitations of the disease itself, and this usually calls for the removal of the mastoid cortex, the complete exenteration of all mastoid cells, especially the large cells at the tip, those posterior to the sigmoid flexure, in the zygoma and the curettment of all granulations and necrosed areas and the establishment of post-aural drainage of the mastoid cells and the aditus.

The simple mastoid operation, when skilfully performed and previous to the advent of serious

complications, yields brilliant results, and is practically without danger to the life of the patient.

The results may be summed up as follows:

First—Relief of pain and suffering; 2d, cure of destructive purulent process which otherwise menaces life comfort; 3d, preservation of the function of hearing which otherwise might become destroyed on account of continued suppuration. It is the most invariable rule that the simple mastoid operation when performed for the cure of acute purulent otitis media and mastoiditis results in perfect hearing, and this is no mean argument in its favor; 4th, it lessens the tendency to serious intra-cranial and labyrinthine complications, and the possibilities of recurrence are rare.

### RADICAL MASTOID OPERATION.

The radical mastoid operation, strictly speaking, is performed for the cure of chronic purulent otitis media. By chronic purulent otitis media I mean a number of pathological conditions in the middle ear spaces, all having one symptom in common, viz., a persistent otorrhea. The more common conditions producing a persistent otorrhea are (a) Bone necrosis, confined to various parts of the temporal pyramid; to the walls of the tympanic cavity due to inflammatory exudative inflammation of the mucous membranes, or to pressure necrosis from the ingrowth of cholesteatoma or other new growths. (b) Tubercular or syphilitic bone disease in the temporal bone. (c) To a purulent inflammatory disease of the lining mucous membrane of the typmanic cavity and its adnexa. Bone necrosis usually attacks some portion of the ossicular chain, the tympanic walls, the aditus, the antrum of the mastoid and the mastoid cells.

It will thus be seen that we have here to deal with a complex disease, and one attended with difficulties in the way of treatment, extreme annoyance to the comfort of the individual, both on account of loss of hearing and offensive discharge, and considerable danger to life on account of the possibility of intra-cranial complications.

Briefly stated, the purpose of the radical mastoid operation is to convert the external auditory canal, tympanic cavity, the attic, aditus ad antrum, mastoid antrum and mastoid cells when diseased into one wide open cavity; to eviscerate all granulations and diseased bone, destroy all membranous and muscular tissue lying within these limits, including the membrana tympani, and to effect dermatization throughout the entire area, in the hope that by so doing the ramification of the disease will be terminated once and for all.

While the general statement that the radical mastoid operation is performed in order to effect a cure of chronic purulent otitis media is correct, it must be understood that it is not indicated when the disease is confined to the tympanic cavity proper, but is to be performed only when typical indications as are about to be defined are present.

The operation is a capital one requiring extensive dissection in the most complicated bone in the human body.

The radical operation is indicated: (1) When a permanent cessation of the purulent process has not been effected by prolonged local intra-tympanic treatment, combined, if necessary, with such minor operations as removal of granulations, enlarging perforation, etc. (2) When a cure has not been effected by the removal of necrosed ossicles and the curettage of the middle ear. (3) When acute symptoms of mastoiditis supervene in otitis media purulenta chronica. (4) When a sudden cessation of the pus discharge produces chills, fever, vertigo, pain or other unusual symptoms. (5) The appearance of facial paralysis during the course of chronic purulent otitis media. (6) Attacks of vertigo, nausea and vomiting, indicating that the necrotic process involves the labyrinth. (7) In all cases of complicating intra-cranial or lateral sinus involvement, the latter being characterized by symptoms of general sepsis, increase of leucocytes, and of polynuclear percentage. (8) Where there are positive symptoms of cholesteatoma in the mastoid antrum. (9) Where there are fistulous openings in the cortex of the mastoid process or in the osseous canal wall. (10) Whenever extreme depression or other symptoms of disturbed mentality accompany the disease.

Many observers emphasize the importance of the locations of the perforations in the drum membrane, and contend that when a perforation is so located that its margin encroaches upon the bony wall (especially the upper wall) of the tympanic cavity, such perforation indicates a dangerous form of purulent otitis media, assuming that the marginal form is an indication of disease of the bone in the immediate locality.

For the same reason perforations located within the limits of Schrapnel's membrane, which covers the outer wall of the attic, are considered to represent the dangerous type.

The operation is contraindicated: (1) When the purulent process is tuberculous and accompanied by advanced general tuberculosis. (2) In advanced pernicious anemia or albuminuria, and in cachectic diabetes. (3) It is usually contraindicated in young children. (4) In all cases where the disease is confined to the ossicles and tympanic cavity. (5) In adults who have scanty otorrhea without odor, with improper opening of the drum membrane, behind which are retained masses of secretion. (6) In all cases where it is possible to effect a cure by any of the other methods described.

*Results.*—The results obtained by the complete radical mastoid operation, assuming that the treatment both operative and post-operative is

up to the recognized standards, are favorable as a whole, but are influenced by the kind and nature of the pathological findings.

For instance in tuberculosis and syphilitic necrosis the results are less favorable than would otherwise be obtained on account of the underlying constitutional dyscrasia.

At the Eastern Section Meeting of the American Laryngological, Rhinological and Otological Society, held in Philadelphia on January 9, 1909, I reported the results on Otorrhea, Hearing and Life from one hundred and twenty-three (123) radical mastoid operations.

The cases here reported do not cover any definite period of time, but are selected as a series which may fairly well represent the results of the complete operation.

In some instances the records are incomplete for certain of the results which I desire to emphasize.

1. The results on Otorrhea.
2. The results on Hearing.
3. The results on Life.

On the Otorrhea the results are recorded in 103 of the 123 cases.

Of the 103 recorded results there were 84 cures, and in 18 the discharge either persisted, became intermittent or appeared in connection with occasional exfoliations of epidermis or cholesteatoma.

On the Hearing the results are recorded in 75 out of 125 cases.

Of these 75 cases the hearing was improved in 28. It was unchanged in 25, and it was impaired in 22.

On Life; out of 123 cases there was 7 deaths from complicating lesions. In none of the fatal cases save 4 did the operation apparently hasten the fatal issue, and in nearly all the radical procedure was but an incident in operating for the relief of complicating lesions, Sinus thrombosis, Brain abscesses and Meningitis.

In one case heretofore reported, I discovered at the time of the radical operation a large abscess of the temporal sphenoidal lobe, which had never given localizing symptoms, or interfered with the usual duties of the patient.

Five of the cases included in this list are of recent date and the results are still uncertain.

ON THE OTORRHEA.

The purulent discharge is cured whenever healthy dermatization of the entire cavity is complete. This is not possible in every case, inasmuch as in a limited proportion of cases the surgeon has to contend with impaired general health, constitutional dyscrasias and deep-seated disease of the more remote areas of the ear, especially the eustachian tube.

Even though a slight post-operative discharge persists, the operation accomplishes the removal of large areas of the necrosed bone and granulations, and opens up the entire field to inspection and local treatment. Any remaining discharge is usually without danger to the patient's life.

ON LIFE.

Inasmuch as this operation upon the temporal bone serves to eradicate an infective necrotic process from an area which is in close proximity to the cerebrum, cerebellum, lateral sinus, labyrinth and facial nerve, it becomes, when timely performed, a life-saving measure. Clinical experience furnishes abundant proof of this assertion.

ON HEARING.

The operation is never performed in the interests of the hearing function, and a statement to that effect should be made to the patient before operating. Nevertheless the hearing results are of much interest and importance. Providing the labyrinth is intact and no inflammatory adhesions exist, the hearing either remains the same or is improved by the operation. It is made worse in but a very small percentage of cases. Finally, regarding the effect upon the hearing function, the operation accomplishes the removal of adventitious tissue of a dangerous type from the temporal bone and middle ear, and converts the membranous linings into epithelium free from necrotic foci.

In the above remarks I have referred only to the complete radical operation. Attempts have been made from time to time, first by Koerner and later by Heath in England, and Bryant and Ballinger in America, to modify the operation by leaving the ossicles and membrana tympani intact in the hope of bettering the hearing results.

They are all incomplete operations, inasmuch as the annular ring, the outer wall of the attic and ossicles, three of the chief centers of necrosis in this disease, are necessarily left untouched.

It is the general feeling among surgeons, and especially among otiatric surgeons, that the hope for a successful outcome from an operation, lies chiefly in the complete eradication of the disease. I am therefore extremely skeptical as to the results of any incomplete operation in cases of extensive necrosis of the tympanic wall, ossicles, attic, aditus and mastoid antrum.

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## PURULENT DISEASES OF THE MIDDLE EAR. THE TREATMENT OF MENINGEAL, SINUS AND LABYRINTHINE COMPLICATIONS.*

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IN considering the intracranial lesions complicating suppurative diseases of the ear, it must be borne in mind that these complications are usually infectious or virulent from their very inception. This is especially true of septic meningitis, and thereby is offered a ready ex-

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planation of its great mortality. Such being the case, we are confronted by several most important if not vital problems.

The first is the employment of prophylaxis, by which means we are enabled to prevent many, if not most, of the serious lesions involving the interior of the skull. The responsibility that is justly imposed upon us can no longer be lightly assumed, since we must largely hold ourselves accountable for the establishment of the proper protective measures against preventable disease. This is particularly true of the manifold and serious complications arising from diseases of the organ of hearing, owing to the fact that when the initial aural inflammation is promptly recognized and treated, the grave complications under consideration will be the exception rather than the too frequent rule of to-day.

Secondly, when the complications under consideration have become established, our only means of effectual treatment is through prompt operative interference, and even then this procedure is frequently undertaken too late to be successful. The line of treatment usually followed, therefore, for meningeal, sinus and labyrinthine lesions complicating suppurative aural disease, is operative, and I would here like to impress upon my audience the great importance of early surgical interference, which, after all, must be considered our most conservative line of therapeutics, since it is only by prompt recourse to such measures that we are enabled to save even a small proportion of these cases. I do not wish to be understood as advocating that no line of treatment other than operative should be attempted in these grave complications. Nevertheless, I cannot too strongly urge the necessity for surgical intervention in the class of cases just cited; while, on the other hand, I desire to be equally emphatic in reiterating that these formidable complications are mostly preventable if the initial aural lesion is promptly recognized and properly treated.

In the restricted time allotted to a paper of this character, covering the three great subjects of meningitis, sinus thrombosis and labyrinthine disease, on any one of which a volume could be written, I shall be able only to point out the principal features connected with each individual topic.

### MENINGITIS.

Meningitis comprises the most frequent intracranial lesion complicating aural disease, and has been the cause of innumerable deaths, the underlying or primary lesion situated in the ear having been entirely overlooked until a spontaneous rupture of the drumhead liberated a quantity of pus through the external auditory canal, thereby revealing to the unsuspecting physician the actual cause of his patient's illness. This diagnosis, as furnished by Nature, however, is frequently too late to save the patient's life, for if there is one fatal disease more deadly than another, it is an infectious meningitis. This, gentlemen, I have seen occur so often in children that I am ready to believe that the etiologic factor in more than 90 per cent. of all cases of meningitis in infancy is an overlooked or never-suspected aural lesion.

In this connection it may not be out of place for me again to make a plea that the ear be examined in all obscure cases, especially in children, where a definite diagnosis cannot be promptly established.

Meningitis from aural disease differs from that due to other causes chiefly in that the symptoms are much more severe and that the disease is amenable to operation. Pachymeningitis externa is the more common form of meningeal involvement, and in the fact that it occurs most frequently in young children and is usually the result of an unrecognized acute otitis media, we have an explanation of the great mortality above cited.

Internal pachymeningitis is a continuation of the external variety, which, by erosive involvement of the dura, frequently causes either a subdural or intradural abscess formation. Logically this purulent accumulation usually occurs in the middle cranial fossa and should yield to surgical intervention.

With our increased ability to diagnose endocranial complications, especially in differentiating between the various lesions, we must expect that in the future the number of deaths will be greatly lessened, since through such knowledge we are justified in operating earlier than was heretofore customary, thereby preventing the rapid progress of the disease that so surely reaches a fatal termination in spite of surgical intervention.

As previously stated, the diagnosis is a matter of the greatest importance, and yet even in this present day it is more or less uncertain, especially in the early stages of the circumscribed variety. In a patient suffering from violent headache, nausea and vomiting, where the temperature remains in the neighborhood of 102 degrees to 103 degrees F. or even higher, and where the pyrexia is introduced or accompanied by a rigor, and later with rigidity of the muscles of the neck and an inability to straighten the knee bent at right angles, or in other words, showing Kernig's sign, there certainly should be no difficulty in arriving at a conclusion that a grave intracranial lesion is to be met, and yet these symptoms, or most of them, are found in other endocranial diseases, such as sinus thrombosis and the initial stage of cerebral abscess. However, the characteristic temperature in these conditions should aid in the differential diagnosis. On the other hand it must be noted that some of the generally recognized characteristic symptoms are positively absent oftentimes, which is especially true of rigidity and Kernig's sign in meningitis. Nevertheless, there should be no

doubt about the advisability of prompt operative intervention in such a case, especially when the lesion is a complication of some aural disease.

In entering upon a discussion of the treatment to be instituted for meningitis, I wish, first of all, to express my belief (and this is based upon a considerable experience), that the circumscribed variety of meningitis is curable by prompt surgical intervention, whereas the diffuse variety is positively incurable. In making this assertion I am not unmindful of the cases of diffuse meningitis that have been reported as cured by surgical means. A plausible explanation may be that the condition diagnosed as the diffuse variety was, in reality, a severe form of the circumscribed type.

Lumbar puncture, both as a therapeutic agent and for diagnostic purposes, is still in a stage of development and is probably accepted with less certainty to-day than formerly. We all recall the now discarded theory that when the cerebrospinal fluid contained a largely increased number of leukocytes, this was regarded as proof positive of an existing purulent meningitis. If, however, we find pus as well as bacteria in the fluid, we no doubt have a valuable asset from a diagnostic point. We must not lose sight of the fact, however, that lumbar puncture seems to be positively dangerous to life in some instances, and although the reported deaths resulting from this operation may probably be attributed to the underlying disease, yet this fact should make us somewhat cautious and slow to resort to this procedure.

It will be impossible in this paper to go into a detailed account of the various measures employed for the relief of meningitis. The assumption is, however, that we are dealing with the graver types of this disease, in which other than operative interference would be of no avail. The earlier, therefore, this procedure is instituted. the greater chance will we have of saving the patient's life.

The operative procedure consists in eliminating the focus of disease by removing all the necrotic bone, including a complete exenteration of the mastoid cells, thus exposing the affected dura. When necessary the membrane should be incised to provide for the escape of any fluid, just as is done in the serous form of meningitis.

### SINUS THROMBOSIS.

The subject of thrombosis of the lateral sinus and jugular vein is much too important and extensive to receive more than passing consideration in a paper of such strict limitations as this. Although sinus thrombosis and pyemia are usually considered synonymous, I am strongly of the belief that we can have a pyemia due to metastatic abscess formations in distal parts of the economy, arising from suppurative disease of the ear, in which neither the lateral nor the petrosal sinus is involved. Some time since I read a paper before the New York Academy of Medicine, in which I detailed two or three cases of metastatic abscesses of the liver which were traced directly to a suppurative process in the organ of hearing, the post-mortem revealing in each case multiple abscess formations, and furthermore, showing that the sinuses were not in any way involved.

In operating for acute mastoiditis complicating otitis media, we frequently find the osseous wall of the sinus destroyed by necrotic erosion, and the vessel itself thickened, covered with granulations and bathed in pus. This perisinus abscess does not cause any special symptomatology, and requires no surgical intervention other than the usual complete exenteration of the mastoid cells. Under such conditions, furthermore, the protecting coat of healthy granulations should not be disturbed, as here again is an exhibition of Nature's attempt to prevent the invasion of bacteria.

If, during the course of a suppurative otitis media, the temperature suddenly rises, and all other causes can be eliminated, the mastoid should at once be opened, with a view of exposing the sinus for examination and further treatment, if required.

The disease under consideration is virtually always due to a suppurative process in the organ of hearing. This is true notwithstanding that we may have a cessation of discharge, which in fact frequently happens in the recurrent type of chronic suppuration. It is during this period of inactivity that the most formidable complications sometimes arise. Especially does this apply to the lateral sinus, which becomes slowly involved through pressure necrosis caused by decomposing masses of unhealthy granulation tissue and cholesteatomata. We, therefore, should always be suspicious and regard with more or less gravity the sudden cessation of an otorrhea, particularly when it is accompanied by pain and some disturbance of temperature.

On account of the possibility of several endocranial lesions being in active operation simultaneously, we are again confronted with the difficulty of a definite diagnosis. In thrombosis of the sinus, with the accompanying septicopyemia, it is absolutely necessary that the condition should be promptly recognized, for it is only through immediate operative interference that the disease can be relieved. Delay in such cases beyond a certain point is always fatal.

The fluctuating temperature is probably the most constant and characteristic symptom of sinus thrombosis. There is usually some edema and tenderness over the posterior margin of the mastoid. Stiffness of the neck and sensitiveness running along the course of the jugular, as well as the drawing of the patient's head towards the shoulder of the affected side, are symptoms of advanced cases.

When the diagnosis has been established, nothing but complete operative intervention in the

way of thorough exposure of the sinus from a point above its knee down almost to the bulb, and turning out of the clot, should be attempted. In order to avoid a hernia cerebri we should not unnecessarily remove the osseous structure posteriorly. An absence of pulsation is not always a definite indication that the sinus is thrombosed, since a thrombosed sinus may receive pulsations through vessels supplying the congested dura.

The generally accepted rule to-day is an immediate operation as soon as the diagnosis of sinus thrombosis is made. Although some ultra-conservative surgeons prefer waiting for the development of urgent symptoms, a fatal result must be expected in the majority of such instances. The earlier the operation is performed, the better is our chance of success.

The consensus of opinion also favors ligation of the internal jugular vein when the sinus contains pus, a disintegrated clot, or more especially when a thrombus is felt along the course of the vessel. The usual mastoid operation must first be performed. The sinus is then exposed, and upon palpation will seem dense and firm if a thrombus occupies its calibre. If in doubt as to the presence of a clot, provided the patient's general condition is good, it may be the better part of wisdom to postpone further operative interference for one or two days, the patient in the meantime being kept under close supervision. It must be remembered, however, that the only way to determine definitely the presence of a thrombus, in some cases, is through a free incision in the sinus wall, and that our good judgment and intuition must finally govern our action in individual cases. After the sinus wall has been incised and the thrombus removed, the current should be re-established by means of a curette introduced in the direction of the torcular, and then in the same manner the current should be re-established from below or in the direction of the bulb. If the current of blood is not readily re-established and if there is reason to believe that the clot has extended into the vein, the latter should at once be ligated. When the current has been established from both directions, it is easily controlled by the introduction of iodoform gauze packing, which must be renewed from time to time.

I cannot further enter upon the technique of the operation, except to call attention to the inadvisability, as suggested by some authorities, of interfering with what has been termed a benign thrombus causing no symptoms, and furthermore, to give the statistics of Koerner, as recorded in Bezold and Siebenmann's "Text-Book on Otology," showing the results of the analysis of three hundred and fourteen cases of non-ligation of the jugular, and ligation of the same either before or following the sinus operation, which go to establish the fact that the percentage of recoveries is about the same in all. The sinus was opened without ligation of the jugular vein in one hundred and thirty-two cases, of which 58 per cent. were cured; the jugular vein was ligated before opening the sinus in ninety-four cases, 59 per cent. being cured; the jugular vein was ligated after opening the sinus in sixty-nine cases, establishing a cure in 55 per cent.

### LABYRINTHINE DISEASE.

In the present state of our knowledge and our imperfect technique for operating on the labyrinth, we must consider suppurative labyrinthitis as most dangerous to human life. This I believe to be true, notwithstanding the statement of Freytag and others that the operation for the relief of such pathologic processes is not especially hazardous.

Our greatest problem to-day, as in other intracranial lesions, is the difficulty and uncertainty of establishing a definite diagnosis. At the present time it is quite impossible to differentiate between circumscribed and diffuse labyrinthitis. This was forcibly demonstrated in a patient who came under my care, presenting vertigo without nystagmus or other characteristic symptoms of labyrinthine involvement. There was a perforation of the horizontal semicircular canal, which, although unsuspected, is not an uncommon finding in my experience. These cases are usually relieved by the radical mastoid operation. In this particular case, however, the patient died in about three weeks from a cerebellar abscess. This pus formation, on account of the absence of symptoms, likewise was not suspected until revealed by the autopsy.

Hinsberg states that "the symptoms vary according as the diseased organ is still capable of performing its functions or is completely destroyed. In the former case there are symptoms of irritation, in the latter of loss of function. Irritation of the cochlea produces subjective noises, while irritation of the vestibular apparatus sets up vertigo, disturbances of equilibrium, nystagmus, nausea and vomiting. If the cochlea is destroyed, deafness results; while, after destruction of the vestibule and the semicircular canals, we get loss of equilibrium, but *without* dizziness or nystagmus."

Various tests have been employed to aid in the establishment of a definite diagnosis. The one of Barany, as quoted by Heine, is without danger and is an aid in furthering the diagnosis. "If a normal ear, or one in which there is suppurative otitis media, but a healthy vestibular apparatus, be syringed with water at a temperature lower than that of the body, circular nystagmus toward the opposite side is developed. If, on the other hand, the temperature of the water is above that of the body, the nystagmus is toward the ear syringed. When, in a case of suppurative otitis media, no nystagmus is developed by either hot or cold water, it is a sign that the vestibular apparatus has been destroyed. Barany holds that spontaneous nystagmus as a sign is only of

value when observed in conjunction with this test of the power of reaction of the vestibular organ. The reason for this view is plain, for when the vestibular apparatus has lost all power of reaction, in a case of acute or sub-acute labyrinthine suppuration, spontaneous nystagmus may be developed from the sound side. The cold nystagmus may be set up by water very little under the body temperature (a temperature of 95 degrees F. is sometimes low enough when the drum is absent); for this reason, and also because the water is not injected under pressure, Barany's test is without danger."

In this, as in much that relates to modern surgical otology, we are indebted to Jansen for the surgical ingenuity and dexterity he has displayed in relieving various pathologic conditions of the internal ear. It is doubtful if the labyrinth is often involved in a suppurative or necrotic process, except when secondary to a similar disease of the middle ear and accessory cavities. The mode of infection, therefore, is usually through the fenestra rotunda, the fenestra ovalis, the promontory, or the horizontal semicircular canal. This invasion may also occur by way of the aqueductus vestibuli, the aqueductus cochleæ, and the posterior or superior canal. My experience supports that of Heine to the effect that a fistula of the horizontal semicircular canal does occur with comparative frequency, and is not necessarily a dangerous condition. Especially is this true when meddlesome surgery is avoided. On the other hand, I am thoroughly convinced that the opening of the labyrinth is always a procedure of uncommon danger for the patient. If, during the radical mastoid operation, necrosis is observed to involve, or pus is escaping from, one of the afore-mentioned localities, the surgeon, especially in the absence of definite labyrinthine symptoms—and this I believe happens more frequently than we suspect—will find it hard to decide whether or not operative interference is absolutely indicated. My own experience in this respect leads me to believe that most of these cases spontaneously recover, with the good drainage provided by the radical operation and the renewal of the granulation tissue from the infected window, but we should be careful not to disturb the protective adhesions that limit the focus of disease to the labyrinth, for this would almost assuredly produce an active infective process. In other words, I believe it to be a great mistake to do more than enlarge the fistulous opening in any case, unless symptoms of a dangerous nature demand the same, for, as above stated, the majority of these cases will spontaneously recover without further interference, and should, in my judgment, be given a chance.

Practically all the cases of panotitis that have come under my notice have been the result of either accidental injury or meddlesome interference with the labyrinthine wall during a radical operation. When we consider the free intercommunication through all the cavities of the labyrinth, as provided by the internal auditory canal and the aqueductus cochleæ, we can readily appreciate how easily panotitis may develop, and furthermore, with what facility the meninges may become involved in an inflammatory process, or the cerebellum become the site of an abscess formation by way of the subarachnoid space and the aqueductus vestibuli into the saccus endolymphaticus.

The chief points in the treatment, therefore, are (1) the establishment of a correct diagnosis, in so far as this is possible; (2) the prompt relief of the condition by the performance of the radical mastoid operation; (3) the provision for good drainage from the labyrinth, which is usually accomplished by the same procedure, and (4) the institution of radical surgical interference with the labyrinth in well-defined, exceptional cases. In this connection, however, it is well to recognize the invariable effort of Nature to provide, even in some of our most advanced cases, the demarcating formation of granulation tissue surrounding a sequester, which in time is thrown off.

It is to be assumed that only those thoroughly familiar with the anatomical structures and perfectly conversant with the operative technique would undertake surgical interference with the internal ear. Otherwise an injury to the facial nerve, the internal carotid canal, the jugular bulb, or the superior petrosal sinus is likely to occur. It is manifestly impossible, however, to prevent injury to the facial nerve in some cases that demand thorough drainage. In all cases where pus is seen to escape through the oval window, the opening should be enlarged downward, and forward, with a view of providing for drainage. If, on the other hand, pus is observed to escape from the semicircular canal, this should be enlarged, and when extensive involvement of the labyrinth is present, as manifested by marked labyrinthine symptoms, we should, in addition, remove the stapes and enlarge the opening as our only means of providing for proper drainage. While perfect drainage can be accomplished only by the removal of virtually the entire internal ear, nevertheless the afore-mentioned procedure is all that should be attempted, and probably all that is required in the vast majority of cases. Those conditions requiring a more radical procedure are usually due to pressure necrosis, caused by the presence of cholesteatomata.

In conclusion, therefore, I wish to reiterate that radical surgical interference with the labyrinth is sometimes demanded, and constitutes, in selected cases, our most conservative line of therapy. At the same time we must not lose sight of the fact that a large majority of the fatal cases have occurred as a result of meddlesome surgery, which disturbed the barrier provided by Nature to prevent the infection being

carried through the various avenues of communication to the meninges and interior of the skull.

The burden of the responsibility, therefore, would seem to rest largely upon the judgment of the attending physician, from the fact that the great majority of all ear lesions first come under his notice. Thus, his ability to recognize the initial ear lesion and properly direct the same will continue to control, to a very large degree, the number and destiny of these intracranial lesions.

I wish to take this opportunity, therefore, to appeal to the gentlemen comprising the learned profession in the great State of New York, and through them to the profession in general, not only to observe and practice, but to disseminate among their patients, the knowledge that will establish general recognition of the grave dangers attendant upon neglected aural disease. In so doing they will effectually dispel the dense cloud of ignorant skepticism and inherent distrust that has held the world in its impenetrable mist for centuries, and, furthermore, has cost civilization untold thousands of valuable human lives.

DISCUSSION.

H. A. ALDERTON agreed with Dr. Sheppard in condemning the nasal douche. In scarlet fever, measles and typhoid with their consequent middle ear and mastoid inflammation, he considered the avenue of infection to be not the Eustachian tube alone but other means as well. When occurring in the course of broncho-pneumonia, he believed the prognosis too dependent upon the amount of lung involvement.

He endorsed Dr. Fowler's contention that the aurist should see the cases frequently—at least once in twenty-four hours. Here the principal function of the otologist was to keep the external auditory canal free from debris. He did not recommend the elastic band and cold compress about the neck because in his opinion, it disguised the advance of the disease and might sometimes suddenly find the patient in great danger. He was not in favor of local anesthetics, nor in nurses drying the ear after irrigation, nor of stuffing the concha with gauze as the last process would obviously check the drainage. In his experience in the exanthemata, middle ear involvement was ushered in by a sudden rise of temperature so that a sudden rise should be an indication for an aural examination.

DR. T. PASSMORE BERENS believed lowering of resistance as from tuberculosis and syphilis to be the prime cause of middle ear disease. Adenoids and tonsils were to be remembered as obstructions to drainage. The general as well as local treatment of these cases was emphasized and advised extreme caution in operations for polypi and granulation tissue in the middle ear because of the danger of meningitis after such operations. In cases of patients whose hearing was good he advised the employment of non-operative means first because the hearing after the operation was apt to be destroyed or impaired. Recommended the Fowler douche.

DR. L. A. MCCLELLAND deemed drainage and ventilation to be essential in the process of cure. The Fowler apparatus impressed him as being valuable. For years he had used an aspirator and irrigation. He believed the Fowler method of treatment would do away with many mastoid operations.

DR. J. F. MCCAW was of the opinion that the more frequent occurrence of middle ear disease in children is due to adenoids and enlarged tonsils, the parts being smaller, the fact that the Eustachian tube is more at a right angle in children and that they are more susceptible to the exanthemata. He stated that middle ear disease complicating scarlet fever, was especially virulent and in a short time destroyed the organ of hearing. It might produce deaf mutism if the process was bilateral. Regarding the ice coil, he believed it to be injurious inasmuch as the delay allowed the patient's vitality to ebb so that he was not in as good condition for the operation which was so often necessary later. He considered the simple operation to be sufficient if no bone caries was present.

DR. KOPETSKI believed suppurative middle ear disease to be a very grave condition. The practitioner should be familiar with the cardinal symptoms and that any pus should be evacuated freely and not by means of a simple puncture. From that stage on, either suction or the dry method might be employed. Cases vary greatly, some being chronic from the start and others rapidly acute and fatal. He commended the Fowler douche apparatus, but stated that he had obtained the best results from gauze dressings.

DR. C. N. COX deplored the fact that most practitioners didn't appreciate the gravity of middle ear disease unless associated with pain and exaggerated symptoms, and that they do not realize that it may extend at any time into the cranial cavity. Such cases occur, in which there was little or no pain, temperature or external manifestations. The diagnosis having been established, he advocated thorough and complete drainage.

DR. FARREL, of Utica, emphasized some points in prophylaxis: (1) The recognition of enlarged adenoids and tonsils, (2) More vigorous local treatment in acute nasal infections as influenza. (3) More general use of the nasal and ear specula by physicians not specialists.

DR. HELD, of New York, believed the Fowler douche to be an improvement upon those generally employed. Stated that too much stress could not be laid upon the general treatment in ear cases. He called attention to the fact that bulging occurred late in infants and small chil-

dren because the secretion found its way down the throat. Advocated the snaring of polypi as their removal secured better drainage. He considered the operation of ossiculectomy under local anesthesia to be of extreme value, but if a general anesthetic were to be administered, preferred the radical operation.

Dr. John Howe advocated the use of anesthol inasmuch as it was not accompanied by nausea, and also on account of the simplicity of its administration. He favored the use of an ointment composed of equal parts of Crede's ointment, lanolin and vaseline. This could be applied to gauze and removed every second day, and served to prevent odor and heal ulcerations.

Dr. Sheppard considered the usual avenue of infection to be the Eustachian tube and suggested a nasal spray instead of a douche, but believed that in cases of nasal discharge the accompanying suppurating condition of the accessory nasal sinuses must first be remedied.

Dr. Fowler again explained the operation and application of his douche and the difference between it and other douches generally employed. That could be applied to ear by patient himself with no danger.

Dr. Phillips still held that the simple mastoid operation was not dangerous. He believed the use of the nasal douche per se to be associated with little or no danger but that the blowing of the nose afterward was what did the harm, and that pus and necrotic material should be evacuated from the ear just as much as in any other location in the body.

Dr. Smith stated that diffuse meningitis was practically always fatal and might be carried in the atmosphere. He regarded it as most unfortunate that the general practitioner usually looked for redness, swelling and tenderness and continued that those cases were usually the most favorable since they were more superficial while those presenting no external signs were the most dangerous.

## MELLER'S OPERATION FOR THE REMOVAL OF THE TEAR SAC; WITH REPORT OF CASES.*

**By A. EDWARD DAVIS, M.D.**

Professor of Diseases of the Eye, New York Post-Graduate Medical School and Hospital.

A THOROUGH knowledge of the anatomy of the lachrymal sac and the neighboring structures, and a proper understanding of the relative position of the internal palpebral ligament and the anterior lachrymal crest, are altogether essential in performing a successful extirpation of the tear sac. Dr. Meller, who devised this operation, lays great stress on these points, and for good reason as anyone soon learns when he attempts to perform the operation, especially if it is to be done quickly and without loss of blood. The anterior lachrymal crest is the main landmark throughout the entire operation. It must be remembered, also, that the upper end of the tear sac lies just behind the horizontal portion of the internal palpebral ligament. With these two landmarks well in mind the operation is much simplified. The "bloodiness" of, and the great length of time required to perform, the operation, together with the necessity of giving a general anesthesia, have heretofore made this a formidable operation. As H. Knapp says, "Extirpation of the sac is as radical an operation as an amputation, which, I repeat, should not be resorted to unless other methods of treatment have failed." Meller's operation is performed under cocaine in a relatively short time,—20 to 35 minutes,—as a rule is bloodless; and when bleeding does occur it is at the very close of the operation, and therefore gives but little annoyance. Occasionally bleeding may be profuse, but this is very rare. Judging from a limited number of cases upon which I have operated, I most heartily recommend the operation to my American confreres who have not already practiced it. The operation is performed as follows:

1. *Incision through the skin.*—Pressing the skin firmly against the nose with the thumb of the left hand, just above the attachment of the palpebral ligament (but not stretching it, as that would displace that part of the skin from over the landmark, the lachrymal crest), we begin the incision about 2 mm. to the nasal side of the internal canthus and about 3 mm. above it. Hold the knife almost parallel to the skin, cut directly downward 1 cm., then downward and slightly outward, following the anterior lachrymal crest for another cm. The skin from the edges of the wound is now dissected up sufficiently to introduce Müller's speculum, the little sharp hooks on the prongs being firmly caught in the under surface of the skin, to prevent them slipping out during the operation and wounding the cornea, which latter structure is liable to infection in these cases if the least abrasion of its surface takes place.

2. *Incision through the superficial fascia.*—With a delicate pair of rat-toothed forceps this fascia is picked up at the lower end of the skin wound, transfixed with one blade of a small, slightly curved, sharp-pointed pair of scissors, and incised the whole length of the wound directly over the lachrymal crest, as in the skin incision. The fascia is then pushed back to the side of the wound with the point of the closed scissors, exposing the palpebral portion of the orbicular muscle, recognized by its reddish color.

3. *Incision through the orbicular muscle.*—This incision is made in exactly the same way and at the same place as the incision through the superficial fascia. Its edges are pushed to the side of the skin wound with the closed scissors,

*Read before the Medical Society of the State of New York at Albany, N. Y., January 26, 1909.

bringing into view the deep fascia, a dense white glistening membrane.

4. *Incision through the deep fascia.*—This incision must be made with great care as the deep fascia lies in direct contact with the wall of the tear sac. Furthermore, it is made slightly (½m.) to the temporal side of the anterior lachrymal crest, the incision extending the entire length of the skin wound, even cutting the internal palpebral ligament above. Meller prefers the small curved scissors in making this incision, as in making the incision in the deep fascia and orbicular muscle, holding the blades of the scissors almost parallel with the surface of the fascia in order to avoid wounding the wall of the tear sac. Moreover, he begins with a small nick, so if the sac wall is injured it will not be to any great extent, as it is very desirable not to split the sac wall if we hope to make a clean dissection of the sac. A delicate, straight-edged, sharp-pointed knife, held obliquely toward the wound, and with the cutting edge forward, is an easier and perhaps a safer method of making the incision through the deep fascia. Before making this incision in the deep fascia it is well to locate exactly the anterior lachrymal crest by gliding the closed forceps or a blunt probe over it, then making the incision as above directed and slightly (½m.) to the temporal side of it.

5. *Freeing and removing the sac from the lachrymal groove.*—With the sac exposed, recognized by its bluish tint, the next step of the operation is to dissect it from its surrounding tissue without injuring the sac wall if possible. By keeping close to the sac wall but few blood vessels are encountered and the bleeding as a rule is insignificant. The temporal side of the sac should be freed first, beginning at the lower portion. This is done by first catching the deep fascia on the temporal side with a pair of forceps, and then with the end of the closed scissors going down between the sac wall and the connective tissue surrounding it, to the posterior crest of the lachrymal groove. Next the upper part of the temporal side of the sac is freed by cutting the lachrymal ducts with the scissors, not tearing them away from the sac with the closed scissors, as this would likely tear away a part of the sac wall, which is to be avoided. The next step is to free the nasal side of the sac, beginning this time near the upper or top part of the sac with the pair of closed scissors and going downward to the lower portion and backward until the sac is freed from the lachrymal bone at every portion except at the extreme top and bottom, the deep fascia at the nasal side being held back by a pair of delicate forceps. The periosteum of the lachrymal bone must very often be removed with the sac wall, but it does no harm. For the first time, now, the sac itself may be grasped with the forceps near its upper portion and the top of the sac dissected free with the scissors, making short snips and going carefully, as large blood vessels may be encountered here, and, if cut, free hemorrhage takes place. However, as the sac is now dissected free from the surrounding tissue, this bleeding, should it occur, delays the operation but little. With the top of the sac freed the lower portion of the sac is next picked up with the forceps and held forward; then with the scissors held in almost a vertical direction with the point downward, the front and sides of the sac wall are freed from the lachrymo-nasal duct. Then pushing the point of the scissors as far down into the duct as they will go the sac is cut through from before backward and removed. A few drops of cocaine are now instilled into the wound and the wound packed temporarily so as to stop all bleeding. While the wound is tamponed the sac should be stretched over a probe, to see if it has been removed intact. This is important, for if any portion of the sac wall remains it should be dissected away before closing the wound, otherwise annoying secretion continues and the success of the operation is nullified. In dissecting the lachrymal sac from the connective tissue wall especial care must be exerted not to go too far to the temporal side into the orbit, for if the deep fascia separating the lachrymal groove from the orbit is cut through, orbital fat enters the wound and greatly retards the operation.

6. *Curettment of the lachrymo-nasal duct.*—First, introduce a Bowman probe to open the duct sufficiently to insert a small sharp chalazion curette, with which each particle of the mucous membrane should be removed from the duct. This gives drainage and also removes all the mucous tissue which might cause secretion to continue.

7. *Closing the wound.*—Particular care should be given to this part of the operation. Two or three sutures are required to close the wound, being careful to have the wound edges accurately approximated and the sutures not tied too tightly, as the tissues are thin and the threads readily cut through if drawn too tightly.

8. *Dressing the wound.*—First, place a thin layer of gauze over the closed eyelids; second, place a tightly rolled wad of iodoform gauze about the size and shape of the end of the thumb, directly over the wound, pressing it in firmly; third, over this a second wad of sterilized gauze should be placed, and then over the whole two or three layers of sterilized gauze, the whole dressing being secured by adhesive plaster straps firmly applied, and over this a firm bandage completes the dressing.

9. *Progress of the case.*—On the following day the dressings are removed with the exception of the pad of iodoform gauze directly over the wound, and the cornea inspected to see if it is clear. The dressings are then reapplied as before. On the third day all dressings are removed, the eye cleaned and the eye dressed as at the time of the operation. On the fourth day

all dressings are removed and the stitches taken out. If healing by first intention has taken place no further dressing will be required. If the wound has not healed by first intention and is bulging it should be opened and the accumulation of blood allowed to escape and a small drain of iodoform gauze inserted, and over this a moist antiseptic dressing. This delays healing but a few days, unless part of the sac wall has been left. In such cases a second operation must be performed at some later date.

It is gratifying how little scar is left after this operation, especially when sucessfully performed. In a month or six weeks' time the scar can not be seen except by close inspection. Unless there has been a marked conjunctivitis caused by the lachrymal obstruction, the tearing of the eye ceases in a few weeks or is insignificant in amount. If there is a marked conjunctivitis this must be treated, and when this is cured, discharge from the lids ceases and the patient is entirely comfortable. If the tearing should continue, as it exceptionally does (Meller), the lower lachrymal gland must be resected.

### Indications for the Operation.

This operation is indicated first in chronic inflammation of the sac which can not be cured otherwise or has resisted treatment for a long period of time, as in the following conditions:

1. Large mucocele, chronic lachrymal fistulæ, —excepting congenital capillary fistulæ.
2. Chronic stricture of the nasal duct.
3. Chronic catarrhal dacryocystitis with repeated attacks of acute phlegmonous inflammation, and ulcers of the cornea complicating this disease.
4. When an operation on the ball of the eye, as extraction of cataract, iridectomy, paracentitis, etc., is to be made on the affected eye.

It is desirable to say a few words as to cleaning the parts and the exact method of applying the local anesthesia. After cleaning the face with soap and water, and a solution of bichloride of mercury 1-3000, the eye itself should be irrigated with a saturated solution of boracic acid and the tear sac syringed clean with the same solution. If the canaliculus has not been split the punctum may be dilated with a conical probe so as to admit the point of a lachrymal syringe. A few drops of a 2 per cent. solution of cocaine is then injected into the sac by the lachrymal syringe; also a few drops into the culdesac of the eye. Then a hypodermic syringe with a capacity of about one c. c. is filled with a solution of one per cent. cocaine and adrenaline chloride 1-1000, in the proportion of about eight to nine parts cocaine to 1-2 parts of adrenaline. One-third of this solution is injected under the skin in the line of intended wound; one-third of it deep in down to the periosteum immediately above the top of the lachrymal sac, just above the horizontal portion of the internal palpebral ligament; and one-third of it at the lower end of the sac deep in near the periosteum. The operation may be begun in two or three minutes after the injections are completed.

### Report of Cases.

Case I.—August 14, 1908. Miss E. L. M., aged 20 years.

*History*—Tears have run from the right eye for two or three years, and nine weeks ago an abscess formed in the right tear sac, which was lanced on the outside at the end of one week by her family physician. Fistulous opening now; obstruction of lachrymo-nasal duct, so that only a No. 2 Bowman probe can be passed, and that with difficulty. There is a profuse muco-purulent discharge; sac is somewhat dilated; conjunctiva red and thickened on lower lid, and to a lesser extent on the upper lid. After one month's local treatment, with argyrol, 25 per cent. solution, cleansing and probing, the fistula closed; but muco-pus continued to form. September 18, 1908, I removed the tear sac after Meller's method, but under a general anesthetic, as the patient would not submit to the operation under local anesthesia. However, the cocaine and the adrenalin solution were injected as usual as a hemostatic. The sac was removed intact, except at the point of old fistulous opening, there being a small perforation at this point. There was practically no loss of blood. The wound healed by first intention. Stitches were removed on the fourth day. The conjunctivitis was treated for four weeks when the patient was discharged entirely comfortable and with no running of tears, except when the eye was exposed to bright light or cold winds.

Case II.—September 2, 1908. Mr. E. H., aged 52 years.

*History*—Two weeks ago, before coming under my care, a Bowman operation was performed on the left lachrymo-nasal duct because of a dacryocystitis, from which he had suffered for a number of months. Patient also had the ethmoid cells curetted intranasally. There was every indication that the patient had had syphilis, though he denied it. Old iritic adhesions were present both in the right and left eye. Trachoma in each eye. The next day following the Bowman operation an ulcer appeared on the left cornea, and when I saw it it had grayish undermined edges and was evidently infected by the secretion from the lachrymal sac which was discharging profusely. I cauterized the ulcer with pure carbolic acid, and ordered argyrol, 10 per cent. solution, to be used four times a day, also atropin, and bathing with hot water; mixed treatment given.

After three weeks' treatment I prevailed upon the patient to have the tear sac removed, especially as the ulcer continued to become reinfected.

September 2, 1908. I performed Meller's operation on the left tear sac. Local anesthesia; no hemorrhage; primary union; stitches removed on the fourth day. The trachoma was treated for four months, when the patient was sent abroad on account of his general health. The scar could not be seen and tearing had ceased.

Case III.—October 27, 1908. Mr. J. G., aged 45 years.

*History*—For about one year tears and muco-pus have run from the right eye, and although the eye has been treated it has not improved. Patient readily submitted to have the tear sac removed. There was no specific history. Local anesthesia; tear sac removed intact; practically no hemorrhage, and what bleeding took place was at the close of the operation. Primary union; stitches removed on the fourth day. Four weeks after the operation the patient's trouble was entirely relieved. No previous operation had been performed in this case.

Case IV.—Mrs. E. R., aged 38 years.

Patient kindly referred to me at the Post-Graduate Hospital, by Dr. E. M. Alger.

*History*—The right eye had run tears, and at times a little muco-pus, for about one year. Dr. Alger had dilated the punctum and treated the sac and duct, but

the discharge persisted. On November 24, 1908, under local anesthesia the sac was removed intact; but little bleeding; primary union; stitches removed on the fourth day. About ten days after the operation, while I was out of town for a few days, one of my assistants passed a probe on the operated side into the nose. This caused considerable irritation at the site of the wound, but after a few days this subsided, and two months after the operation the patient is not bothered with tears. The duct into the nose is closed also.

CASE V.—M. S., aged about 45 years. (Patient at the Manhattan State Hospital for the Insane, Central Islip, N. Y.)

*History*—Patient has been in the institution for three or four months. The right tear sac is dilated to about the size of a hazel nut, with a muco-purulent discharge. Under a general anesthetic on January 17, 1909, the tear sac was removed, the cocaine-adrenalin solution being injected as usual as a hemostatic. The operation was all but bloodless, only a few drops of blood being lost. Healing was by primary union, although the patient tore off all dressings on the second day. After this a little collodion was painted over the wound and on the fourth day the stitches were removed, the wound being absolutely dry, and smoothly healed.

It is a little more difficult to operate on these patients under a general anesthetic, as the anesthetist is in the way; however, if the cocaine-adrenalin solution is injected, but little hemorrhage takes place.

In none of the five cases upon which I have operated was there any hemorrhage to speak of. Meller's method of keeping close to the sac wall when removing the tear sac is, therefore, to be recommended, as in most cases, at least, it is practically a bloodless operation, and, if well done, is effective in relieving an almost intolerable affection.

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## THE TREATMENT OF ECLAMPSIA.*

By WILLIAM L. WALLACE, M.D.
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THIS paper will not discuss the prophylaxis of eclampsia, but will consider the treatment of the desperate cases which are in convulsions or on the verge of convulsions when we are called and in which active interference is unquestionably required.

Most of us started our practice believing in chloroform and force, but many have gradually concluded that the more careful the treatment, the better the results. I do not believe in delay or inaction. Eclamptics are not likely to recover if not treated. These cases are desperate and appalling and demand active treatment by the best man procurable. I believe, however, that the treatment as usually carried out is decidedly too severe and dangerous and too often directed against the patient rather than against the disease. The mortality with the usual method of treatment has been 25 per cent. to mothers and 50 per cent. to children. This is not satisfactory, and many of us, seeing our own and others' results, have been compelled to change our treatment. We have found that the mortality is wonderfully reduced by more moderation and care.

Until we know the exact cause of eclampsia, we must be more or less in the dark. At present, about all we know is that in certain cases of pregnancy, the patient is overwhelmed by some toxin which circulates in the blood and causes thrombosis and necrosis in the liver and other organs; blocking the kidneys, causing edema; and irritating the nervous system, causing convulsions. If we knew how and why the pregnancy were wrong, we might be able to correct the trouble and have the pregnancy continue. We know that an abnormal pregnancy produces the toxins and that the toxins cause degeneracy in the liver and other organs, and that the edema, blindness and convulsions are not the eclampsia but the symptoms and results of the damage done by the poison.

A rational treatment should terminate the pregnancy in order to prevent the production of more poison; and it should also seek to eliminate the toxin already present, and it must accomplish these results without great damage to the patient.

The usual treatment of eclampsia is an effort to stop the convulsions by crowding chloroform and emptying the uterus. Perhaps prophylaxis has been attempted or neglected for a month while the patient has been getting edematous and blind and toxic, constantly vomiting and nearly stupid—full of the eclamptic poison. Then some day a convulsion comes and we suddenly call the condition which has been present for a month eclampsia, and we bend every energy to the one purpose of terminating and preventing these convulsions. Is it not a fact that the uterus is generally emptied for the purpose of stopping convulsions?

That so large a part of the treatment should be directed against the convulsions, seems to me to be unreasonable, being aimed at one of the symptoms. It would be as rational to attack the blindness. I do not believe that the convulsions themselves do any harm. They indicate that the patient is being harmed by the toxin. I have never heard of a mother dying in a convulsion. She dies comatose of edema of the lungs or apoplexy, when she gets too deeply poisoned to have a convulsion. I do not believe that the child is ever killed by a convulsion. The child requires so little oxygen, and so little of its blood is oxygenated at one time, that the mother would be asphyxiated first. The child is damaged by the toxin, the drugs, and the forceps.

As terrible as they may seem, the convulsions are not to be feared in themselves and possibly they are to be desired. Is it not true that many cases have been overlooked until the convulsions have appeared? Many eclamptics have been saved on account of this warning when other symptoms have been absent. They are an index

* Read before the Fifth District Branch of the Medical Society of the State of New York, Utica, October 15, 1908.

of the extent of the disease and should not be covered. Stopping the convulsions is not of vital importance, and if we stop our active treatment when they cease, it would be better to have them continue. Have we not sometimes waited to see if this convulsion would not be the last? There is no advantage in stopping the convulsions unless we can do so by removing the cause and allowing them to stop themselves. On the other hand, we may do positive harm to the patient in trying to stop them. The convulsions are like the awful headache of some bad eye disorder. Shall we stop the headache by crowding acetanilid until the patient, blue and numb, cannot feel the headache? Why not attend to the eyes? The convulsions occupy our thought and attention too much. I think we should put a cork between the teeth and go on with out treatment of the eclampsia, paying little attention to the convulsions. If we get rid of the toxin, there can be no convulsions.

If the convulsions are symptoms only, and unless the convulsions themselves are doing damage, we should not spend our time fighting them, even if our treatment were harmless to the patient. Our time is needed to battle against the disease and its poisons and to strengthen and support our patient. But is not the usual treatment of the convulsions not only unreasonable and unnecessary, but also inefficient and dangerous? We have been taught that chloroform should be started at once. Even a nurse should take this course until the arrival of the physician. A prominent writer says: "In the presence of actual eclampsia, chloroform should be administered during the convulsive attacks, in the hope of cutting them short." This is the usual advice of the books. Some give chloroform during the convulsions hoping to cut them short; others give it between the attacks hoping to prevent their recurrence. I believe that chloroform in eclampsia is so dangerous, that we cannot be too careful in its use. It will not satisfactorily stop the convulsions, as it is not efficient except in dangerously large doses. The few whiffs that are sometimes recommended just before a convulsion do not stop the convulsion and should be replaced by artificial respirations.

When a patient is in the convulsion, she is not breathing and cannot get the chloroform, and when she comes out, she is black with the accumulation of $CO_2$, and needs oxygen. Think of giving her the overdose of chloroform that has been poured on the mask all the time she has not been breathing! Furthermore, she is edematous, her face, her hands and her lungs. If she dies soon, it will probably be from edema of the lungs. The lungs are so watersoaked, that it is almost impossible for her to get enough oxygen into her system to keep her alive. Think of further burdening her by filling the lungs with chloroform! It is true that enough chloroform, given after a convulsion, may prevent another. It is also true that the eclamptic liver and the chloroform liver are identical. Then when she dies, how easy to attribute her death to the eclampsia instead of the chloroform. Her blood is full of poison,—why add more of the same kind? Every surgeon feels that the anesthetic is the serious part of every major operation, yet chloroform is often given for long periods and in large amounts to an already unconscious woman to prevent, or cover, one of her symptoms.

Some give large doses of morphin instead of chloroform, and I think this is far less harmful, being much less depressing. Large doses of morphin, however, slow down the already burdened respiration and increase the danger of edema of the lungs and pneumonia caused by the accumulation of blood and mucus. If oxygen is needed in place of chloroform, artificial respirations are needed in place of large doses of morphin. We must remember that anything we do to stop the convulsions is liable to damage the patient and cover up the disease. The best treatment of convulsions would be to pay no attention to them, but to terminate the pregnancy and eliminate the toxin, knowing that there would then be no convulsions. However, if we could stop them without lessening our activity against the eclampsia, and without harming our patient, it would be desirable to do so, if only to save the strain on our own nerves. When treatment of the convulsions seems necessary, I think the least objectionable method is the hypodermatic use of morphin one-quarter, with hyoscin one-hundredth. This satisfactorily stops them, at the same time putting the patient in a condition of anesthesia, and allowing the treatment of the eclampsia to be carried on. If one is afraid of the hyoscin, he can use the small dose of morphin with chloral by rectum, perhaps with a few whiffs of ether.

Let us next consider the question of emptying the uterus. We are tempted to terminate the pregnancy at once, without regard to the amount of violence required. In this I think we are wrong, and I believe that in delivery, violence should never be used.

We must remember that *emptying the uterus is not a cure-all.* Many patients *have their first convulsion after the uterus is empty,* and many who are having convulsions *are not saved by emptying the uterus.* Terminating the pregnancy does not repair the damage already done or remove the poison from the blood. It cannot, therefore, have an immediate, pronounced, beneficial effect. We should empty the uterus, not for instant relief, but for the benefit to be received to-morrow or next week. Therefore, we should not run the risk of losing our patient in the process. In our method we should be careful not to throw the additional burden of shock on a patient, who is already in a very desperate state; and as the recovery from this state is slow at the best, we must remember that our patient will be

in no condition to-morrow, to bear the additional burden of sepsis.

The toxemia *is not new or sudden, even if we have just discovered it,* and *there is never need of haste,* and *the greatest cleanliness and care should be used.* We are apt to be too anxious to get the uterus empty. Think of the damage of forced and even violent delivery in an eclamptic who is at the same time being smothered with chloroform! How many normal women could endure it? And eclamptics are especially unable to resist shock and sepsis.

Statistics show that the greatest mortality is in the cases that start before labor; in other words, in the cases which require to have the uterus emptied, in most of which forced delivery with chloroform is used.

I believe *that many women threatened with eclampsia* are *thrown into convulsions by the use of chloroform and force.* Many cases of toxemia of pregnancy do not go on to convulsions and may even be overlooked. These women are loaded with poison, but may happen to be relieved by a dose of physic and a rapid and easy labor. On the other hand, if we take one of these poisoned women on the verge of convulsions, and have unfavorable conditions develop—if she is made to sweat in a small room without oxygen, and heated by lamps; if she has her powers of resistance lowered by chloroform and shock and her ability to eliminate hampered by large doses of morphin—we can see that the case that might have been unrecognized under favorable conditions, may have convulsions even after the completion of labor. By lowering resistance and concentrating the poison already present, a violent labor under favorable circumstances could easily bring about this unfortunate result.

In most cases, the delivery is easy and can be accomplished in a very few minutes without force and with little or no narcosis. Occasionally the os is rigid and the vagina small, making the delivery extremely difficult. Here Cesarean section would be a minor operation compared with a violent delivery. It is often best to rupture the membranes and dilate enough to insure the termination of the pregnancy, and then attend to other parts of the treatment, coming back later to the delivery.

In addition to chloroform and forcible delivery, some are proposing renal decapsulation. Why not propose liver decapsulation or scarification? The lungs are edematous and water-soaked—why not make multiple punctures? Nothing is wrong with the kidneys except that they are so blocked that we do not even dare to use diuretics. If the patient lives until next day, the kidneys will act all right. I think that a patient who could recover from such an operation would always get well without it. In a mild case, it would not be required, and in a bad case, it could not be endured. Some will recover in spite of renal decapsulation and chloroform and force, why attribute the recovery to the treatment?

My present treatment is as follows:

1. Alleviate the convulsions, if deemed necessary, with a small narcotic, avoiding drugs like chloroform, which disorganize the liver and depress the patient; remembering that she needs oxygen by artificial respiration.

2. Stop the production of more poison by emptying the uterus as rapidly as is possible without having our efforts do more harm than good.

3. Combat the poison in the blood which is threatening to kill the patient.

*Avoid concentrating the poison.* The fluids must not be reduced faster than the poison is eliminated. When nature cannot carry off the poison fast enough, she stores all the water possible in order to dilute, and the patient is edematous. If much edema is present, hot packs are particularly dangerous, as the sweating will concentrate the poison and induce convulsions.

*Dilute the poison* by adding fluids to the blood by salines. If intravenous salines are used, from one to three pints only must be given, as more will drown the patient.

*Eliminate the poison* by washing out the stomach and rectum and the blood. These patients are constipated. There is an obstruction of the bowels even until the stomach is full of the backflow of the toxic materials. Washing out the stomach is on a par with artificial respirations and must not be neglected. The tubing from a fountain syringe may be used if no stomach tube is at hand.

Administer hot, thoroughly diluted Epsom salts solution, through the tube if the patient is unconscious. This will be rapidly absorbed by the stomach and the bowels will soon move.

Bleed if necessary to save the danger of impending apoplexy or pulmonary edema to abstract some of the poisoned blood, replacing it by salines or by venous transfusion. The abstraction of a pint of blood removes a portion of the poison and makes the blood vessels hungry for the diluting salines. If circumstances will permit, a venous transfusion will save many comatose cases which are in extreme condition.

The idea that the usual treatment of eclampsia is too violent is not new or original. Even before the pathology of eclampsia was understood, when the kidneys were supposed to be the seat of disease, many obstetricians protested against the treatment with chloroform and violence as too fatal to be allowed, and much more fatal than no treatment. In spite of our knowledge that the convulsions and edema are only symptoms and that the kidneys are no more the source of the trouble than the damaged eyes, we still find ourselves tempted to direct our efforts against the kidneys and the convulsions, forgetting all we know about the pathology of the disease.

# REMARKS ON THE DIAGNOSIS OF OVARIAN DERMOID CYSTS.*

By JOHN C. MacEVITT, M.D.

Gynecologist to St. Mary's Hospital,
BROOKLYN, N. Y.

HOW often have you been able to diagnose an intra-abdominal dermoid cyst and have it confirmed by an operation? Oftentimes, reasonably certain of the character of the tumor, and at other times uncertain, have you not been, upon opening the abdominal cavity, surprised to be confronted by a dermoid cyst? Chagrin at this want of precision should whet our desire for more diagnostic skill in determining the presence of these perverted growths.

Desire to learn something from your personal experiences and to present a few observations of my own, based on clinical facts, have led me to present this subject to you for discussion.

I have made a rather thorough search through literature on the subject of dermoids, in the hope of formulating symptoms to aid in their recognition or differentiation.

Innumerable cases—tiresome in similarity of detail but meager in symptomatology—diagnosed post-operatively have been reported; yet nowhere did I find an effort to group the symptoms into a discernible picture.

Granting that a differential diagnosis is of no great practical value in these days of modern surgery—where the presence of any intra-pelvic or abdominal tumor calls for at least an exploratory incision—we cannot help but admit a feeling of pride in a correct diagnosis where a logical analysis of the symptoms is possible, or, on the other hand, a feeling of embarrassment at our failure.

As of some aid to us in diagnosis—I would like to dwell upon the subject of the genesis of dermoids; while theoretical, it is interesting and the subject of animated discussion at the present time. However, it matters not to us whether the old and long accepted theory of inclusion of the fetal tissue, or the more modern and now generally accepted one of Wilm's is correct. We are chiefly concerned when they reach maturity and menace the life of the patient; bearing in mind in this regard, the possibility of their presence at any age but coming more often under the observation of the surgeon between the ages of 17 and 50 years.

In childhood their growth is exceedingly slow; but from the period of puberty to that of the menopause, stimulated by the functional activity of the ovary, they take on a new and more active development. In some cases this is slowly progressive; in others having reached a certain size, they remain inactive and cause no inconvenience; then again, at any stage they may undergo inflammatory changes lighting up a septic condition fraught with danger to the sufferer.

The knowledge obtained from clinical experience, particularly in two recent cases, will permit me to add some positive information regarding their occasional surprisingly rapid enlargement. I can best do this by briefly narrating that phase of their history.

At St. Mary's Hospital, December 31, 1907, I operated upon a married woman, age 40 years, for the removal of a pedunculated fibroid tumor arising from the fundus of the uterus. The ovaries, tubes and broad ligaments appeared normal, but in the light of subsequent events, I regreat that I did not make a more thorough examination of the ovaries. Two months after her discharge from the hospital, she called at my office and reported that she considered herself in perfect health. An examination of the abdomen at that visit revealed nothing abnormal. Four weeks later, that is three and a half months after the operation, she visited me again, complaining of pain in the right hypochondriac and umbilical regions. An examination showed a fluctuating tumor in the region mentioned, easily palpated and quite sensitive to pressure. At this period the symmetry of the abdomen was not disturbed. I believed and stated to her at that time, that, in my opinion, she was suffering from a distended gall bladder. I requested her to call occasionally for the purpose of observation. This she failed to do. Two months afterwards without further consulting me, she entered St. Mary's Hospital, seeking relief from the severe and continuous pain caused by the now greatly enlarged tumor. At first she refused other than medical treatment which fortunately enabled us to keep her under observation for three weeks. When she first entered the hospital, the tumor was plainly confined to the abdominal cavity, as a sulcus could be formed by placing the hand edgewise between it and that of the pelvis. The uterus was freely movable and the adnexa palpable. The tumor continued to enlarge rapidly, extending downward, so that at the end of the third week it could not be separated from the pelvis; pressure downward would depress the pelvic viscera. I was unable to make a diagnosis; nor could other members of the surgical staff, invited to examine her, reach any tenable conclusion. With her consent an exploratory operation was agreed upon.

A small incision in the right umbilical region was made, but proving inadequate—owing to the tumor being covered by thickened, infiltrated omentum—a free incision was made from the border of the ribs down to the crest of the ileum, and a second one through the infiltrated omentum; which enabled me to introduce my hand and sweep it around the tumor breaking up the adhesions between the omentum and intestines. This was followed by a very free oozing of blood, controlled by packing with hot towels. Its lower extremity was attached to the right ovary and the cicatrix in the fundus by narrow adhesive bands, two ligatures alone being necessary for

* Read before the Brooklyn Gynecological Society, October 2, 1908.

its ligation. I am at a loss to determine its origin. At the time of the first operation for myomectomy, it was nowhere visible. It is possible that, the patient being in the Trendelenburg position, the dermoid then small in size, was carried by the recession of the viscera out of view. Its final attachment to the broad ligament and uterus was, in my opinion, accidental. Orignally it may have been ovarian and by the severing of its pedicle given a roaming commission, and thus formed a habitat where found. I believed, at the time of its removal, on account of its location and attachments, that it arose from the mesentery; but the union was not intimate enough to satisfy me in that regard. However, the facts remain, that within four months it grew from small dimensions to its present size. Dr. H. C. Keenan assisted at both operations and with me watched the development in the interim. Pain, intermittent attacks of vomiting, and rapidity of growth are the salient symptoms in this case.

In the second case, the woman gave birth, four years ago, after a normal delivery, to a child at term. The attending physician informed her that she had a very small, freely movable tumor, no larger than a walnut and of no significance; that his only reason in referring to its presence was, that at some future time it might grow larger and give her trouble. Six months afterwards she was able to detect it herself, and move it from side to side. The knowledge of its presence was her only cause of apprehension, as she suffered no pain or inconvenience.

Gradually enlarging, sixteen months ago it ceased to be movable and upon pressure gave her considerable pain. Commencing six months ago, she noticed a very rapid increase in its growth, attended by a dull, constant, but bearable pain. For the last three months, the pain and size of the tumor incapacitated her for the performance of her household duties. The pain was intensely aggravated a few days before each menstrual period, with vomiting as an annoying accompaniment.

From the history, physical contour, and sense of fluctuation, I made a diagnosis of multilocular, ovarian cyst. My only doubt was as to its benign character, on account of the presence of free fluid perceptible through percussion. An incision was made in the median line, through which a quantity of clear fluid was discharged. The intestinal adhesions were not difficult to destroy, but those of the anterior peritoneal wall required careful dissection, as the peritoneum and cyst wall were intimately blended—the former being greatly thickened. It was at this point, the cyst wall ruptured, exposing its contents. Notwithstanding the large quantity of caseous material that was expressed, I was compelled to enlarge the incision to the ensiform cartilage, to permit its removal.

The operation took place just two weeks ago, and the patient is now ready to be discharged from the hospital.

The interesting features of the case are—its rapid growth, character of pain, and great size.

These two cases combat the theory of a uniform, progressive development and demonstrate on the contrary, at times a remarkably rapid growth; a fact, so far as my knowledge goes, not heretofore recorded.

This symptom in itself has no great weight from a diagnostic standpoint, as such is common to simple cysts of the ovary. But when, with their spasmodic growth, we have fever, pain, vomiting and free fluid, are we not justified in adding it to the symptomatology of ovarian dermoids?

The numerical relationship of dermoids to other cysts of the ovary is variously given from three to thirteen per cent. Unilateral as a general rule, they are found double. Participating in the formation of simple ovarian cysts, that is—both existing in the same sac but divided by their respective walls—diagnosis is impossible. When they form the tumor en masse, this becomes possible by reason of their manner of termination; namely, by setting up an inflammatory process between their walls and the neighboring viscera leading, if permitted to run their course, to rupture into some hollow organ, like the bladder or rectum. It is my belief that dermoid cysts have no more malign influence upon their surroundings than any other peritoneal covered growth. Hence I would like to advance the theory that it is only after inflammatory degeneration of their sac, where perforation ensues, permitting the escape of their acrid, irritating contents, that a localized peritonitis is developed, followed by its train of symptoms. At any rate this termination, be it *post hac* or *propter hoc*, can also be considered an aid to diagnosis. The spherical form, so usually attributed to intra-abdominal dermoids, can not be relied upon. An irregular contour, nodular in its irregularity, may exist; due to a proliferation of the fibrous tissue and the presence of solid constituents in the sac—such as hair, teeth and bone.

The frequently given diagnostic point of the tumor being anterior to the uterus is likewise unreliable. In all my cases, the location was on either side, as they should be from the nature of their origin.

Axial twisting, dislocation, separation and a wide range of mobility is no more peculiar to these than to other pedunculated tumors. We do not at the present time, as in former years, meet with so many reports of dermoids rupturing into the bladder and rectum, owing to the readiness of surgeons to operate early upon the discovery of any pathological growth.

To cite the differential diagnosis between ovarian dermoids and other intra-abdominal tumors, would be a repetition of knowledge possessed by every member of this society.

In conclusion, I will say that with the additional symptoms which I have been able to record, *i. e.*:

First, occasional very rapid development; 2d, vomiting after the onset of pain; 3d, aggravation of pain in the tumor for a few days prior to the menstrual epoch; 4th, unreliability of Kuster's sign—position of the tumor anterior to uterus; 5th, irregularity of outline; 6th, abdominal free fluid, the diagnosis of ovarian dermoids can never be positive—at the most it is inferential.

## UNUSUAL CASES OF VENOUS THROMBOSIS.*

By HENRY WARNER JOHNSON, A M., M.D.
Hudson, N. Y.

SYNOPSIS.

Report of four cases of venous thrombosis, of which three complicated typhoid fever. Two of these suppurated and two developed infarction of the lung.

The fourth case complicated rheumatism, the thrombus advancing from left saphenous vein through iliacs to right side then ascending through vena cava.

### Etiology of Thrombosis.

In 1823 Dr. Davis of London University first discovered that Phlegmasia Dolens was an affection of the venous structure. It was found at this time that changes had taken place in the walls of the blood vessels and that the cavity was occluded by an organized coagulum.

The name Thrombosis means simply the formation of a thrombus, as ascites means the collecting of fluid, but neither of these terms has a single pathological analogy.

The theory of the etiology of coagulation now most widely held is that in the presence of lime salts thrombogen of the blood is acted upon by a fibrin ferment, thrombokinase.

Thrombokinase is found to exist constantly in the walls of the blood-vessels below the tunica intima, in muscle tissue and in certain glands.

Krehl's Clinical Pathology claims that this ferment is necessary to the formation of thrombus and speaks of the lack of this ferment as probably the principal etiological factor in hemophilia; Sahli has also brought forth much evidence to establish this contention.

As to the introduction of thrombokinase into the circuation, much can be said. Of course the simplest explanation is the tearing or denuding of the tunica intima thus exposing the deeper tissues where thrombokinase is known to exist.

It is known that bacteria may influence the formation of thrombus. It is equally fair to suppose they carry the ferment, or wound the blood-vessel, thus liberating the same, as that their action upon the blood is primary.

Slowing of the blood current is known to be a factor in the etiology. I, however, believe it to be entirely contributory as Baumgarten and Rizor have shown that blood, contained between two ligatures in a vessel where the walls were not lacerated and where no bacteria were present, would remain fluid for weeks.

The studies of Flexner, Pearce, Winne and others tend to show that thrombi due only to agglutination exist. To this class especially belong hyalin thrombi.

It is also known that any roughened surface along the course of a blood-vessel or a rough object introduced into the blood current will act as a nucleus for the formation of a clot.

Clinically, thrombi have three important features, first the amount of mechanical interference with the circulating current which is in direct proportion to the size of the clot with the caliber of the vessel occluded; second, the amount of inflammation associated with the thrombus and its effect upon surrounding tissues; and third, the firmness of the thrombus and its parts to the vessel wall, since the freeing of the entire clot, or a part of the same, into the blood current may produce serious consequences in other parts of the body.

All of these conditions are shown in cases I have chosen to report herewith.

### Thrombosis Complicating Typhoid Fever.

Case 1.—W. N., male, aged seventeen years, a student in high school, I first saw during the tenth week of his illness.

He then had a small superficial thrombus over the shin of the left leg which the nurse in charge was religiously rubbing three times per day. This procedure was stopped, and after a few days an abscess pointed at this location which was opened and evacuated. Drainage continued but a short time.

After two weeks, during which time I did not see the case, I was again called, found pulse and temperature normal and patient anxious to be out of bed.

On palpating the abdomen I found a tumor midway between tumbilicus and pelvis. Within a few days tumor had increased to the size of an orange and was found to contain a large quantity of pus. The incision was a deep one and drainage was continued for some weeks.

From the location and depth of the tumor I concluded a second thrombus had formed in the epigastric vein and had broken down as had the one in the leg.

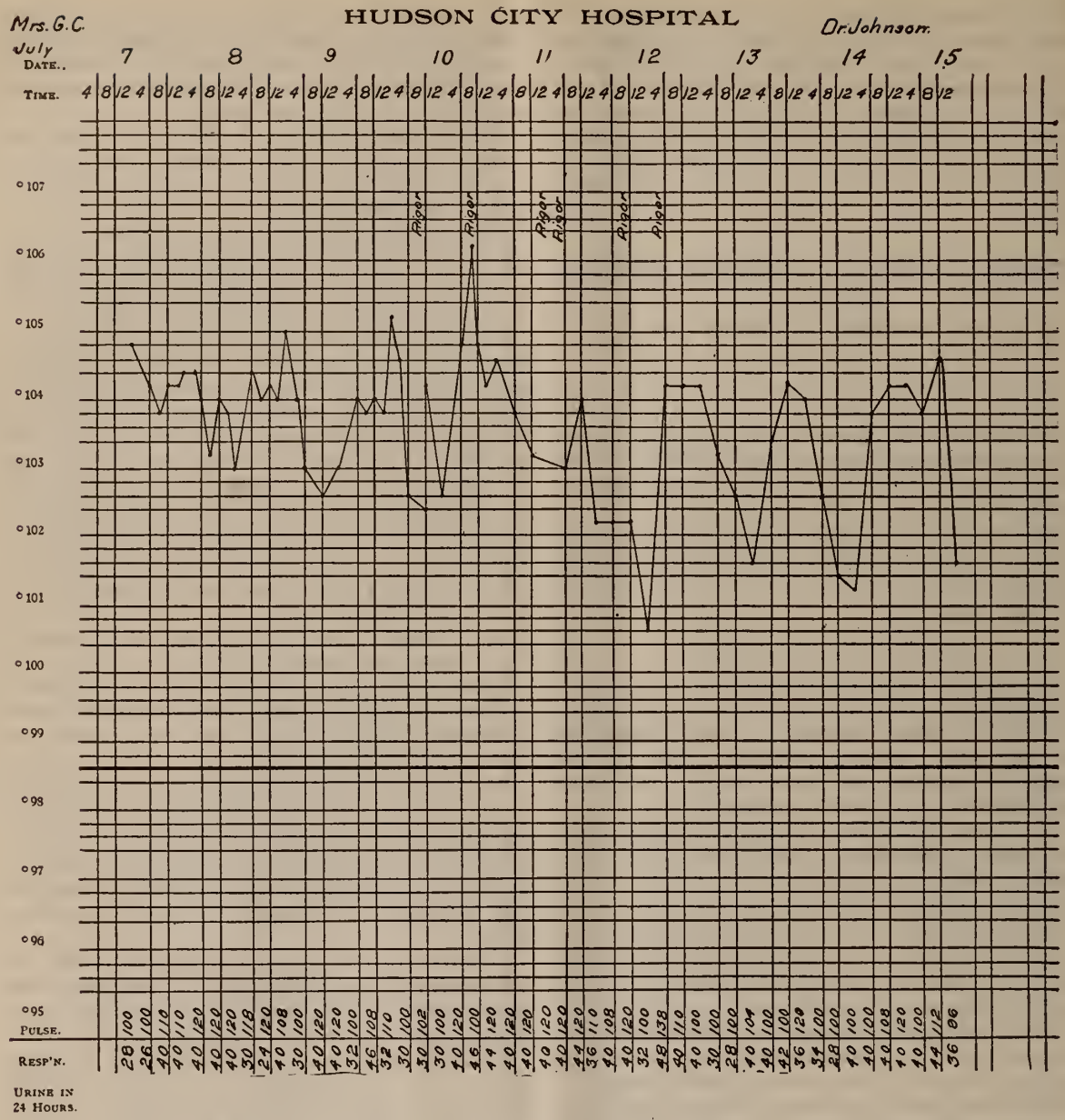
From the finding of this tumor to the discharge of patient there was no rise in temperature.

Case 2.—G. C., female, aged thirty-two years, developed femoral thrombosis in the left leg at the end of the third week of typhoid fever.

On July 10, 1906, during the second week of the thrombosis the nurse in charge informed me by telephone that the patient was suffering a chill, that an eruption had started on the feet and was progressing over the legs.

Upon my arrival at the hospital I found the

*Read before Third District Branch of the New York State Medical Society, October 27, 1908.




*Showing chart during period of infarction of lung.*

patient not cold but experiencing a severe rigor, temperature 105°, pulse of very low volume 108, respiration 36, with great anxiety and other neurotic symptoms. During my visit the eruption, an urticaria, advanced over the thighs, abdomen, chest and face like a marching flame. It disappeared in a few days.

After a short remission another rigor presented, temperature 106°, pulse 120, respiration 40.

An area of dullness could be made out in the middle lobe of the right lung and some fine râls indicating infarction.

During the two succeeding days other rigors were experienced but of mild degree, and with no increase in the physical signs which gradually faded.

However, temperature continued with remission each day of some two or three degrees and an evening rise.

The thrombus advanced to the iliac veins descending the femoral on the opposite side.

During the first week in September a tumor appeared in Scarpa's triangle left side, which fluctuated, and on September 10th I incised the same, obtaining a large amount of pus. Soon another abscess appeared in the popliteal space in the same leg, then another under the gastrocnemius muscle and finally a fourth in Scarpa's triangle of the right leg.

For months the patient was unable to walk but recently has made an apparently complete recovery and weighs 180 pounds.

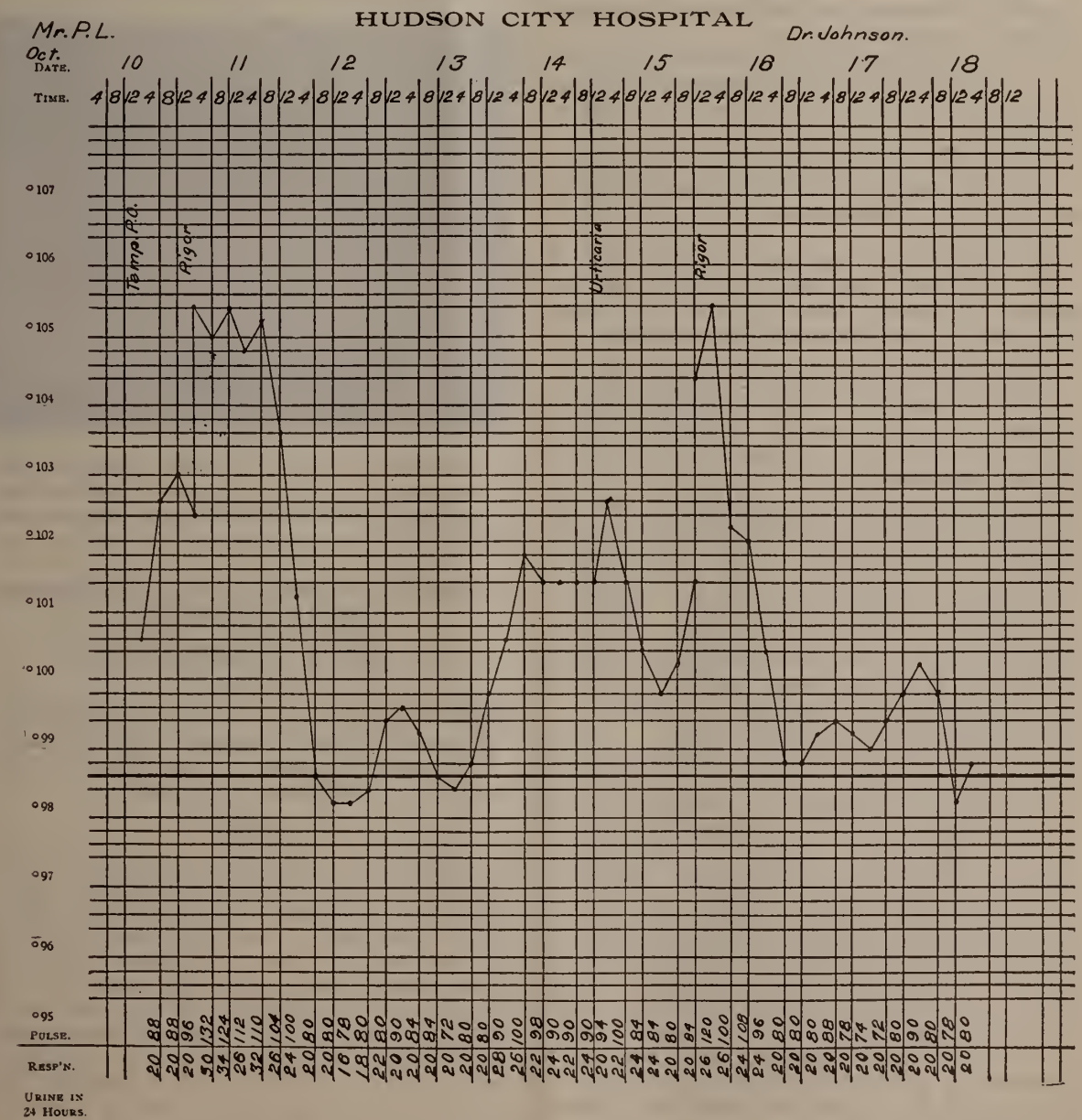
CASE 3.—P. L., male, aged twenty-five years, farmer, I first saw September 9, 1908, when his rose eruption was already developed and at which time the diagnosis was made.

From the appearance of the eruption and other facts gathered, I concluded his thrombus developed about the end of the third week. Pain began in lower left side of abdomen, then in left leg. Tenderness was most marked in region of left iliac vein where I believe the process started.

At midnight of the fourteenth day after the thrombus developed, the nurse in charge informed me the patient was suffering a rigor of such severity that the whole body and even bed were in motion: temperature by mouth 105.2°, pulse rapid and scarcely perceptible, respiration 34. Patient was perfectly conscious, alert, anxious and exceedingly neurotic.

During my examination he pointed to the lower part of the left lung as the probable cause of his distress. Over the left lower lobe and to the right of the mammillary line I found an area of distinct dullness and by auscultation many fine râls. Little or no pain was experienced.

During the succeeding twenty-four hours the temperature was very erratic, dropping two degrees or more and rising to about 105° within




Showing chart during period of infarction of lung.

an hour, then in a very short time, the following day, dropping to 98°.

A profuse perspiration lasted for forty-eight hours during which time the temperature remained about normal, then rising to 102.6° when a general urticaria appeared. Again the temperature receded to 99.6°.

At midnight, on the fifth day following the first rigor, the temperature again shot from normal to 105.2° by mouth, much the same train of symptoms was again noted, and at four A. M. of the same day the chart showed a precipitant fall to 98.6°. A slight increase in the area of dullness over the same lobe of the left lung was the only physical sign apparent the next day.

Since that time the temperature has been practically normal and the patient advancing rapidly toward recovery.

In these two latter cases I believe the eruption is of no great moment as its appearance in the second case bore no true relation to the time of infarction.

Thayer, in his 1,458 case of typhoid fever, reports 2.5 per cent. as developing thrombosis and one-half of these as occurring in the femoral vein.

In most of the reference works to which I have had access infarctions of the lung are spoken of as fatal, though some of the later ones describe the condition with recovery.

THROMBOSIS COMPLICATING RHEUMATISM.

CASE 4.—Mrs. J. G., aged fifty-nine years, in the history of whose case is a hemiplegia about one year before present illness which started as acute rheumatism.

These symptoms had abated before I saw her, February 23, 1908, when there remained an endocarditis with evidence of extreme depletion, anemia and a decided secondary leucocytosis.

On February 28th she began to complain of pain in left leg with marked swelling and shiny hue to the skin. The engorgement seemed most intense along the saphenous vein but extended to the femoral, the entire leg becoming so engorged that the toes stood apart.

Dr. Gordinier saw patient with me March 7th.

On March 17th, after some moderation of above symptoms, signs of extension of the thrombus through iliacs to vessels of right leg appeared: the legs remained greatly swollen.

Within a short time a long tense tumor appeared under abdominal wall extending along left side from the pelvis following the line of large intestine to right side of abdomen. With this was associated a complete obstipation which was not relieved by washing with colon tube.

It seemed that the inferior mesenteric vein had become occluded before the superior, as it was some three or four days before the hardness had extended to the entire abdomen when no visceral signs remained.

To these was added an almost complete suppression of urine, there being excreted two to three ounces once in twenty-four and later forty-eight hours. Soon there appeared a general anasarca of all parts above the diaphragm.

There were no symptoms of uremia, as the patient approached the culmination of the disease, the mind was clear and calculating and three minutes before death ensued patient talked with a member of her family and was served with water.

The two prominent subjective symptoms were pain and vomiting, which were relieved only to return.

No autopsy was granted but a photograph taken about a week before death gives some idea of the appearance of the body.

According to Osler's Modern Medicine, published during the current year, there are but 25 to 30 cases of true rheumatic thrombophlebitis in medical literature.

## "INFECTIOUS PHYCTENULAR KERATO CONJUNCTIVITIS."*

By JOHN S. KIRKENDALL, M.D.
ITHACA, N. Y.

THE synonyms employed in describing this condition are: strumous or scrofulous keratitis, phlyctenular keratitis, fascicular keratitis and eczematous keratitis.

ETIOLOGY.

This disease is supposed to occur most frequently in illy-nourished children and young adults, and sometimes in middle life, in patients with auto-toxemia often following the exanthems with diphtheria, and in those who live in illy-ventilated houses; it is aggravated by filth, dust, dirt, and traumatism. While I believe the fact is that the chief causes are the excess lymphoid growths in the naso-pharynx, enlarged faucial tonsils, which causes the rheumatic diathesis, and deflected septa, causing the naso-

* Read before the Sixth District Branch of the Medical Society of the State of New York, October 6, 1908.

pharyngeal catarrh, with sinusitis, auto-toxemia, and infection.

PATHOLOGY.

The first change in the conjunctiva is a collection of round lymphoid cells under the epithelium, which is lifted up, this causes a phlyctenule and is usually at the external or internal portion near the limbus; if at the internal canthus it comes direct from the lachrymal apparatus, if external it is often due to the discharge from the nose getting on the pillow, which the child wallows in, as it were. The efflorescence is in reality never a vesicle, but a solid, the soft projection of which is formed chiefly by these lymphoid cells. The softening and liquefaction of this cellular mass does not begin in the interior of the projection, but at the apex, so that there is no formation of a cavity, vesicle or pustule, but a loss of substance (ulcer) lying upon the free surface at the apex. The old terms "herpes febrile" and "herpes zooster," are misnomers, since it has not a neuritis as a cause. It is usually due to a mixed infection, but there is a herpes of the cornea, which is not infective, due to a neuritis unlike the subject in question.

SYMPTOMS.

The secretion is first watery, and by running over the edges of the lids may excoriate the surrounding skin, which will show infection of its superficial veins and in some cases the lids are slightly edematous. The secretion sometimes becomes mucous or muco-purulent, according to the grade of the inflammation, and sometimes gathers a slightly frothy material only at the commissural angles, or is very freely secreted, and when it dries agglutinates the lids and cilia so that they may become adherent, damming up the secretions, thereby macerating the already irritated conjunctiva and cornea, and acting as a culture medium, like a poultice of alum curd, wet tea leaves, scraped apple, raw beef, all of which should be avoided. Lachrymation and extreme photophobia are atypical symptoms. The photophobia is much worse if the ulcers are situated on the corneal margin or cornea. When present in children they are constantly protecting their eyes by burying them in the pillow or mother's dress, to keep them from the bright light: adults continually wear smoked glasses and always avoid exposure to bright light. There is always a more or less acrid discharge from the nose, which often excoriates the upper lip especially in children, and I have seen thick crusts, calcarious in nature, covering its entire surface. If left to themselves, or poorly treated, these ulcers become deep-seated, and if on the cornea leave cicatrices or leukomas, which permanently destroy the clearness of the cornea; and if central, the vision is very much impaired. I have seen a general uveitis caused in neglected cases resulting in post synechia, and in one case almost complete loss of vision in one eye.

TREATMENT.

The treatment should be first surgical and then constitutional, local, and hygenic. To remove the cause surgically, clean the nose of the breeding ground for bacteria by removing the adenoids and faucial tonsils and straighten the deflected septum, if necessary, ridding the patient of sinusitis thoroughly, if possible, also polyps and enlarged turbinates. Daily hot baths should be taken, followed with thorough rubbing. Calomel and salts must be administered daily, followed with phosphate of soda. Sleeping in a large, airy, well-ventilated room, with clean pillow case every night is recommended; handkerchiefs for both nose and eyes should be provided; lots of out-of-door exercise should be taken. The eyes must be protected by smoked glasses, and auti-strumatic medication not forgotten. Treatment of the eyes: Keep the eyes cleansed with bichlorid (one to ten thousand), or ten per cent. boracic acid wash, and instil argentic vitellin every hour, and keep the pupils dilated with atropin and frequent washing with cold water; all of which is secondary to the surgical and constitutional treatment. Give internally Syr. Iod. of iron and cod liver oil; prescribe glasses, if needed.

Before the last session of the American Medical Association, Ophthalmology Section, a distinguished author and ophthalmologist contributes an exhaustive and classic article on auto-toxemia as the cause of this condition, but does not allude to that which I believe to be the most frequent primary cause.

I could cite many cases but will content myself with two: Miss A. W., ten years of age, called to see me, sent by a nurse who had found her in the street with the eye covered, being led by her little sister. Upon being interrogated she said that she was blind and had been so for six weeks. Upon examination I found both eyes congested with both conjunctival and corneal phlyctenules in great numbers with irides inactive and contracted, great photophobia and lachrymation and some muco-pus flecks. Examination of throat showed that she had enlarged faucial tonsils and naso-pharynx full of adenoid growths. There were an acrid discharge from the nose and crusts on the upper lip. She was much reduced in weight. She had been under treatment for some time, which had been directed to the eyes only. I immediately took her to the hospital, cleaned the throat and nose of its abnormal growths, corrected the kidneys and alimentary tract, ordered baths, iron tonic, and further treatment as described above, forbade sweets or coffee, and in two weeks her eyes were practically well.

D. D., age 48. Came to me from Geneva, N. Y., in December, 1901, with infectious keratitis of ten years' duration; had consulted six of our most skilled oculists of central New York, New York City, Chicago and San Francisco without relief. Upon examination, found both eyes badly inflamed with many phlyctenules upon the cornea and conjunctiva of both eyes and both cornea badly damaged with many small leucomas. I immediately asked him if any of my predecessors had examined his nose and throat: as he replied in the negative I immediately examined them only to find that he still had small faucial tonsils, but the post nasal space was completely occluded with lymphoid growths, the central of which (pharyngeal tonsil) was as large as a walnut cut in half. Although a saloon keeper he was not a

great smoker and drank but very little. I explained to him my opinion and told him I could remove the growths quite painlessly with cocaine, which I prepared to do. In all my experience I have never, before or since, seen such lymphoid growths. I removed them completely at one sitting, after which I gave him a wash of bichlorid (one to ten thousand), some atropia drops, calomel followed by salts and diuretics, kept up for four or five days, after which I gave tonics, etc. Within two weeks his eyes were perfectly well and have remained so up to the present time. A letter from him on June 13, 1908, says: "Your first treatment improved my eyes immediately and they have been well ever since."

There are two points in this last case to which I wish to call attention—first, the length of time in which he had had these recurrent attacks, with seemingly no other cause except these extremely large adenoids attended with no sinusitis; and, second, the fact that their complete removal gave him permanent and continued relief with no return of the symptoms in eyes or nose.

## THE GALVANO CAUTERY AS A FACTOR IN PERITONSILLAR ABSCESS.

**By IRVING WILSON VOORHEES, M.S., M.D.**

Junior Surgeon in Rhino-Laryngology, Vanderbilt Clinic, New York City.

THE etiology of peritonsillar abscess is in all probability very closely akin to the pathology of this painful condition. Heretofore the books have ascribed the incidence of abscess around the tonsil to the continuation of an attack of acute follicular tonsillitis, to exposure, to sexual excess, etc., but it is quite likely that these factors are of only secondary importance. Pus is formed in the loose connective tissue around the tonsil as a result of a bacterial invasion either through the crypts of the tonsil or between the tonsil and its anterior or posterior pillar. Curiously enough the tendency of this pus is to burrow upward toward the soft palate; hence in relieving the condition the incision is made into the anterior or posterior superior quadrants.

From a knowledge of the etiology and pathology of peritonsillar abscess it is, therefore, quite obvious that any process, either natural or artificial, which seals over the oral openings of the crypts, or which binds the pillars firmly to the tonsillar tissue, prevents drainage and produces in the tonsillar region all the conditions necessary to thorough incubation of retained bacteria. In three cases that have recently come to our notice this state of things was apparently brought about by the indiscriminate use of the galvano cautery in the hands of the general practitioner. It is noteworthy that in each case the tonsils were of the firm fibrous variety and were found on microscopical examination to contain a large amount of connective tissue. In one case cauterization had been carried out twice a week for six weeks without reducing the size of the tonsil to any appreciable extent. Both the anterior and the posterior pillars were bound down by dense adhesions, so that in making the incision difficulty was experienced in deciding at what point to introduce the knife because the old landmarks were entirely obliterated. The pus in these cases was very foul and not at all unlike that found in ischio-rectal abscesses. There was also some discharge of cheesy material which had been unable to pass out through the proper channels, namely, crypts.

There is, therefore, every reason to believe from presumptive evidence, actual proof being quite difficult, that the use of cauterants and so-called "shrinking methods" in tonsillar disease is often unwarranted and undesirable. In many cases there is little relation between the size of a tonsil and the pathological evidence of disease in it. It is quite possible to have a tonsil which projects considerably beyond the pillars, but which, when excised and examined, does not show special predisposition to act as a nidus for disease germs or to undergo parenchymatous degeneration. On the other hand one may find associated with a small insignificant amount of amygdaloid tissue a large amount of degeneration and decomposition with perhaps many nodules indicating the presence of cervical adenitis. The frequency with which tonsillitis occurs upon the stumps left behind after a tonsillotomy is sufficient to make this fact patent.

It is probable that the physician would find it wise to limit galvano cauterization to the small ragged tonsil which lies fairly free in its bed and which is not adherent to the pillars. Large fibrous tonsils when imbedded are best removed by free dissection according to the method of Freer, or by the punch or snare. In any case one should be careful not to interfere with free drainage from the crypts.

## POKE BERRY POISONING.

**By FREDERICK W. LESTER, M.D.**

SENECA FALLS, N. Y.

AS personal experiences are generally interesting to those practicing the healing art, I will describe briefly a recent experience in treating a case of poke berry poisoning. This plant, in the autumn, in country districts, has just reached maturity, and the berries being of a dark purple color and filled with juice, attract the eye and suggest a lusciousness which is rather deceptive to the average boy. The poke or poke weed, *Phytolacca decandra,* sometimes called called skoke, pigeon berry, ink berry, garget, poke root, American nightshade, etc., depends for its activity upon an alkaloid, phytolaccin, which is stated to be a motor depressant and to have emetic and also cathartic properties. The symptoms displayed by my patient, a negro boy of twelve, would bear out at least a part of the action stated. I was called in the evening at about 8.30 to see the boy, who was being bathed

in hot water by an excited gathering of neighbors. Several of the most coherent among them stated that he had had a convulsive working of his arms and legs, which they had attributed to "worm fits," and treated accordingly by means of turpentine applied externally over breast and throat. When I examined the boy he was as completely relaxed in his muscular system as if under full anesthesia. One could have literally tied him in a knot. He was breathing very shallowly and quietly, so that no one could hardly detect any respiratory sounds or motions unless he approached to within a foot of the patient. His pulse was soft, full and slow, about 60, regular and not the pulse of collapse. He salivated freely from his mouth, there being a constant raising of thick, frothy saliva. His reflexes were gone, the eye bearing the touch of finger without any lid contraction. In the absence of any history of poisoning, I began to endeavor to administer some stimulants, and with use of warm water obtained free emesis, which determined the nature of the patient's seizure, being largely composed of the poke berries. The use of liberal doses of castor oil at short intervals was persisted in for some hours, the patient becoming gradually better, until consciousness was regained nine and one-half hours after the initial attack. The whole picture was one of motor relaxation. There was even evidence of this in the widely open pupil, hanging jaw, tongue settled back in the pharnyx and inability to swallow for an hour. Yawning and stretching were evident as patient became better, but no sweating of body nor tremor was present.

## Correspondence.

1424 E. Ravenswood Park,
Chicago, Ill., March 2, 1909.

*Editor New York State Journal of Medicine, N. Y.:*

Dear Doctor: I am collecting material for a paper upon atropine as a hemostatic, and would be obliged to any of your readers who would send me notes of their experience with this remedy. I am particularly anxious to receive adverse reports, as well as those favoring the remedy.

Thanking you for the courtesy of inserting this note, I remain, Very sincerely yours,

William F. Waugh.

## Medical Society of the State of New York.

Dr. Charles G. Stockton, President, has appointed the following Committee on the Revision of the Pharmacopœia:

Eli H. Long, M.D., Chairman; C. E. Townsend and Walter A. Bastedo.

At the Meeting of the Committee on Experimental Medicine held on Saturday, February 6th, in pursuance of authority given to the Committee to increase its membership, eight new members were elected. The Committee consists of: R. Abbe, H. M. Biggs, J. D. Bryant, B. F. Curtis, J. G. Curtis, F. Delafield, F. S. Dennis, W. S. Ely, J. Ewing, E. D. Fisher, J. W. S. Gouley, H. Hun, E. G. Janeway, C. Jewett, F. P. Kinnicutt, S. W. Lambert, E. Le Fevre, H. G. Locke, R. Park, Wm. H. Park, H. D. Pease, F. Peterson, W. M. Polk, W. W. Potter, M. A. Starr, L. A. Stimson, C. G. Stockton, C. Stover, J. G. Thacher, W. G. Thompson, W. R. Townsend, A. Vander Veer, Frank Van Fleet, S. B. Ward.

By unanimous vote Drs. Frederic S. Lee and Simon Flexner, who are not eligible to membership, are to be invited to be present at all meetings of the Committee.

The following leaflets have been issued under the auspices of the Committee on Experimental Medicine of the Medical Society of the State of New York:

Animal Experimentation and Diabetes. By Graham Lusk, Ph.D., Sc.D., F.R.S.E., Professor of Physiology in the New York University and Bellevue Hospital Medical College.

The Service of Animal Experimentation to the Knowledge and Treatment of Nervous Diseases. By Charles A. Dana, A.M., M.D., LL.D., Professor of Nervous Diseases, Cornell University Medical College; Ex-President of the New York Academy of Medicine, and of the American Neurological Association.

Animal Experimentation as Viewed by the Superintendent of a Hospital. By The Reverend George F. Clover, Superintendent of St. Luke's Hospital; Canon and Registrar of the Cathedral of St. John the Divine, New York Citv.

Why Are Special Laws to Restrict Animal Experimentation Unwise? By John G. Curtis, A.M., M.D., LL.D., Professor of Physiology in Columbia University.

The Ethics of Animal Experimentation. By John Dewey, Ph.D., LL.D., Professor of Philosophy in Columbia University.

Animal Experimentation and Nutrition. By Lafayette B. Mendel, Ph.D., Professor of Physiological Chemistry in the Sheffield Scientific School of Yale University.

The Relation of Animal Experimentation to the Live Stock Industry. By Veranus A. Moore, M.D., Director of the New York State Veterinary College of Cornell University.

The Sense of Pain in Man and the Lower Animals. By Frederic S. Lee, A.M., Ph.D., Professor of Physiology in Columbia University; President of the Society for Experimental Biology and Medicine.

Animal Experimentation and Cancer. By James Ewing, A.M., M.D., Professor of Pathology, Cornell University Medical College; President of the American Society for Cancer Research.

Animal Experimentation.

Animal Experimentation and Infectious Diseases. By Simon Flexner, M.D., Director of the Laboratories of the Rockefeller Institute for Medical Research, and Trustee of the Russell Sage Institute of Pathology, New York.

Lord Cromer's Defence of Animal Experimentation.

Animal Experimentation and the Actions of Drugs. By Robert A. Hatcher, Ph.G., M.D., Professor of Pharmacology and Materia Medica in Cornell University Medical College, New York City; Member of the Council on Pharmacy and Chemistry of the American Medical Association.

The Function of the Thyroid Glands. An Important Chapter in Modern Medicine Based upon Animal Experimentation. By S. J. Meltzer, M.D., LL.D., Head of the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research; President of the Association for Advancement of Clinical Research; Former President of the Society for Experimental Biology and Medicine; Consulting Physician to the Harlem Hospital, etc.

Animal Experimentation and Diphtheria. By William H. Park, M.D., Professor of Bacteriology and Hygiene in New York University and Bellevue Hospital Medical College; Director of the Research La-

boratories of the Department of Health of the City of New York.

ANIMAL EXPERIMENTATION AND TUBERCULOSIS. By EDWARD L. TRUDEAU, M.D., LL.D., Founder and Director of the Adirondack Cottage Sanitarium.

ANIMAL EXPERIMENTATION AS VIEWED BY LAYMEN. By CHARLES W. ELIOT, LL.D., President of Harvard University.

THE PUBLICATIONS OF THE NEW YORK ANTIVIVISECTION SOCIETY. By FREDERIC S. LEE, A.M., Ph.D., Professor of Physiology in Columbia University; President of the Society for Experimental Biology and Medicine.

PRESIDENT SCHURMAN ON ANIMAL EXPERIMENTATION. By JACOB GOULD SCHURMAN, D.Sc., LL.D., President of Cornell University.

THE LEGAL ASPECT OF ANIMAL EXPERIMENTATION IN THE STATE OF NEW YORK. By GEORGE W. KIRCHWEY, LL.D., Dean and Kent Professor of Law in the School of Law of Columbia University.

## REPORT OF THE COMMITTEE APPOINTED TO DRAW UP A STATEMENT AS TO THE ADVANTAGES OF MEMBERSHIP.

BROOKLYN, March 19, 1909.

*Dr. Wisner R. Townsend, Secretary Medical Society of the State of New York, New York City.*

DEAR DOCTOR—The Committee appointed at a meeting of the State Society held January 26, 1909, to draw up a statement of the reasons why it is advantageous to members of the profession to join the Society of the County in which they reside and the Medical Society of the State of New York, begs leave to submit the following report:

1. We recommend that a card or folder be printed embodying the following matter:

The value and importance of membership in the Medical Society of the State of New York must appeal to every thoughtful physician

WHY?

Not merely because of its scientific value:

Not merely because it promotes social and fraternal relations:

Not merely because of its strength as an organization for advancing and conserving the corporate interests of all its members.

*But—Because of its economic value to you.*

*Because of what you get.*

*Because you can't afford to remain without it.*

CONSIDER THIS PROPOSITION:

Membership in the Medical Society of the State of New York immediately confers upon you *without extra cost* the following:

1. *You receive*—the NEW YORK STATE JOURNAL OF MEDICINE monthly. It keeps you in touch with the latest scientific thought and progress in all departments of medicine.

2. *You receive*—t e Directory—containing the names and addresses of all practicing physicians in the States of New York, New Jersey and Connecticut.

3. *You receive—Protection from malpractice suits.* No practicing physician can afford to be without protection of this character.

*The protection which the Medical Society of the State of New York affords cannot be duplicated by any Casualty Company at any premium.* (During the past three years 73 malpractice suits were brought, and every case was successfully defended.)

4. *You are eligible to membership* in the American Medical Association—our gre t representative national society.

HOW?

*Join your County Society at once.*

Membership in your County Society confers upon you membership in the Medical Society of the State of New York.

Second.—We recommend that a sufficient number of these cards or folders be kept on hand at the office of the Medical Society of the State of New York to be forwarded to the County Societies in lots of 50 or 100, according to the numerical strength of each County Society, and that in forwarding such matter the following letter be sent with recommendations as to the use of the printed folder as follows:

At a meeting of the House of Delegates held in Albany, January 26, 1909, a Committee was appointed to forward a statement to each County Society, urging them to make all possible andeavors to increase their membership. In compliance with the above, the Committee desires to urge upon you the desirability of securing as members of your County Society, every eligible doctor of medicine in your County. It recommends that in addition to other methods of soliciting members, that all non-members in the County be sent the enclosed card, and that this practice be continued at reasonable intervals. The cards can be secured from the Secretary of the Medical Society of the State of New York upon application.

It would seem desirable that in sending out such cards that a short explanatory letter or circular be sent with them, and that in every instance a return envelope be provided with the name of the proper party to whom the application should be sent.

Trusting that this method and others that you will adopt will lead to a largely increased membership, we remain, Yours very truly, William Francis Campbell, Hebard B. Nichols, Arthur William Hurd, Committee.

The above report is respectfully submitted and its adoption recommended. William Francis Campbell, Hebard B. Nichols, Arthur William Hurd, Committee.

Per

WILLIAM FRANCIS CAMPBELL, *Chairman.*

# COUNTY SOCIETIES.

## MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

REGULAR MEETING AT THE ALBANY MEDICAL COLLEGE, MARCH 17, 1909.

*Scientific Program.*

"The Etiology and Symptomatology of Retrodisplacements of the Uterus," John A. Sampson.

"The Treatment of Retrodisplacements of the Uterus," John B. Harvie.

"The Effect of Treatment on Subsequent Pregnancies," James P. Boyd.

## RENSSELAER COUNTY MEDICAL SOCIETY.

REGULAR MEETING, COUNTY COURT HOUSE, MARCH 9, 1909.

BUSINESS SESSION.

The President appointed a Committee of five to investigate cases of illegal practicing and also Drug Store prescribing, all cases coming under observation to be reported at next meeting and action begun against same.

SCIENTIFIC SESSION.

"Acute Iodo Thyroid Toxemia," F. T. Stannard.

"Enlargement of Thymus Gland," W. Kirk, Jr.

"Discussion of New Tuberculosis Law," C. E. Nichols.

## RICHMOND COUNTY MEDICAL SOCIETY.

REGULAR MEETING, MARCH 10, 1909.

*Program.*

"Dilatation of the Stomach and Colon as Aids to Abdominal Diagnosis," W. A. Bastedo.

After the meeting a collation was served.

## MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

A joint meeting of the Dental Club and this Society was held March 17, 1909.

*Scientific Program.*

"Adenoids and Their Relation to the Mal-Development and Irregularities of the Teeth," A. M. Wright, D.D.S.

Discussion by the following: W. S. Rose, D.D.S.; J. A. Heatly, M.D.; J. E. Reed, M.D.; M. S. Lord, M.D.; J. J. O'Brien, M.D.; D. W. Overton, M.D.

## THE MEDICAL SOCIETY OF THE COUNTY OF TOMPKINS.

REGULAR MEETING, FEBRUARY 9, 1909.

"Sindbad's Disease," with lantern illustrations of the deformities, Henry P. de Forest.

"Sanitary Outlook in Country Life," Dean L. H. Bailey.

"The Doctor and Minister," Rev. C. W. Heizer.

"Ithaca," Hon. Randolph Horton, Mayor of the City of Ithaca.

After the meeting the Fourth Annual Dinner was held and proved a most successful affair.

## THE MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

REGULAR MEETING, CITY HALL, KINGSTON, FEBRUARY 2, 1909.

BUSINESS SESSION.

The President appointed the following Committees: Committee on Legislation: Buel Maben, Frederick Snyder and E. DuB. Loughran. Committee on Public Health: George H. Van Gaasbeek, L. K. Steele and W. J. O'Leary.

SCIENTIFIC SESSION.

"The Diagnostic Value of Tuberculin in Bone and Joint Tuberculosis. Its Use in 300 Cases," E. Forrest Sibley.

After giving the technique and results, Dr. Sibley's conclusions were: 1st, That the subcutaneous injection of this tuberculin is of great value. 2d, That if it is carefully used it is devoid of danger.

"Chronic Leg Ulcers," J. J. Simonds.

Dr. Simonds stated that in his experience the most successful treatment had been washes of 1-2 bichloride of mercury, curretting the ulcers and packing with bismuth formic iodide.

Dr. Mark O'Meara reported successful results with Bier's method of inducing hyperemia in these cases.

## WESTCHESTER COUNTY MEDICAL SOCIETY.

STATED MEETING, MARCH 16, 1909, AT WHITE PLAINS.

BUSINESS SESSION.

The meeting was called to order by the President.

Dr. Schmidt reported progress for the Committee appointed to investigate certain conditions at the Alms House.

A communication from the Saratoga County Society was read, asking help in passing the Bill in the Senate and Assembly, seeking to empower the State to acquire the Mineral Springs and Gas Wells of Saratoga and to retain them as a State Reservation for the free use and benefit of the people of New York State for all time to come.

The Secretary was instructed to send the Society's approval of this Bill to the County's Senator and Assemblyman.

SCIENTIFIC SESSION.

"Some Hydro-Therapeutic Suggestions," R. W. Parsons. Read by the Secretary and discussed by Dr. Schmidt.

Dr. J. J. Sinnott presented a patient with possible Aneurism of right subclavian artery.

"Surgery in the Smaller Cities," J. F. J. Black. Discussed by Drs. G. F. Shiels, S. O. Myers and S. E. Getty.

Drs. G. F. Shiels and C. P. Byington reported improvement on case reported at the last meeting.

# LEGISLATIVE NOTES.

## BILLS INTRODUCED INTO THE LEGISLATURE.

### February 25 to March 24.

IN ASSEMBLY.

An Act to amend the Consolidated Agricultural Law, by adding a new article, 16, relative to inspection and sale of seeds. By Mr. Callan. To Agricultural Committee. Printed No. 736. Int. 685.

An Act to authorize the city of Buffalo to construct, equip and maintain a municipal hospital for the exclusive care and treatment of persons affected with infectious or contagious diseases, except tuberculosis. By Mr. Jackson. To Cities Committee. (Same as S. 404.) Printed No. 744. Int. 693.

An Act to authorize the city of Buffalo to construct, equip and maintain a municipal hospital, either within or outside the limits of said city, for the exclusive care and treatment of persons affected with incipient tuberculosis. By Mr. Jackson. To Cities Committee. (Same as S. 405.) Printed No. 745. Int. 694.

An Act to amend the Consolidated General Business Law, by adding a new article, 28, relative to itinerant vending of medicine and to provide for licensing vendors. By Mr. Lowman. To General Laws Committee. Printed No. 759. Int. 708.

An Act to amend the Consolidated Agricultural Law, by adding a new section, 33-a, relative to payment for milk and cream by manufacturers and shippers of butter, cheese and milk. By Mr. Lewis. To Agriculture Committee. Printed No. 762. Int. 711.

An Act to amend section 109 of the Consolidated Agricultural Law, relative to stock yards in which stock is kept, bought or sold. By Mr. Murray. To Agriculture Committee. Printed No. 797. Int. 728.

An Act to amend the Consolidated Agricultural Law, by adding a new section, 33-a, relative to giving bonds by manufacturers and shippers of butter, cheese and milk. By. Mr. Lewis. To Agriculture Committee. Printed No. 801. Int. 732.

An Act to provide for the keeping of medical and surgical appliances in railroad cars. By. Mr. Gluck. To Railroads Committee. Printed No. 803. Int. 734.

An Act to amend the Consolidated Agricultural Law, by adding a new section, 12, relative to investigating of certain questions relative to milk and milk products, providing penalties and making an appropriation therefor. By Mr. Boshart. To Ways and Means Committee. Printed No. 805. Int. 736.

An Act to amend sections 42, 44, 45, 46, 48, 49, 50, 51, 102, 104, 110, 116, 130, 132, 133, 139, 153, 154, 223, 342 and 343 of the Consolidated Charities Law. By Mr. J. S. Phillips. To Judiciary Committee. (Same as S. 446.) Printed No. 817. Int. 748.

An Act to amend section 319 of the Consolidated Public Health Law, relative to the establishment of hospitals or camps for the treatment of pulmonary tuberculosis. By Public Health Committee. (Same as A. 529 and S. 390.) Printed No. 781. Int. 750.

An Act to amend chapter 147 of the Laws of 1903, relative to appropriation of lands, structures and waters adjacent to or surrounding dams, moles or reservoirs connected with the improved canal system. By Mr. Colne. To Canals Committee. Printed No. 829. Int. 758.

An Act to amend chapter 147 of the Laws of 1903, relative to bridges over portions of the present canals to be abandoned and navigable streams. By Mr. Colne. To Canals Committee. (Same as S. 447.) Printed No. 830. Int. 759.

An Act to amend chapter 724 of the Laws of 1905, relative to agreement as to direct or consequential damages, with regard to additional water supply for the city of New York. By Mr. Evans. To Electricity, Gas and Water Supply Committee. (Same as S. 428.) Printed No. 838. Int. 767.

An Act to establish in the borough of Brooklyn a house of detention for inebriates, to regulate the management thereof and commitments thereto, and to provide for the issue of bonds therefor. By Mr. Green. To Cities Committee. (Same as S. 449.) Printed No. 844. Int. 773.

An Act to authorize the city of Binghamton to expend a sum of money not exceeding $8,000 for the purpose

of completing the construction of a trunk sewer in the 4th ward of said city. By Mr. Perkins. To Cities Committee. Printed No. 849. Int. 778.

An Act to amend chapter 147 of the Laws of 1903, relative to the disposition of lands, structures or waters no longer needed for canal purposes. By Mr. F. L. Smith. To Ways and Means Committee. (Same as S. 465.) Printed No. 850. Int. 779.

An Act to amend the Consolidated Public Health Law, by adding seven new sections, to be sections 319-a to 319-g, inclusive, relative to the treatment of incipient pulmonary tuberculosis. By Mr. Cuvillier. To Ways and Means Committee. Printed No. 851. Int. 780.

An Act to amend sections 304 and 305 of the Consolidated Agricultural Law, relative to prevention, extirpation of diseases and insect pests infesting trees or nursery stock, and making an appropriation therefor. By Mr. Boshart. To Ways and Means Committee. (Same as S. 473.) Printed No. 858. Int. 787.

An Act to amend section 38 of the Consolidated Agricultural Law, relative to the manufacture and sale of imitation butter. By Mr. Boshart. To Agriculture Committee. (Same as S. 475.) Printed No. 862. Int. 791.

An Act to amend the Consolidated Charities Law, by adding a new section, 95, relative to the detention and discharge of inmates in the Rome State Custodial Asylum. By Mr. Edwards. To Judiciary Committee. Printed No. 886. Int. 803.

An Act to amend section 278 of the Consolidated Village Law, relative to the cost of sewers in certain villages. By Mr. F. B. Parker. To Villages Committee. Printed No. 888. Int. 805.

An Act to amend the Public Health Law, in relation to vaccination of school children. By Mr. Baumes. To Public Health Committee. Printed No. 904. Int. 819.

An act to amend the transportation corporation law, in relation to water-works corporations. By Mr. Garbe. To Electricity, Gas and Water Supply Committee. Printed No. 906. Int. 820.

An Act ot amend the public health law, relating to the appointment of health officers. By. Mr. Wood. To Public Health Committee. Printed Nos. 908, 1119. Int. 822.

An Act to repeal certain sections of the public health law, relating to adulterations. By. Mr. Wood. To Public Health Committee. Printed Nos. 908, 1119.

An Act to amend chapter 301 of the Laws of 1903, authorizing and empowering the park commissioner of the Borough of the Bronx, New York City, in his discretion, to lease certain lands in McCombs Dam Park to any athletic or boat club or association for the establishment of a public recreation ground for outdoor athletics, etc., in relation to leases in Pelham Bay Park. By Mr. Schmidt. Committee on Affairs of Cities. Printed Nos. 82, 778, 922. Int. 82.

An Act to authorize the City of New Rochelle to borrow money for the purpose of enlarging and improving the present sewage disposal works. By Mr. Duell. To Cities Committee. (Same as S. 612.) Printed No. 938. Int. 839.

An Act to amend the Greater New York charter, by adding a new section, 221-a, relative to powers of the commissioners of the sinking fund, in their discretion, to cancel and annul taxes, assessments, Croton water rents, etc., in cases of charitable, religious or educational corporations. By Mr. Foley. To Cities Committee. (Same as S. 492.) Printed No. 945. Int. 846.

An Act to amend chapter 101, Laws of 1881, relative to the supply of water in the City of Amsterdam. By. Mr. Staley. To Cities Committee. (Same as S. 528.) Printed No. 954. Int. 854.

An Act to amend section 83 of the Consolidated Insanity Law, relative to the review of proceedings and order of commitment. By Mr. Ward. To Judiciary Committee. (Same as S. 638.) March 10, reported; March 11, to third reading; March 12, amended in revision. Printed Nos. 956, 1123. Int. 856.

An Act to amend section 4 of the Consolidated Insanity Law, relative to the salary of medical inspector. By Mr. Ward. To Judiciary Committee. (Same as S. 637.) March 10, reported; March 11, to third reading. Printed No. 957. Int. 857.

An Act to amend section 21 of the Consolidated Public Health Law, relative to compensation of local health officers. By Mr. Whitney. To Public Health Committee. Printed No. 959. Int. 859.

An Act to amend section 1539-a of the Greater New York Charter, relative to cemeteries in Queens County. By. Mr. Garbe. To Cities Committee. Printed No. 961. Int. 861.

An Act re-enacting chapter 129, Laws of 1897, as amended by chapter 389, Laws of 1889, relative to powers of Board of Supervisors, in relation to cemeteries. By Mr. Walters. To Internal Affairs Committee. March 10, reported; March 11, amended; to third reading. Printed Nos. 974, 1137. Int. 875.

An Act to reduce and relevy certain sewer assessments in the Borough of Brooklyn, and to provide for the repayment of the amount of such reduction. By Mr. Lee. To Cities Committee. (Same as S. 532.) Printed No. 980. Int. 881.

An Act to amend section 1571 of the Greater New York Charter, relative to authority of coroners' clerks to administer oaths. By Mr. A. J. Levy. To Cities Committee. Printed No. 981. Int. 882.

An Act making appropriations for repairs, renewals and betterments to the several State prisons, the Matteawan State Hospital for Insane Criminals and the Dannemora State Hospital for insane convicts. By Mr. Merritt. To Ways and Means Committee. March 11, reported amended. Printed Nos. 986, 1132. Int. 887.

An Act to amend section 50 of the Consolidated Insanity Law, relative to compensation of certain officers and employees in State hospitals. By Mr. Grey. To Ways and Means Committee. (Same as S. 535.) Printed No. 1014. Int. 907.

An Act making appropriations for the State charitable institutions, New York State School for the Blind, the Elmira Reformatory, and the Eastern New York Reformatory at Napanoch. By Mr. Merritt. To Ways and Means Committee. Printed No. 1016. Int. 909.

An Act empowering the north side water commissioners of the town of Waterford, Saratoga County, to contract for the collection of ashes, garbage and rubbish. By Mr. Whitney. To Internal Affairs Committee. Printed No. 1020. Int. 913.

An Act to amend section 162 of the Consolidated Labor Law, relative to the employment of children in mercantile establishments. By Mr. Voss. To Labor and Industry Committee. Printed No. 1060. Int. 953.

An Act to amend section 22 of the Consolidated Public Health Law, relative to vital statistics. By Mr. Glore. To Public Health Committee. (Same as S. 589.) Printed No. 1063. Int. 956.

An Act to regulate the introduction of medical expert testimony. By Mr. Fowler. To Judiciary Committee. (Same as S. 599.) Printed No. 1065. Int. 958.

An Act to amend chapter 724, Laws of 1905, relative to water supply for the City of Newburgh from New York's city supply. By Mr. Baumes. To Electricity, Gas and Water Committee. (Same as S. 544.) Printed No. 1079. Int. 961.

An Act to amend section 667 of the Greater New York Charter, relative to the term of commitment of children to charitable corporations, one of whose objects

is the care of children or the placing of children in families. By. Mr. Colne. To Cities Committee. (Same as S. 582.) Printed No. 1080. Int. 962.

An Act to amend the Education Law, by adding a new section, 1130, relative to the establishment of a State School of Sanitary Science and Public Health at Cornell University. By Mr. Filley. To Ways and Means Committee. (Same as S. 509.) Printed No. 1140. Int. 998.

An Act to amend the Consolidated Public Health Law, by adding a new subdivision, 4, to section 232, relative to pharmacists. By Mr. Duell. To Public Health Committee. Printed No. 1150. Int. 1009.

An act to provide for the management of the Eastern New York State Custodial Asylum to be known hereafter as the "Letchworth Village" and for the admission and control of inmates therein. By Mr. Merritt. To Ways and Means Committee. (Same as S. 646.) Printed No. 1161. Int. 1020.

An Act to amend sections 270 and 271 of the Consolidated General Business Law, relative to the unlawful detention of milk cans and actions for the recovery of penalties therefor. By Mr. Scott. To General Laws Committee. Printed No. 1166. Int. 1025.

An Act to amend section 18 of the Consolidated Insanity Law, relative to hospital attorneys. By Mr. Thompson. To Ways and Means Committee. (Same as S. 600.) Printed No. 1167. Int. 1026.

An Act to amend section 30 of the Consolidated Liquor Tax Law, relative to colonies, camps or hospitals treating tuberculosis. By Mr. Green. To Excise Committee. (Same as S. 601.) Printed No. 1172. Int. 1031.

An Act to amend section 161 of the Consolidated Labor Law, relative to the hours of labor of children, minors and women in mercantile establishments. By Mr. Weimert. To Labor and Industry Committee. Printed No. 1173. Int. 1032.

An Act to legalize the submission, at the last general election, by the common council of the city of Fulton, of a proposition to raise the sum of $1,500 annually, by general tax, for the support and maintenance of the city hospital. By Mr. F. L. Smith. To Cities Committee. (Same as S. 616.) Printed No. 1174. Int. 1033.

An Act to amend section 30 of the Consolidated Agricultural Law, relative to adulterated cream. By Mr. Boshart. To Agriculture Committee. (Same as S. 618.) Printed No. 1176. Int. 1036.

An Act to amend the charter of the city of Johnstown, relative to the water supply. By Mr. Partridge. To Cities Committee. Printed No. 1199. Int. 1055.

An Act to amend section 31 of the Consolidated Agricultural Law, relative to the payment for certain rejected milk. By Mr. Evans. To Agriculture Committee. (Same as S. 685.) Printed No. 1217. Int. 1062.

An Act to amend chapter 684, Laws of 1905, relative to property fronting upon a street or sewer in the City of Syracuse. By Mr. Hammond. To Cities Committee. (Same as S. 654.) Printed No. 1219. Int. 1064.

An Act to amend section 95 of the Consolidated Agricultural Law, relative to veterinary surgeons. By Mr. Boshart. To Agriculture Committee. (Same as S. 651.) Printed No. 1235. Int. 1080.

An Act to amend chapter 200, Laws of 1904, relative to the powers and duties of the Board of Water Commissioners of the City of Niagara Falls. By Mr. Draper. To Cities Committee. (Same as S. 657.) Printed No. 1244. Int. 1090.

An Act to repeal chapter 724, Laws of 1896, relative to an additional water supply in certain counties in the state. By Mr. Geoghegan. To Electricity, Gas and Water Committee. Printed No. 1272. Int. 1116.

An Act to amend chapter 151, Laws of 1905, relative to medical examiner in the county of Erie. By Mr. MacGregor. To Internal Affairs Committee. (Same as S. 568.) Printed No. 1280. Int. 1124.

An Act to amend the State Charities Law, by renumbering certain articles and sections thereof. By Mr. J. S. Phillips. To Judiciary Committee. (Same as S. 660.) Printed No. 1283. Int. 1127.

An Act to amend section 130 of the Consolidated Membership Corporations Law, relative to certificates of incorporation of hospital corporations. By Mr. J. S. Phillips. To Judiciary Committee. (Same as S. 661.) Printed No. 1284. Int. 1128.

An Act to amend section 90 of the Consolidated Agricultural Law, relative to suppression of infectious and contagious diseases of domestic animals. By Mr. Boshart. To Agriculture Committee. (Same as S. 681.) Printed No. 1286. Int. 1130.

An Act to amend chapter 724, Laws of 1905, relative to damages on account of New York City water supply in Suffolk county. By Mr. Geoghegan. To Electricity, Gas and Water Committee. Printed No. 1313. Int. 1139.

An Act to amend the Consolidated Public Service Commissions Law, by adding a new section, 78, relative to water works companies. By Mr. Garbe. To Electricity, Gas and Water Committee. Printed No. 1320. Int. 1146.

An Act to amend section 332 of the Consolidated Town Law, relative to lands for cemetery purposes. By Mr. McLaughlin. To Internal Affairs Committee. Printed No. 1322. Int. 1148.

An Act making an appropriation for the New York State Hospital for the treatment of incipient pulmonary tuberculosis at Ray Brook. By Mr. Merritt. To Ways and Means Committee. (Same as S. 423) Printed No. 1331. Int. 1157.

An Act to amend sections 76 and 77 of the Consolidated Public Health Law, and adding two new sections, 76-a and 76-b, relative to the discharge of sewage in the waters of the State. By Mr. Ward. To Public Health Committee. Printed No. 1340. Int. 1167.

An Act to amend section 44 of the Consolidated Agricultural Law, relative to skim-milk or skim-cheese. By Mr. Glore. To Agriculture Committee. (Same as S. 602.) Printed No. 1366. Int. 1178.

An Act to amend sections 99, 101 and 102 of the Consolidated Agricultural Law, relative to appraisal of diseased animals and compensation to owners of animals destroyed. By Mr. Shea. To Ways and Means Committee. Printed No. 1372. Int. 1184.

An Act making an appropriation for the Eastern New York State Custodial Asylum, to be known hereafter as "Letchworth Village." By Mr. Merritt. To Ways and Means Committee. (Same as S. 714.) Printed No. 1383. Int. 1195.

An Act to amend subdivision 1 of section 204 of the Consolidated State Charities Law, relative to the commitment to a New York State training school for girls. By Mr. Callan. To Judiciary Committee. Printed No. 1400. Int. 1203.

IN SENATE.

An Act to amend the Consolidated State Charities Law, by adding a new article, 24, providing for the establishment of a State hospital in some suitable locality for the treatment of intermediate and advanced pulmonary tuberculosis, and making an appropriation therefor. By Mr. Schulz. To Finance Committee. (Same as A. 683.) Printed No. 436. Int. 401.

An Act to authorize the city of Buffalo to construct, equip and maintain a municipal hospital for the exclusive care and treatment of persons affected with infectious or contagious diseases, except tuberculosis. By Mr. Ramsperger. To Cities Committee. (Same as A. 693.) Printed No. 439. Int. 404.

An Act to authorize the city of Buffalo to construct, equip and maintain a municipal hospital, either within or outside of said city, for the exclusive care and treatment of persons affected with incipient tuberculosis. By Mr. Ramsperger. To Cities Committee. (Same as A. 694.) Printed No. 440. Int. 405.

An Act to amend the Greater New York Charter, by adding a new section, 1436-d, relative to the purchase by the city of awards in condemnation proceedings. By Mr. Wagner. To Cities Committee. Printed No. 443. Int. 406.

An Act making an appropriation for a tuberculosis hospital at the New York Soldiers' and Sailors' Home at Bath. By Mr. Platt. To Finance Committe. (Same as A. 657.) Printed No. 455. Int. 418.

An Act making an appropriation for the completion of a dyke for the protection of property adjacent to the Delaware river in the town of Highland in Sullivan county. By Mr. Rose. To Finance Committee. (Same as A. 676.) Printed No. 458. Int. 421.

An Act making an appropriation for the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis. By Mr. Allds. To Finance Committee. February 25, reported amended. Printed Nos. 460, 495. Int. 423.

An Act to amend chapter 724, of the Laws of 1905, relative to agreement as to direct or consequential damages with regard to additional water supply for the city of New York. By Mr. Rose. To Cities Committee. (Same as A. 767.) Printed No. 470. Int. 428.

An Act authorizing the city of Kingston to borrow money for street improvements and issue bonds therefor. By Mr. Cordts. To Cities Committee. Printed No. 472. Int. 430.

An Act to amend the Consolidated Agricultural Law, by adding a new section, 12, relative to investigation of certain questions with regard to milk and milk products, providing penalties, and making an appropriation therefor. By Mr. Platt. To Finance Committee. (Same as A. 736.) Printed No. 476. Int. 435.

An Act to amend sections 42, 44, 45, 46, 48, 49, 50, 51, 102, 104, 110, 116, 130, 132, 133, 139, 153, 154, 223, 342 and 343 of the Consolidated Charities Law. By Mr. Davis. To Judiciary Committee. (Same as A. 748.) Printed No. 487. Int. 446.

An Act to establish in the borough of Brooklyn a house of detention for inebriates, to regulate the management thereof and commitments thereto and to provide for the issue of bonds. By Mr. Travis. To Cities Committee. (Same as A. 773.) Printed No. 497. Int. 449.

An Act to amend chapter 147, Laws of 1903, relative to appropriation of lands, structures and waters adjacent to or surrounding dams, moles or reservoirs connected with the improved canal system. By Mr. Allen. To Canals Committee. Printed No. 511. Int. 463.

An Act to amend chapter 147, Laws of 1903, relative to the disposition of land, structures or waters no longer needed for canal purposes. By Mr. Cobb. To Canals Committee. (Same as A. 779.) Printed No. 513. Int. 465.

An Act making appropriations for the State charitable institutions, New York State School for the Blind, the Elmira Reformatory, the Eastern New York Reformatory at Napanoch. By Mr. Allds. To Finance Committee. Printed No. 517. Int. 469.

An Act to amend section 289 of the Consolidated Prison Law, relative to compensation of officers and employees of State reformatories. By Mr. Conger. To Finance Committee. Printed No. 520. Int. 472.

An Act to amend sections 304 and 305 of the Consolidated Agricultural Law, relative to prevention and extirpation of diseases and insect pests infesting trees or nursery stock, and making an appropriation therefor. By Mr. Raines. To Agriculture Committee. (Same as A. 787.) Printed No. 521. Int. 473.

An Act to amend section 38 of the Consolidated Agricultural Law, relative to the manufacture and sale of imitation butter. By Mr. Platt. To Agriculture Committee. (Same as A. 791.) Printed No. 523. Int. 475.

An Act to amend chapter 147, Laws of 1903, relative to bridges over portions of the present canals to be abandoned and navigable streams. By Mr. Hill. To Finance Committee. (Same as A. 759.) Printed No. 525. Int. 477.

An Act to amend section 4 of the Consolidated Insanity Law, relative to the salary of medical inspector. By. Mr. Allds. To Judiciary Committee. Printed No. 532. Int. 483.

An Act to amend section 83 of the Consolidated Insanity Law, relative to the review of proceedings and order of commitment. By Mr. Hill. To Judiciary Committee. Printed No. 533. Int. 484.

An Act to amend chapter 5 of the Laws of 1876, entitled "An act to enable the Medical Society of the State of New York to alter the time of holding its annual meeting," in relation to power of House of Delegates. By Mr. Agnew. To Judiciary Committee. Printed No. 542. Int. 491.

An Act to amend the Greater New York Charter, relative to the powers of the commissioners of the sinking fund of the city of New York, in their discretion, to cancel and annul taxes, assessments and Croton water rents, in certain cases. By Mr. Agnew. To Committee on Affairs of Cities. Printed No. 543. Int. 492.

An Act making an appropriation and reappropriation for the improvement of the canals. By Mr. Allds. To Finance Committee. Printed No. 550. Int. 499.

An Act to amend the education law, in relation to compulsory education. By Mr. Brough. To Public Education Committee. Printed No. 555. Int. 504.

An Act to amend the education law, in relation to the establishment of a State school of sanitary science and public health at Cornell University. By Mr. Conger. To Finance Committee. Printed No. 560. Int. 509.

An Act to repeal certain sections of the public health law, relating to adulterations. By Mr. Witter. To Public Health Committee. Printed No. 562. Int. 511.

An Act to amend the public health law, relating to the appointment of health officers. By Mr. Witter. To Public Health Committee. Printed No. 563. Int. 512.

An Act to amend the Consolidated Public Health Law, by adding new section, 335, relative to the housing of men. By Mr. Wagner. To Public Health Committee. Printed No. 576. Int. 522.

An Act to amend chapter 101, Laws of 1881, relative to supply of water in the city of Amsterdam. By Mr. ,Gardner. To Cities Committee. (Same as A. 854.) Printed No. 582. Int. 528.

An Act to reduce and relevy a certain sewer assessment in the Borough of Brooklyn, and to provide for the repayment of the amount of such reduction. By Mr. Burlingame. To Cities Committee. (Same as A. 881.) Printed No. 586. Int. 532.

An Act to amend section 50 of the Consolidated Insanity Law, relative to compensation of certain officers and employees. By Mr. Hubbs. To Finance Committee. (Same as A. 907.) Printed No. 627. Int. 535.

An Act to amend chapter 724, Laws of 1905, relative to work to be performed without contract in regard to an additional water supply for New York City.

By Mr. Grady. To Cities Committee. Printed No. 593. Int. 538.

An Act to amend chapter 724, Laws of 1905, relative to water for the city of Newburgh from New York City's supply. By Mr. Rose. To Cities Committee. (Same as A. 961.) March 10, reported. Printed No. 598. Int. 544.

An Act to permit persons other than those permitted as indigent poor persons to become patients in the new hospital building about to be built by the county of Rensselaer in conjunction with its House of Industry. By Mr. Allen. To Internal Affairs Committee. Printed No. 601. Int. 547.

An Act making an appropriation for the Commissioner of Agriculture on account of foot and mouth disease. By Mr. Mackenzie. To Finance Committee. Printed No. 610. Int. 565.

An Act to amend chapter 151, Laws of 1905, relative to medical examiner in the county of Erie. By Mr. Davis. To Internal Affairs Committee. Printed No. 613. Int. 568.

An Act to amend section 667 of the Greater New York Charter, relative to the term of commitment of children to charitable corporations, one of whose objects is the care of children or the placing of children in families. By Mr. Travis. To Cities Committee. (Same as A. 962.) Printed No. 638. Int. 582.

An Act to amend section 22 of the Consolidated Public Health Law, relative to vital statistics. By Mr. Wainwright. To Public Health Committee. (Same as A. 956.) Printed No. 652. Int. 589.

An Act to regulate the introduction of medical expert testimony. By Mr. Davis. To Judiciary Committee. (Same as A. 958.) Printed No. 661. Int. 599.

An Act to amend section 18 of the Consolidated Insanity Law, relative to hospital attorneys. By Mr. Hubbs. To Finance Committee. (Same as A. 1026.) Printed No. 673. Int. 600.

An Act to amend section 30 of the Consolidated Liquor Tax Law, relative to colonies, camps or hospitals treating tuberculosis. By Mr. Burlingame. (Same as A. 1031.) Printed No. 674. Int. 601.

An Act to amend section 44 of the Consolidated Agricultural Law, relative to skim-milk and skim-cheese. By Mr. Alt. To Agriculture Committee. Printed No. 675. Int. 602.

An Act to authorize the city of New Rochelle to borrow money for the purpose of enlarging and improving the present sewage disposal works and of constructing a sewage, garbage and refuse destructive works. By Mr. Wainwright. To Cities Committee. (Same as A. 839.) Printed No. 685. Int. 612.

An Act to legalize the submission, at the last general election, by the common council of the City of Fulton, of a proposition to raise $1,500 annually by general tax for the support of the city hospital. By Mr. Cobb. To Judiciary Committee. (Same as A. 1033.) Printed No. 689. Int. 616.

An Act to amend section 30 of the Consolidated Agriculture Law, relative to adulterated cream. By Mr. Platt. To Agricultural Committee. (Same as A. 1036.) Printed No. 691. Int. 618.

An Act to amend sections 70 and 72 of the Consolidated Agriculture Law, relative to vinegar. By Mr. Platt. To Agriculture Committee. (Same as A. 1035.) Printed No. 693. Int. 619.

An Act to amend section 4 of the Consolidated Insanity Law, relative to the medical inspector. By. Mr. Brough. To Finance Committee. (Same as A. 857.) Printed No. 710. Int. 637.

An Act to amend section 83 of the Consolidated Insanity Law, relative to the review of proceedings and order of commitment. By Mr. Brough. To Judiciary Committee. (Same as A. 856.) Printed No. 711. Int. 638.

An Act to provide for the management of the Eastern New York State Custodial Asylum, to be known hereafter as the "Letchworth Village," and for the admission and control of inmates thereof. By Mr. Allds. To Finance Committee. (Same as A. 1020.) Printed No. 724. Int. 646.

An Act to amend section 319 of the Consolidated Public Health Law, relative to the establishment of hospitals or camps for the treatment of pulmonary tuberculosis. By Mr. Schulz. To Public Health Committee. (Same as A. 750.) Printed No. 729. Int. 648.

An Act to amend section 95 of the Consolidated Agricultural Law, relative to veterinary surgeons. By Mr. Cobb. To Agriculture Committee. (Same as A. 1080.) Printed No. 732. Int. 651.

An Act to amend the Consolidated State Charities Law, by renumbering certain articles and sections thereof. By Mr. Davis. To Judiciary Committee. (Same as A. 1127.) Printed No. 741. Int. 660.

An Act to amend section 130 of the Consolidated Membership Corporations Law, relative to hospital corporations. By Mr. Davis. To Judiciary Committee. (Same as A 1128.) Printed No. 742. Int. 661.

An Act to amend section 161 of the Consolidated Labor Law, relative to hours of labor of children, minors and women in mercantile establishments. By Mr. Davis. To Judiciary Committee. Printed No. 743. Int. 662.

An Act to amend section 276 of the Consolidated Village Law, relative to sewers. By Mr. Wainwright. To Villages Committee. Printed No. 761. Int. 678.

An Act to amend section 90 of the Consolidated Agricultural Law, relative to suppression of infectious and contagious diseases of domestic animals. By Mr. Platt. To Agriculture Committee. (Same as A. 1130.) Printed No. 764. Int. 681.

An Act to amend section 31 of the Consolidated Agricultural Law, relative to the payment for certain rejected milk. By Mr. Rose. To Agriculture Committee. (Same as A. 1062.) Printed No. 768. Int. 685.

An Act to provide for the construction and maintenance of sewage disposal works in the town of Pelham. By Mr. Wainwright. To Internal Affairs Committee. Printed No. 803. Int. 706.

## STATE OF NEW YORK.

No. 542. Int. 491.

IN SENATE,

March 1, 1909.

Introduced by Mr. Agnew—read twice and ordered printed, and when printed to be committed to the Committee on Judiciary.

AN ACT

To amend chapter five of the laws of eighteen hundred and seventy-six, entitled "An act to enable the Medical Society of the State of New York to alter the time of holding its annual meeting," in relation to power of house of delegates.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows:*

SECTION 1. Section one of chapter five of the laws of eighteen hundred and seventy-six, entitled "An act to enable the Medical Society of the State of New York to alter the time of holding its annual meeting," is hereby amended to read as follows:

SEC. 1. The Medical Society of the State of New York may from time to time change the *place and* day of holding its annual meeting to such other *place and* day in the year as may be more convenient, by a two-thirds vote of all the members *of the house of delegates of said society* present at any anniversary or annual meeting of said society, provided, that no such change shall be made unless notice of

EXPLANATION—Matter in *italics* is new; matter in brackets [ ] is old law to be omitted.

the intention to change the time *and place* of such annual meeting shall have been first given at a previous regular annual meeting. An entry in the minutes of said society of notice of such intention to change the time *and place* of the annual meeting, and an entry in such minutes of the vote taken upon any motion made pursuant to any such notice shall be prima facie evidence of such notice, motion, and the vote had thereon respectively.

SEC. 2. This act shall take effect immediately.

Reported, March 11.

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No. 661. Int. 599.

IN SENATE,

March 10, 1909.

Introduced by Mr. Davis—read twice and ordered printed, and when printed to be committed to the Committee on Judiciary.

AN ACT

To regulate the introduction of medical expert testimony.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows:*

SECTION 1. Within ninety days after this act shall take effect the justices of the supreme court assigned to the appellate divisions thereof in the several departments, shall designate at least ten and not more than sixty physicians in each judicial district who may be called as medical expert witnesses by the trial court or by any party to a civil or criminal action in any of the courts of the state, and who when so called shall testify and be subject to full examination and cross-examination as other witnesses are. Any designation may at any time be revoked without notice or cause shown, and any vacancy may at any time be filled by the justices sitting in the appellate division.

SEC. 2. When so directed by the trial court witnesses so called shall receive for their services and attendance such sums as the presiding judge may allow, to be at once paid by the treasurer or other fiscal officer of the county in which the trial is had.

SEC. 3. This act shall not be construed as limiting the right of parties to call other expert witnesses as heretofore.

SEC. 4. This act shall take effect September first, nineteen hundred and nine.

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## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

All books for review should be sent to the business office of the Medical Society of the State of New York, 17 West Forty-third Street, New York.

A SYSTEM OF OPERATIVE SURGERY. By various authors. Edited by F. F. BURGHARD, M.S. (Lond.), F.R.C.S. (Eng.). In four volumes. Vol. 1. London. Henry Frowde, Oxford University Press. Hodder & Stoughton, Warwick Square, E. C. Price, $40.00 net for the set, or $10.00 for one volume.

APPENDICITIS AND OTHER DISEASES OF THE VERMIFORM APPENDIX. By HOWARD A. KELLY, M.D. With 215 original illustrations, some in colors, and 3 lithographic plates. Philadelphia and London. J. P. Lippincott Company. Price, $6.00 net.

EPOCH-MAKING CONTRIBUTIONS TO MEDICINE, SURGERY AND THE ALLIED SCIENCES. Being reprints of those communications which first conveyed epoch-making observations of the scientific world together with biographical sketches of the observers. Collected by C. N. B. CAMAC, A.B., M.D. With portraits. Philadelphia and London. W. B. Saunders Company, 1909. Price, $4.00 net.

INTERNATIONAL CLINICS, a quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pædiatrics, Obstetrics, Gynæcology, Orthopædics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession through out the world. Edited by W. T. LONGCOPE, M.D. Philadelphia. Vol. 1, Nineteenth Series, 1909. Philadelphia and London. J. B. Lippincott Company, 1909.

MANUAL OF OPERATIVE SURGERY. By H. J. WARING, M.S., M.B., B.Sc. (Lond.), F.R.C.S. Third edition. Illustrated with 521 figures, several of which are in color. London, Henry Frowde, Oxford University Press, Hodder & Stoughton, Warwick Square, E. C. Price, $3.75 net.

THE THERAPEUTICS OF RADIANT LIGHT AND HEAT AND CONVECTIVE HEAT. By WILLIAM BENHAM SNOW, M.D. Scientific Authors' Publishing Co., 1909. Price, $2.00 net.

THE SURGERY OF THE EAR. By SAMUEL J. KOPETZKY, M.D. New York, Rebman & Co., 1908. 368 pp., 8vo. Price: Cloth, $4.00.

ROTUNDA PRACTICAL MIDWIFERY. By E. HASTINGS TWEEDY, M.D., F.R.C.P.I., and G. T. WRENCH, M.D. London, H. Frowde, 1908. xix, 464 pp., 8vo. Price: Cloth, $6.00.

A SYSTEM OF DIET AND DIETETICS. Edited by G. A. SUTHERLAND, M.D., F.R.C.P. London, H. Frowde, 1908. xiii, 893 pp., 8vo. Price: Cloth, $10.50.

TRAVAIL ET FOLIE: Influences Professionnelles sur l'Etiologie Psychopathique. Par les DRS. A. MARIE and R. MARTIAL. Paris, Bloud & Cie., 1909. 100 pp., 12mo. Price: Paper, francs 1.50.

LE HACHICH. Essai sur la Psychologie des Paradis Ephemeres. Par RAYMOND MEUNIER. Paris, Bloud & Cie., 1909. 217 pp., 3 pl., 12mo. Price: Paper, francs 3.

L'EVOLUTION PSYCHIQUE DE L'ENFANT. Par le Dr. HENRI BOUQUET. Paris, Bloud & Cie., 1909. 100 pp., 12mo. Price: Paper, francs 1.50.

COSMETIC SURGERY. The Correction of Featural Imperfections. By CHARLES C. MILLER, M.D. Second Edition Enlarged. (Chicago, The Author), 1908. xxiv, 134 pp., 1 pl., 12mo. Price: Cloth, $1.50.

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## BOOK REVIEWS.

A PRACTICAL GUIDE TO THE EXAMINATION OF THE EAR. By SELDEN SPENCER, A.B., M.D. With an Introductory Chapter by H. N. SPENCER, M.D., LL.D. St. Louis. C. V. Mosby Medical Book Publishing Co., 1905. 66 pp., 5 pl., 12mo. Cloth.

The author's aim in this little brochure of sixty-six pages has been "to aid students and physicians to acquire the ability to make an intelligent inspection of the drumhead, of the tympanic cavity, and of the otitic region." While nothing specially new is claimed for the book, and while what it contains may for the most part be found in practically all of the many text-books on otology, at the same time, most of the knowledge needed by the undergraduate and by the busy general practitioner is here contained in concise and convenient form, and on this account we can well conceive that it may find a considerable field of usefulness.

To the reviewer there seems almost nothing to criticise, excepting possibly that it would seem to him that figures III., page 52, and V., page 55, might lead one to make their mastoid openings too high and thus in frequent instances to endanger opening into the middle cranial fossa. Of all the rest there is nothing but good to say.

J. E. SHEPPARD.

Golden Rules of Dietetics. The General Principles and Empiric Knowledge of Human Nutrition; Analytic Tables of Foodstuffs; Diet Lists and Rules for Infant Feeding and for Feeding in Various Diseases. Medical Guide and Monograph Series. St. Louis, C. V. Mosby Medical Book and Publishing Co., 1908. 407 pp., 8vo. Cloth: $3.00 net.

This is a distinctly practical work on dietetics, remarkably free from discussion of those subjects which have no immediate bearing on clinical medicine. It presents the more recent ideas and investigations on the subject but this is done succinctly and clearly. The question of quantitive dietetics is very fully discussed and the methods of estimating dietaries in practice well presented. In the discussion of the dietetics of various diseases, sane principles of feeding are worked out and faddy cures possessing largely a suggestive value, if any at all, are not given an undeserved prominence.

The list of works on dietetics has been largely added to in the past few years, a fact which is of interest as it shows an increase of attention to the subject. The list, however, has gained numerically while it has been strengthened in small degree. A new book possessing actual merit such as does this is particularly to be welcomed.

Dudley D. Roberts.

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Gonorrhœa in Women. By Palmer Findlay, M.D. St. Louis, C. V. Mosby Medical Book and Publishing Co., 1908. 112 pp., 8vo. Price: Cloth, $2.00 net.

Any literature that will arouse the medical profession to a realization of the serious import of gonorrhœa in the female is welcome. Such a masterly treatise as this from the erudite pen of Palmer Findlay deserves marked recognition, owing to the author's reputation as an accurate and scientific author in his specialty and because of his classical presentation of the subject matter in its entirety. The best views of the best workers in this field have been collated, making this the most complete monograph on female gonorrhœa to date. Every phase of the disease, as to its etiology, pathogenesis, pathology, diagnosis, treatment and course, is individually treated.

It is interesting to note that the author remarks that localized pelvic and general abdominal peritonitis due to gonorrhœal infection, have been demonstrated but rarely by *bacteriological* observation, though *clinically*, they are well known. Bumm expressed the belief that the gonococcus could live only on mucous surfaces, though, as we now know, this view has been disproved, as cases of gonorrhœal peritonitis have been reported by competent observers.

Findlay quotes the results of Butler's and Long's (Chicago) work on the use of gonotoxine, or the vaccine treatment of gonnorhæa, in which they claim a distinct place for this vaccine therapy as a curative agency. The entire technic of preparing and using the serum is elaborately described.

Dr. Findlay is to be congratulated as the author of the best reference book on the subject of gonorrhœa in the female.

Clarence R. Ayres.

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The Rectum, Its Diseases and Developmental Defects. By Sir Charles B. Ball, M.Ch., F.R.C.S.I., Hon. F.R.C.S., England. London, Henry Frowde, 1908. Col. front, xiv, 332 pp., 4 col., pl., 8vo. Price: Cloth, $10.50, net. (Oxford Medical Publications.)

In looking over the above book, one cannot fail to be impressed with several things. In the first place, the omission of the usual tiresome detail which encumbers many volumes upon scientific subjects, is gratifying. This treatise is compiled from what the author has himself actually seen and done; and is conservative from beginning to end. The space devoted to embryology and developed mental defects is intensely interesting. It is pleasing to see the importance of the rectal valves as etiological factors of pathological conditions lightly passed by instead of being emphasized out of all proportion to their real value as such. The view that muscular spasm is not the true cause of stricture is, to say the least, wholesome.

Indications for and methods of usage of the proctoscope, colonoscope, etc., are not dwelt upon; the author in a large measure, correctly perhaps, depending for diagnosis upon the sense of touch.

I did not find mention of sterile water anesthesia, which is somewhat surprising in view of the fact that it has come to be at least a recognized method, and has proven eminently satisfactory in the hands of able men. Dangers from injury to the sphincter muscle are forcefully mentioned while it seems to be agreed almost unanimously, that when this muscle is cut at right angles the contractile power is subsequently unimpaired.

The section devoted to malignant disease is clear and concise and the operative management thereof is simply described. Perhaps, the chief attraction of this volume is the elaborate display of cuts and plates. Both are excellent and far more enlightening than those found in most text-books. Taken all in all one might, with this one treatise alone, quite successfully practice proctology.

H. W. L.

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Orthopedic Surgery for Practitioners. By Henry Ling Taylor, M.D., Professor of Orthopedic Surgery and Attending Orthopedic Surgeon, New York Post-Graduate Medical School and Hospital; Assistant Surgeon, Hospital for the Ruptured and Crippled, New York. Assisted by Charles Ogilvy, M.D., Adjunct Professor of Orthopedic Surgery, New York Post-Graduate Medical School and Hospital; Attending Surgeon, New York City Children's Hospital, and Fred H. Albee, M.D., Instructor in Orthopedic Surgery, New York Post-Graduate Medical School and Hospital; Assistant and Skiagrapher, Hospital for the Ruptured and Crippled, New York. With 254 illustrations. New York and London, D. Appleton & Company, 1909.

The latest text-book on Orthopedic Surgery is a distinct addition to the literature of this important subject. The author is the son of the late C. Fayette Taylor, who did so much to establish in this country the special branch of which this book treats. His father's work, although done fifty years ago, has stood the test of time, and his sound judgment and mechanical genius are still the admiration of all who treat deformities. The Taylor spinal assistant and Taylor hip brace are in use wherever Pott's disease and hip disease are known and treated.

With an early training in orthopedic work, begun even before he began his medicine studies, and followed up by unusual clinical facilities during a service of many years at the Hospital for Ruptured and Crippled, and at the Post-Graduate Medical School, one would expect a volume of rare interest and the expectations are fully realized. The text is clear and singularly free from padding. Throughout, the reader is impressed with the fact that the author speaks with authority. One is not told that this or that form of treatment may be used, but one is given a clear idea of what should or should not be done in the care of the many diseased conditions considered in this work of 476 pages.

The illustrations are particularly good and were all made especially to illustrate the text from photographed poses personally taken by the author. Realizing the difficulty of securing suitable photographs from those who had no knowledge of the special points needed to illustrate such a work the author took up the study of photography and his success in that line is attested by the many very beautiful illustrations conveniently arranged in the text. In number and quality they far surpass those of any other text-book on the subject.

For the general practitioner the book will be found of great value, and in the chapter on Technic, in which are described the commoner forms of apparatus in

daily use, one will find how to measure and fit braces—something those without practical orthopedic training will greatly appreciate.

As it was written to present such methods as are at the command of any intelligent practitioner, much that of necessity should be known to the special student is omitted. The author has aimed to produce a small but complete work on the subject for general use, and in this respect he has admirably succeeded. With a little more space devoted to some subjects requiring more full description than is given and including in a subsequent edition a few diseased conditions omitted in this one, the usefulness of the book will be increased. Those who desire more information can still consult the old and more complete systems and the very excellent 10-page list of selected orthopedic literature at the end of the volume.

The publishers have also done their part well, and produced a book worthy of the name of a firm that has published so many of our standard medical works.

W. R. T.

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A TEXT-BOOK OF EMBRYOLOGY FOR STUDENTS OF MEDICINE. By JOHN CLEMENT HEISLER, M.D. *Third Edition, Thoroughly Revised.* Philadelphia and London, W. B. Saunders Co., 1907. 432 pp., 10 col., pl., 8vo. Price: Cloth, $3.00 net; Half Morocco, $4.25 net.

The value of this text is readily attested by its general adaptability to class-room work It is comprehensive and at the same time concise, giving the student or the practitioner a clear presentation of the essentials of embryology. The chapter dealing with the development of the genito-urinary tract is of especial excellence while the revision of the portions describing maturation, fertilization and segmentation are decided improvements over the previous editions.

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## OBITUARY.

### WILLIAM TILLINGHAST BULL.

The death of William T. Bull occurred at Wymberly, near Savannah, Georgia, on February 22, 1909. Dr. Bull was a surgeon on whose ripe judgment his colleagues relied, and he was a man in whose broad sympathies those who suffered recognized a friend.

Dr. Bull was born in Newport, R. I., on May, 18, 1849. He was a direct descendant of Henry Bull, a member of the Roger Williams colony. He was graduated from Harvard with the class of 1869 and from the College of Physicians and Surgeons with the class of 1872. After serving as an interne at Bellevue Hospital, he spent two years in the study of surgery in Europe, and he returned in 1875 to begin his practice in New York. Not long afterward he was appointed physician-in-chief to the New York Dispensary and he held this place for two years. In 1877 he became chief surgeon at the Chambers Street House of Relief of the New York Hospital, remaining there eleven years.

In 1880 he was appointed surgeon to St. Luke's Hospital, and in 1883 to the New York Hospital. In 1884 he became one of the five incorporators of the New York Cancer Hospital, now the General Memorial Hospital. He was always deeply interested in the work of this institution and served continuously on its Executive Committee until his death. In 1887 he was appointed professor of surgery in the College of Physicians and Surgeons. In 1889 he became surgeon to the Hospital for the Ruptured and Crippled. It is worthy of note that while he remained consulting surgeon at St. Luke's, New York, Roosevelt, and other hospitals, he continued his active work at Ruptured and Crippled until early in 1908, when he operated there for the last time in public. The great advance in the study and cure of hernia was due to his energy in developing and popularizing the operative procedures. In 1900 he was appointed attending surgeon to Roosevelt Hospital, resigning in 1903.

In April, 1908, he was operated upon for an epithelioma originating in a branchial cyst, but the nature of his trouble was confided to only a very few intimate friends. After his return from Newport to New York in September the serious nature of his malady gradually became known. He made a brave fight for life and by his spirit constantly encouraged those about him. On January 29, 1909, he was taken, at his urgent request, to the Isle of Hope, near Savannah, where he had the benefit of the mild climate, the sunshine, and the flowers which he loved.

Early in his career Dr. Bull decided to become a specialist in surgery and he was the first one to limit himself exclusively to it. With his mind alert for surgical problems he had, in his eleven years' experience in the Chambers Street Hospital, special opportunity for the study of acute surgical cases. It was here that he performed one of the earliest successful laparotomies for gunshot injuries of the abdomen. In his service at St. Luke's Hospital he became identified with successful operations of appendectomy. Here, and also at the Cancer Hospital, he studied closely the subject of cancer, the disease to which his death was due.

Dr. Bull was a master of technique in surgery. He had the rare gift of imparting to others the enthusiasm which he himself manifested in the study of surgical problems, and he was ever anxious to encourage the younger men. He was always ready to give assistance to his colleagues and there was never a thought of envy. He was a strong helper in time of need, and was ever a loyal friend.

Men and women from every walk in life will unite in cherishing his memory, for he was a man of the highest character who combined great knowledge with the broadest sympathies.

To know him was a liberal education and a benediction, for his character measured up to his mind and his mind to his sympathies.

### MINUTE ON THE DEATH OF DR. ROBERT A. MURRAY.

The Northwestern Medical and Surgical Society desires to express its deep sense of loss over the demise of its esteemed colleague, Dr. Robert A. Murray, which took place on February 27th last. Dr. Murray had been an enthusiastic member of the Society nineteen years. It was his pleasure and pride to be with us, almost without exception, at every meeting.

He was a contributor to scientific medicine, and stimulated literary effort in general and special surgery, and was also a comrade and colleague in all the features which have endeared this Society to its members.

His career as an interne in Bellevue Hospital in 1874 and 1875 under Alonzo Clark, James R. Wood, Alfred L. Loomis, Charles A. Budd, Abraham Jacobi, and others; his early professional association with Walter R. Gillette; and his rapidly growing medical practice, gave to his membership qualities of a high order; while his happy disposition, his fund of humor, and his youthful geniality have left an indelible impress on all his surviving colleagues of the Society.

We desire to inscribe these admirable gifts of attainment and of personality upon the records of this Society, and to convey our high appreciation of this esteemed colleague to the members of his family.

By Your Committee,
(Signed) EDWARD S. PECK.
HENRY LING TAYLOR.

March 17, 1909.

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## STATE SOCIETY.

### DEATHS.

EUGENE F. HAMBURG, M.D., of Rochester, N. Y., died February 7, 1909.

FRANK T. KUNKER, M.D., of North Chatham, N. Y., died March 25, 1909.

HAMILTON D. WEY, M.D., of Elmira, N. Y., died March 17, 1909.

# NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

ALGERNON THOMAS BRISTOW, M.D., Editor
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## EDITORIAL DEPARTMENT

### THE REVISION OF THE UNITED STATES PHARMACOPOEIA.

MORE than three hundred and fifty years ago the first pharmacopœia was published at Nuremberg. It was but a little scroll, yet it received the endorsement of the senate of the town. Its origin is interesting. In the year 1542, a wandering medical student, one Valerius Corduus, passing through the German town, then as now a center of learning, showed to the physicians there a collection of receipts which he had selected from the writings of the most eminent medical authorities. They were so impressed with the value of the student's little book that he was urged to print it for the benefit of the apothecaries, which he did, the work afterward receiving the endorsement of the local government.

Unlike our patent medicine men, he published his formulas. Whether his quaint work is still in existence we do not know, but how great our interest, if we could only glance over those black letter pages. We should see some queer compounds, no doubt, for those were the days in which men still believed in the doctrine of signatories and remedies were potent in proportion to their disgusting origin. The more bizarre or rare, the greater their supposed virtue.

Our wandering student well deserves, however, to be the patron saint of the apothecaries and pharmacists. The medical profession has its Hippocrates. Let the next pharmaceutical Council, soon to assemble, canonize Valerius Corduus and adopt him as their patron saint. As custom dictates that there shall always be an *advocatus diaboli* at these functions, perhaps the patent medicine men would consent to act in this capacity. He must have been a stout-hearted lad. Evidently he was the typical student of the middle ages. His name suggests his Latin origin, and without violating probability it is most likely that he had been studying at one Italian school after the other, working gradually northward from the olive groves of Italy across the frontier through the passes of the Alps and the vine-clad terraces of the Rhine to find a welcome in old Nuremberg. There he produced his little book with all its middle age lore gathered all along his adventurous journey and presented it to a receptive profession. Young men do not so easily win recognition now, but to the physicians of his day Valerius was a traveling medical journal, an epitome of new remedies, and they welcomed him accordingly. What would those sages of the cap and gown and gold-headed cane say if they could see the pharmacopœia of the present day? Three hundred and fifty years have added a trifle or two to that little book. The student of to-day would scarcely care to tramp even from New York to Albany with the bulky U. S. Pharmacopœia strapped to his back—a veritable knapsack of learning. We fear, however, that long before the adventurous wanderer reached Poughkeepsie that bulky volume would weigh heavier than did Christian's burden which Bunyan tells of in the Pilgrim's Progress, and likely enough it would meet the same fate.

The pharmacopœia reminds one of the dictionary. It is a huge volume, not one per cent. of which is ever utilized. Of all the hundreds of thousands of words in the dictionary, in ordinary conversation we use not to exceed 3,000 words, and so it is with the remedies listed and described in the pharmacopœia. How many different drugs are used to-day by medical men in their every-day practice? A hundred? Or fifty? Twenty-five would be nearer the mark. It would be an interesting occupation of an idle hour for a physician to take the list of remedies in the index, not of the pharmacopœia, but of his own text-book of Materia Medica and mark those which he uses in his daily work. Not a few of us would be surprised either at the poverty of our resources or led to reflect on the enormous amount of useless material with which our text-books are burdened.

The pharmacopœia needs simplification, but this can only be done by co-operation. The medical profession and the pharmacists must come into closer touch if anything in this direction is to be accomplished.

We are carrying on our shoulders the burden of the past. A text-book of our student days recommends powdered crabs' eyes for infantile diarrhœa and we keep on the pages of our text-books long lists of remedies obsolete this many a day. Students are made to painfully wade through an account of the properties of drugs with their dosage which no one ever uses. Scientific Pharmacology is still in its infancy, and it is to the medical profession and the laboratory to which pharmacy must look for reform. Our pharmacopœias are too much like the little book of Valerius Corduus. They had to take things on faith in those days, but we have a better way. We have standardized a very few of our more powerful drugs and gained an intimate knowledge of their physiological properties by animal experimentation. The same method might well be invoked for all drugs kept on the active list of the pharmacopœia. Drugs can be proved by actual administrations in our branch of the profession as well as by the homeopaths.

There is a strong tendency among the profession to-day to nihilism in medicine. One eminent professor of medicine tells his students that diagnosis is the thing. Treatment is a nullity. We should not marvel at this tendency. It is but the natural result of our real ignorance of drugs and the fact that our knowledge on the subject is largely empirical and hereditary. We believe what our fathers taught us, who had no laboratories devoted to pharmacology nor, indeed, men to work in them. They were still in the days of empiricism from which we are only beginning to emerge. Therapy, which ought to be the ornament of medicine, as it is its chief function, is still little else than a reproach, and this will always be so until we place the science of pharmacy and pharmacology on a scientific basis and cease to cumber our work with tradition and a mass of useless simples whose vaunted properties are mere nullities and old wives' tales. A. T. B.

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## NINTH DECENNIAL CONVENTION FOR THE REVISION OF THE PHARMACOPŒIA OF THE UNITED STATES OF AMERICA.

UNITED STATES PHARMACOPŒIAL CONVENTION.

(Incorporated 1900.)

OFFICIAL ANNOUNCEMENT OF THE FIRST DECENNIAL MEETING.

PHILADELPHIA, PA., May 1, 1909.

In accordance with the provisions of Article VIII, Chapter 1, of the By-Laws of the U. S. Pharmacopœial Convention, the President of the Convention hereby invites the several bodies, entitled under the Constitution to representation therein, to appoint delegates to the First Decennial Meeting of the said Convention to be held in the City of Washington, May 10, 1910.

The attention of all concerned is invited to the following extract from the Constitution:

ARTICLE II.

*Membership*

SECTION 1. The members of the United States Pharmacopœial Convention, in addition to the Incorporators and their associates, shall be delegates elected by the following organizations in the manner they shall respectively provide: Incorporated Medical Colleges, and Medical Schools connected with Incorporated Colleges and Universities; Incorporated Colleges of Pharmacy, and Pharmaceutical Schools connected with Incorporated Universities; Incorporated State Medical Associations; Incorporated State Pharmaceutical Associations; the American Medical Association, the American Pharmaceutical Association, and the American Chemical Society; provided that no such organization shall be entitled to representation unless it shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation.

SECTION 2. Delegates appointed by the Surgeon-General of the United States Army, the Surgeon-General of the United States Navy, and the Surgeon-General of the United States Marine Hospital Service, and by the organizations not hereinbefore named which were admitted to representation in the Convention of 1900, shall also be members of the corporation. Each body and each branch of the United States Government above mnntioned shall be entitled to send *three delegates* to the meetings of this corporation. But no such delegates as are provided for in this article shall be members until their credentials shall have been examined and acted upon as provided for by the By-Laws.

Delegates admitted as members at any decennial meeting shall continue to be members of the United States Pharmacopœial Convention until their successors shall have been appointed and admitted as delegates to the ensuing Convention and no longer.

Notification of the appointment of delegates, accompanied by the necessary certification of eligibility as required by Article II, Section 1, of the Constitution above quoted, should be forwarded as soon as practicable to the Secretary of the Board of Trustees.

HORATIO C. WOOD, M.D.,
*President.*

MURRAY GALT MOTTER, M.D.,
*Secretary of the Board of Trustees,*
1841 Summit Place, Washington, D. C.

## THE REPORT OF THE COMMITTEE ON MEMBERSHIP.

IN the April issue of the JOURNAL was published the report of the Committee on membership, of which Dr. W. F. Campbell of Brooklyn is chairman. The attention of the officers of county societies is especially called to the report of this Committee and its recommendations. Our membership ought to reach 10,000, and with the income from a society of this size there would be no limit to its power and usefulness. It is gratifying to note a steady increase in our membership. From the Secretary, Dr. Townsend, we learn that although on December 31, 1908, 343 members were dropped for non-payment of dues, on May 1, 1909, 191 of these had already been reinstated.

Since January 1, 1909, 306 new members have been admitted, thus showing an increase for the first four months of the year of 497 new and reinstated members. This list is being increased daily, and the total membership on May 1, 1909, was 6,665, as against 6,361 on May 1, 1908.

Men are beginning to understand that under the new regime, the Medical Society of the State of New York is active every day in the year; that their interests are its interests.

The Society to-day represents high standards, both in medicine, in ethics and in the sociological side of medicine. We have now for two years successfully fought the most determined attack on the liberties of the profession ever made by ignorant and hysterical fanaticism. We have taken a step in advance in legal medicine and have gone further in the direction of the reform of expert testimony than has any State. At this date the bill to regulate medical testimony has passed the Assembly, but has not yet been reported by the Senate Committee on Judiciary. The provisions of the bill have been limited by the Assembly to criminal practice. Who can doubt, however, that if the measure of reform proves efficient here, that it will not subsequently be extended to the civil cases. In another column will be found two appreciative letters from members who have been defended in actions for damages by the Counsel of the Society. Throughout the State physicians are waking up to the fact that the Society means something more than a name and an annual meeting. Out of fifty-eight county societies new members have been reported in thirty-five. Counties showing the largest gain are Kings County and Erie. These are happy omens for the new year.

Amalgamation was a measure looked on with distrust and misgivings by not a few of the older men in both organizations.

The results so far abundantly justify those of us who believed in unity and co-ordination, rather than strife and disorganization. The Medical Society of the State of New York was never so strong as now—so powerful to influence legislation, so well equipped to undertake the initiative in measures of public welfare which belong to the sociologic side of medicine. A. T. B.

## THE LATE DR. H. D. WEY.

IN another page of the JOURNAL will be found the resolutions passed by the Board of Health of Elmira upon the death of Dr. Wey. The profession of medicine in this State is distinctly poorer because our friend has left us. He was born to high ideals and aspirations. His father was one of the great figures of his day and left his mark upon the men and measures of his times.

The son was worthy of the traditions of the race from which he sprung. He passed beyond our mortal vision long before his powers had ripened into full fruitage, but not before he had risen to eminence and gained the love and honor of the community in which he lived. He came to the presidency of the Medical Society of the State of New York at a critical time and did not a little by his prudent counsel and bonhommie to bring about the union in our ranks which we now enjoy. Those who listened to his anniversary address were surprised at its diction and breadth of view, but as the old Arabic proverb says, "No one knows the temper of the blade until it is drawn from its scabbard." Dr. Wey was a familiar and welcome figure at our annual gatherings at Albany. Happy we, if after we have vanished into the evening shadows, our memory shall be as fragrant, the regrets of our friends as sincere. A. T. B.

# SOME POINTS IN THE DIAGNOSIS AND OPERATIVE TREATMENT OF SIMPLE FRACTURE.*

By LEWIS A. STIMSON, M.D.

THE recognition of a complete fracture of a long bone of a limb is usually so easy as to be within the scope of anyone who knows there is a bone in the limb. The injury presents two signs which are readily recognized and which, in the systematic presentation of the means of diagnosis, have obtained much prominence, and are habitually given as the positive signs of fracture, namely: abnormal mobility and crepitus. The rule is precise. If abnormal mobility and crepitus can be found, a fracture exists. The mind, perhaps unconsciously, is prone to go further and assume that if abnormal mobility and crepitus cannot be found, a fracture does not exist. And unfortunately, while in a large proportion of the cases of fracture in which these two signs are found, the diagnosis can be readily made without their aid, in most of those in which the diagnosis is difficult or obscure these two signs are absent or are not to be obtained without manipulations which are harmful to the patient. Thus, in fractures of the small bones and of the spongy ends of the long bones, and in one of two parallel and associated bones, and even in fractures of the shaft of a long bone without displacement, both of these signs are frequently unobtainable. The fragments are too small or too deeply placed to be respectively grasped and moved upon each other, or the mind remains in doubt whether a recognized mobility is abnormal and at a point of fracture or is normal and within a closely adjoining joint.

In many of these obscure or doubtful cases it is important that the positive or probable existence of a fracture should be promptly recognized, either to avoid further manipulation, and especially those excessive ones to which we are prone to resort when the patient is anæsthetized and which may easily be so harmful, or in order that proper protection may at once be established against the harm which may result in such varied forms from the lack of support of the fragments or of enforced rest of the adjoining parts.

In many of these cases it is sufficient to establish the probability of the existence of a fracture. We do not need to take counsel of perfection. We do not need to know all the details, and we have the right to seek only for those the knowledge of which can be made use of in our treatment. We can rest upon our knowledge of the type of fracture at the part concerned. It is understood that in this I have in mind mainly fractures near joints and possibly involving joints, and not those of portions of the articular end of a bone, in some of which an exceptional displacement of the fragment is a detail which it is important to recognize and correct.

This probability of the existence of a fracture —a probability which in most cases is a practical certainty—can be established by a systematic search for pain, pain on local pressure from without, pain on pressure along the long axis of the bone, and pain when the patient seeks to use the affected bone against opposition and thereby produces a cross-strain.

The search for pain on local pressure is best made with the tip of the finger or the rubber end of a lead pencil. Thus, in a Colles fracture a well-defined line of sensitiveness can be traced along the radial side and across the dorsum of the forearm just above the wrist; in fracture at the base of the neck of the femur pain is found on pressure behind or in front just inside the great trochanter; in fracture of the surgical neck of the humerus by pressure in front or on the outer side; in fracture of the external condyle of the humerus by pressure on the supra-condylar ridge, a little above the epicondyle; and in fracture of the shaft of a long bone by pressure at the corresponding point on the most accessible side. This method is, indeed, our only means, except the X-rays, of recognizing fracture of the carpal scaphoid: point-pressure in the hollow between the extensor tendons of the thumb at the wrist, the "anatomical snuffbox."

A necessary precaution to be taken is carefully to support the limb so that the pressure, even at some distance from the line of fracture, shall not move the fragments upon one another. Another obvious precaution, not often required, is to avoid mistaking the sensitiveness of a bruise for that of a fracture.

Pressure against the ends of a bone in the direction of its long axis causes pain when the bone is completely broken across, but may fail to do so when the fracture separates only a portion of the bone, such as a condyle. Thus, pressure upward against the sole of the foot will cause pain when there is a fracture of the shaft of the tibia, but not often in a Pott's fracture; and pressure upward at the elbow will cause pain in a fracture of the surgical neck of the humerus, but not always in a fracture of the external condyle. This method is a ready means of recognizing those obscure fractures at the upper end of the humerus in very fat people or when much swelling is present, and in fracture of a metacarpal bone, and in a Colles.

An important exception is fracture of the neck of the femur; in that fracture forcible pressure of the limb upward often fails to cause pain.

A pure example of the third method can be found in fracture of the ulna, the radius remaining unbroken, by asking the patient to extend the elbow in pressing against a fixed object. Another is in forcibly clenching the hand when the internal epicondyle of the humerus is broken; the flexor muscles, being attached in part to the

* Read before the Medical Society of the State of New York at Albany, N. Y., January 27, 1909.

fragment, tend to displace it and thus cause pain. The same effort will also cause local pain in a Colles fracture by pressing the fragments together, as in the second method.

Other movements, varying with the part broken, will cause diagnostic local pain in various ways, such as voluntary abduction of the arm in fracture of a condyle of the humerus, or the attempt to lift the foot from the bed in fracture of the leg; and one single manœuvre will often suffice to exclude in a moment fracture of the thigh, leg, and foot, namely: pressure upward against the ball of the foot while the patient resists. If this causes no pain it can confidently be assumed that no bone of the foot is broken and that the femur and tibia are not broken across.

As a ready means of promptly gaining information and of avoiding mistakes this methodical search for pain, with the correlative reduction in the reliance upon crepitus and abnormal mobility, seems to me to deserve more general recognition and use than it now has.

2. Operative treatment of simple fractures.

Resort to open operation in the treatment of simple fracture, in order to effect a better adjustment of the fragments and to maintain it by suture or other means of direct fixation, has of late been somewhat increasingly practised and recommended. This is, probably, to be deemed rather a part of the general increase of operative procedure, which has been so marked in the last two decades than the expression of an actual need in the treatment of fractures. There are so many personal influences constantly furthering resort to operation, that there is no danger that the interests of our patients will be neglected on that side, and a word of caution, a suggestion that full and deliberate consideration should be given to the reasons against such interference as well as to those in its favor may be timely.

The old standard — promptness, safety, efficiency—the injunction that our work should be done *cito, tuto, jucunde*—is still to be met, and met not only actually, but also relatively to the results obtained in other ways.

The reason advanced in favor of the general or extensive adoption of open operation in simple fracture of the shaft of a long bone is, that it assures an accurate adjustment of the fragments and its maintenance by suture, and that in this way causes a failure of union, and the drawbacks, incident to the frequent permanent displacement left by other methods, are avoided.

Against this claim several objections may properly be urged. Accurate adjustment of the fragments is of no great value unless it can be maintained, and its maintenance by suture or other direct fixation is, at the best, uncertain. A suture, at the most, is a protection only against lateral displacement and over-riding, not against angular displacement, and only for a short time. The normal rarefying process in the bone, which must precede repair, promptly changes the adjoining ends of the fragments into soft tissue, and thus weakens or destroys the grip of the suture, and the fragments again become movable upon each other, although, of course, to a less degree, because they are partly supported by the condensed tissues about them.

And the more ardently the surgeon tries to obtain a good fixation, the more closely he adjusts the fragments and the more tightly he ties the suture, by just so much does he add to the probability of a total defeat of his efforts; for he establishes at the fracture conditions of leverage which go far to ensure the immediate breaking of the suture by some one of those slight twists which cannot fail to be given to the limb, even during the application of the first dressings of the wound. If the grip of the suture is not slack it will surely break.

The suture, then, must be slack in the beginning, and it becomes more slack as time passes by absorption of the bone about it; so that for the prevention of displacements, we must still depend, and from the beginning, upon external support, and practically to the same extent as if the suture had not been employed.

Of other methods of fixation I cannot now speak in detail, but practically all of them are open to the same criticism, and some of them to others.

So far, then, as maintenance is concerned, support by the suture is illusory, and all that is gained by the operation is the primary adjustment. What is the value of that adjustment? It appears to consist mainly, if not entirely, in the removal of interposed soft parts or small fragments which, if not removed, would delay or prevent reunion or cause persistent deformity. Such removal of possible obstacles to reunion plays a rather large part in the arguments advanced in favor of operation, but the percentage of failure of union, in all cases, is small, probably not more than one or two per cent., and in the great majority of these, the cause is not the interposition of a removable object; it is either an unknown cause or the suppuration that follows an open wound. That the cause may be independent of malposition, is shown by the frequency with which pseudarthrosis persists after operation to remove it. Adjustment, consequently, would be preventative in only a minority of the cases in which failure of union would otherwise occur.

The claim, that only by operation can an ideal restoration of form be obtained, is one that appeals to the imagination, to the natural desire that our work shall be of the highest class and our results without blemish. But, as has been shown, direct fixation does not ensure such a result, and in the great majority of cases no better reduction can be maintained than could have been effected and maintained without operation. Moreover, most of these moderate departures from the ideal, unsightly as they may appear

in a skiagram, cause no functional and little or no cosmetic loss. They consist in some lateral or some angular displacement, and usually, some over-riding, which are unrecognizable by others in ordinary intercourse, and are the cause of no limitation to the patient. And, especially in the young, many of them grow less as time passes. The alleged gain is not only more sentimental than real, but is also, in fact, unobtainable.

The cases in which gross displacement exists and cannot otherwise be corrected, would then be the only ones in which operation for the purpose of reduction is clearly indicated.

Furthermore, there are certain positive disadvantages after operation which may well be deemed a counterbalance to far weightier advantages than those which are claimed for it.

(1) It is, I think, certain that repair is slower after an operation in which the fragments have been temporarily still further displaced, as has to be done for the placing of a suture. The reason is, I believe, in the additional laceration of the periosteum, the destruction of the periosteal bridge which plays so prompt and important a part in the repair of a fracture. A delay of one or even several weeks might be no great price to pay for a material gain, but a similar and far more important disadvantage is found in the suture or pin used to fasten the bones together. That is, in itself, sufficient to cause failure of union, I am convinced by many observations. It does so by exaggerating the rarefying osteitis, which is a necessary preliminary to reunion, and possibly by inhibiting the productive and condensing osteitis which should follow. Thus is created a gap between the fragments, which is occupied by fibrous tissue showing no tendency to change into bone, a gap equivalent in its effects to a loss of substance or to a displacement similar to that which it may have been the object of the operation to correct.

This condition is habitually observed whenever a wire suture has been applied. I have frequently had occasion to cut down upon and remove such sutures, and I have always found them lying loose, all the bone originally embraced within the loop having disappeared. Many similar observations have been made with the X-rays. This is constant when metal is used, either as a suture or as a pin, and sometimes the loss is so great as to reduce the ends of the fragments to small, widely separated, conical points. Whether the same result follows the use of silk or silkworm gut for suture, I do not know, for I have used them only as temporary sutures, when the wound had to remain open, and have removed them after a week or two. In other cases I have always used strong catgut, simple or chromicised, trusting to external support for the later maintenance of apposition.

(2) As already mentioned, the manipulations necessary in drilling and suturing the fragments delay reunion, probably by additional injury to the periosteum. But in addition to this the added injury to the soft parts, especially when the bone is not subcutaneous, has two serious drawbacks. It exposes to suppuration to an extent which ample experience has shown to be in excess of that pertaining to other clean operations, and it notably increases the chance of limitation of motion in the neighboring distal joint by cicatricial change in the wounded muscles or by their cicatricial attachment to the callus.

This suppuration is not to be feared as a menace to the life of the patient; it is the expression rather of the bruising of the tissues than of a malignant infection, and can usually be kept within control. Its principal results are the establishment of a sinus leading to the suture or to a bit of necrosed bone, the delay of union, and the increase of the cicatricial change in and adhesion of the muscle. The latter is the more harmful the nearer it is to the joint, but it is capable of serious results, even when at a distance. I have seen complete stiffness of the knee follow an operation for failure of union after fracture of the femur at the middle, and of the elbow after an operation for wiring a fracture of the shaft of the humerus, in both of which moderate suppuration occurred.

The limit of time imposed upon me forbids elaboration of these and other points. I shall only quote in support of some of the statements made, some facts from a recent report of 2,700 fractures treated in Körte's hospital service.* Four fresh cases were sutured with wire; two of them suppurated. In one of the others, supra-condylar fracture of the humerus, the range of motion left in the elbow was only 30°; in a fracture of the femur coaptation was not maintained. In 27 cases (1%) union failed, and in 10 others failure was anticipated after a lapse of three weeks, because of persistent displacement of the fragments. He expresses the opinion that very few cases require operation, and says this opinion is generally held in Germany.

To summarize it, then, early operation in simple fracture is to be credited, if successful, with an exact readjustment of the fragments, and this readjustment, if maintained, protects the patient against certain irregularities in the outline of the reunited bone, and against such failures of union as might otherwise result from inability to make sufficient reduction. The importance of these advantages is not great: the irregularities of outline are, in the great majority of properly treated cases, functionally and cosmetically unimportant; and failure of union is not only rare, but in the majority of cases in which it occurs, it is due to general causes, and in only a small minority to those local causes which operation can remove.

On the other side of the account is the fact

*Peltersohn: Archiv für klin. Chir. Vol. 86.

that, for the maintenance of this adjustment, the surgeon must depend upon the usual dressings, whose alleged inadequacy is given as a reason for the operation, or he must use the untrustworthy suture or other mechanical means, and all of these involve the risk of suppuration and delay in, or failure of union through causes inherent in themselves. And also the other fact, that the function of the neighboring joint may be diminished or lost through the implication of its muscles in the operation and its repair.

Applying the old criteria of promptness, safety, and efficiency, it appears, then, that operation is less prompt in its results, less safe, and more efficient, only in a very small number of cases, and should therefore be reserved for those cases in which its need is clearly evident. A conclusion which, in the interest of our patients and of our art, I hope may be generally accepted.

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## SOME OBSERVATIONS ON THE TREATMENT OF FRACTURES.*

By DAYTON L. KATHAN, M.D.

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THE treatment of fractures is one of the oldest branches of surgery. It is not the most lucrative. It is the most arduous and exacting. It often proves us unskillful, and not infrequently casts a suspicion on our professional reputation.

It has not made that rapid progress in method and technic that has characterized some of our more modern branches of surgery such, for instance, as abdominal surgery.

The ancient method of splints for most fractures still obtains, and the future is not bright for their early abandonment. Perhaps the greatest improvement has been made in our methods of diagnosis. So that a faulty diagnosis for most fractures is no longer excusable. So much cannot be said for our treatment of fractures. A perfect anatomical and functional result cannot always be realized, and is not always expected. However, it is gratifying to know that we can assure our patients of better cosmetic and functional results than ever before.

Before the profession adopted the methods of aseptic surgery, and this is within the memory of us all, open or compound fractures were frequently followed by amputation and a high mortality, but by a rigid observance of the well-known rules of asepsis, the open or compound fracture is reduced to a simple one, amputation or death being rarely anticipated.

The discovery of the X-rays by Prof. William C. Röntgen of the University of Wurtzburg, made our triumph over fractures indeed complete. The last generation has witnessed many scientific discoveries, but few of greater practical utility to the medical profession than the X-rays. So potent an element for good is this considered by the profession at large, that a complete X-ray outfit is now installed in every well equipped hospital, so that every physician and every patient throughout the city has access to, and the benefits of Röntgen's discovery.

The same conditions should obtain throughout the rural districts. Instead of every physician operating his own little machine, some physician centrally located should be encouraged by his colleagues to install a well equipped X-ray outfit, and then should take a course of instruction in some of our large centers, until he thoroughly understood the dangers and benefits of an X-ray machine. Not until then will he be competent to take skiagraphs without danger to the patient or himself, and to interpret the readings of the plate understandingly. A competent operator is as important as a good machine. Each is useless without the other.

That there has been much damage done to patients exposed to the X-rays by careless and incompetent operators, there is much evidence to prove. That there is no danger in the hands of a trained operator is equally well established.

That the skin and subcutaneous tissues suffer if exposed too long to these rays, or are brought into too close proximity to the tube, is doubtless true. Too frequent short exposures have the same injurious effect as one long exposure. Nor is it sufficient for the operator to be able to give us a radiograph clear and well defined, but he must be able to interpret correctly the findings thereof.

A radiograph is not a picture of the part exposed, but a shadow thereof. A shadow does not always correctly represent the object which casts it. It may be larger or smaller than the object, depending upon the relative size and distance of object and light. These rays are not parallel, but divergent, so that fractures displaced are exaggerated, and the distance between fragments are likely to appear greater than they really are. Hence the necessity for a trained radiologist is obvious.

In simple fractures a fluoroscope may be sufficient, but it is not so reliable as a plate. The plea that fluoroscope is a great saver of time is no longer valid, as the plate can be ready for inspection within ten minutes after exposure, and this besides being more reliable, we can study at leisure, and is a matter of permanent record.

In my own practice a skiagraph is taken of every suspected fracture. If the plate is negative and a severe sprain only has been received, I recommend massage or temporary immobilization as seems indicated by condition of soft tissues. If the plate is positive, massage is

* Read before the Fourth District Branch of the Medical Society of the State of New York, at Amsterdam, N. Y., October 13, 1908.

clearly unsurgical, and immobilization by plaster or splint is immediately instituted.

If the fracture is a complicated one and much displacement exists, two skiagraphs are taken, one through a horizontal and the other through a vertical plane. The comparison of the two plates is sometimes of much value, as one may show perfect alignment, while the other indicates much distortion. A careful study of these plates is of the greatest assistance in making a correct application of splints.

Every fracture with displacement calls for etherization. After reduction has been effected and dressings applied, another skiagraph should be taken to prove the correctness of our work. If reduction has not been properly accomplished, or dressings have failed to hold fragments in normal position, another effort at reduction should be made. If it is found impossible to reduce the fragments, or to hold them in position by any kind of splint or dressings, and we are reasonably certain that a faulty anatomical and functional result will follow, then resort should be had to the scalpel, and we should not desist in our efforts until complete apposition of fragments has been obtained. If necessary, the bone forceps, chisel and mallet, or the saw may be employed as aids.

Reduction once accomplished, if it is found that little force is required to hold fragments in apposition, suturing the periosteum with catgut may be sufficient. If more force is required, the aluminum bronze wire suture should be employed. It has the advantage over silver wire as it is stronger, and can be forcibly twisted without breaking. The ends of the wire suture should be brought out through the skin and not be cut off close to the bone. It should be removed after union between the fragments has occurred.

Occasionally it happens that fragments cannot be brought into perfect apposition, and still we feel certain that good anatomical and functional results will follow, an operation then is a question of choice rather than one of necessity. In performing these operations the surgeon assumes much responsibility. He should remember that the periosteum is more intolerant than the peritoneum, and observe the most rigid aseptic precautions in every step of the operation, lest infection occur delaying union and threatening the life of the patient.

The greatest improvement in the treatment of fractures in the future, will be along the lines of the open operation, and the direct application of metallic splints to the bone itself. This is made possible by our newer methods of asepsis, the application of which enables us to secure good results in many fractures, heretofore followed by impaired function and deformity.

It is not enough to make a correct diagnosis. It is not enough to reduce the fracture correctly. It is not enough to apply the correct dressing, but the correct dressing must be correctly applied. The application of a dressing may be faulty by being too tight, or by being too loose. If it is too loose it will only embarrass our result, but if it is too tight it may do our patient an irreparable injury by gangrene and death of the part or by anemia of the tissue so pronounced as to result in muscular degeneration.

The following case will illustrate this condition of ischemic muscular atrophy, first described by Von Volkmann and caused by too tight bandaging:

Miss B., age 15, while attending a young ladies' academy, fell and fractured her arm about its middle third. Two physicians were immediately summoned to attend her. They reduced the fracture and applied the dressings under ether. For many days the pain was so severe as to require large doses of morphia for its control. The hand did not become dark in color, but very white. She complained bitterly of its weight. It was so heavy that she could not walk about. When the splints were finally removed the fingers were found strongly contracted and flexed upon the hand, and the hand upon the arm, so much so that it was found almost impossible to relax them. Muscular atrophy was already noticeable. This condition of atrophy and paralysis of muscles of hand and forearm became more and more aggravated, and the flexion contractions of fingers and wrist so rigid that her hand could not be opened. Subsequently her arm was operated on several times by Dr. V. P. Gibney, of New York. Only slight relief followed these operations.

While too tight bandaging is followed by such disastrous results, it is much less frequent than too loose bandaging. Firm but not tight is the rule, and every physician must learn it for himself.

Too loose bandaging is followed by faulty immobilization, and imperfect immobilization is the cause of delayed union and so-called non-union, and sometimes union with deformity.

Some physicians are recommending very early removal of splints, and the beginning of a systematic course of active and passive movements, massage and hydrotherapy, etc. In my own cases, when I have followed this advice, I have been disappointed. Mobility remains, and an osseous exudate has failed to develop about the seat of fracture. I now give my fractures the benefit of absolute fixation of fragments during the full period of callus formation. When the dressings are removed, if I find callus formation absent and fragments movable, I give that fracture the benefit of four or six weeks more of absolute fixation. This is followed by two weeks passive hyperemia according to Bier, and then a systematic course of active and passive movements, massage and hydrotherapy. Very few except pathologic fractures, will resist this thorough treatment. Pathologic fractures must be given special treatment, tonics, thyroid extracts, iodid of potassum, etc.

Faulty immobilization may be followed by suppuration at seat of fracture or by prolonged irritation of fragments against the soft tissues. Suppuration of a closed fracture is most unusual,

but occurs occasionally, as the following case will illustrate.

F. M., an Italian laborer, was admitted to the surgical ward of the Ellis Hospital February 1, 1908, with a simple fracture of the femur through its middle third. He was placed on a fracture bed, fixation splints, and a Buck's extension applied after the usual manner. He rebelled most strenuously against his enforced confinement, removed his dressings at every opportunity, and made himself a most disagreeable patient in every way possible. After eight weeks of imperfect immobilization the dressings were removed, the leg massaged and sand bags used to steady the femur. Taking his first opportunity to stand upon his feet, he fell out of bed. This removed whatever effort nature had made toward a bony union, and mobility at seat of fracture was as pronounced as at the beginning. Aa a rule secondary fractures unite much more readily than primary ones. The dressings were reapplied with extension and weights as before. This was continued for four weeks, when the leg began to swell and the patient complained of severe pain at seat of fracture. The dressings were removed, but pain and swelling increased. Deep fluctuation was now discovered, an incision made and large quantities of pus evacuated. A counter opening was made, a drainage tube inserted and daily irrigation practiced. No further attempt at fixation was made, as non-union, or possibly amputation, was expected. The wound continued to discharge for four or five weeks, when an examination was made and union found to be quite firm. After five months' stay in the hospital, union having become firm, the patient was discharged with a useful leg and only a slight limp.

Compound fractures unite almost as kindly and quickly as closed ones. After being thoroughly sterilized they are readily transformed into simple ones, and admit of similar treatment.

A more uniform system of dressings for classical fractures should be adopted. In my own city no two physicians employ similar dressings for similar fractures. Nor does scarcely a single physician have a uniform method of splints and dressings for a similar class of fractures.

For instance, Colles' fracture represents a class of fractures that are practically uniform in character, and are susceptible of the same dressings. Colles' fracture is the most frequent of all fractures that visit our office and the outdoor department of our hospitals. If left to itself or is improperly treated, Colles' fracture must be looked upon as a serious accident, followed by more or less permanent functional disability. If promptly diagnosed and correctly treated, it is one of our simple fractures followed by good cosmetic and functional results.

The X-rays have proved that most so-called sprains of the wrist are fractures. At all events, every patient coming into my office with a history of an injury to the wrist, is skiagraphed.

In most cases deformity exists, and the diagnosis is made with ease. The wrist is widened. There is a prominence at its posterior aspect with a depression above and a bellying of anterior aspect of lower radius. All movements of wrist, hand and fingers are painful, and much embarrassed. All of these patients should be etherized, and the fracture if impacted, should be broken up. To break up the impaction is the first and most important step toward a good result. Not to do so is a most potent cause of deformity and a useless arm. The hand should be moved forcibly backward and forward upon the arm, or from side to side until the lower fragment can be felt to move against the upper, or until there is no longer resistance between the fragments and crepitis can be distinctly felt. The hand and arm now fall into normal relations and assume a normal appearance. After reduction has been thoroughly accomplished, a correct dressing is the most potent factor in obtaining a perfect anatomical and functional result.

There should be a uniform dressing for the fracture, so simple in its application that it can be utilized by all physicians without danger to the patient, and with uniformly good results.

The Swinburne splint satisfies all of these conditions. So far as I know it was first used by the late John Swinburne of Albany, N. Y. The late Dr. A. M. Phelps of New York used this splint during his entire practice, and urged his students with forcible language to use no other. It consists of a plain basswood board one-quarter inch thick, as wide as the arm at its widest part, and as long as the hand and arm from the olecranon to the metacarpo phylangeal joint.

By placing this board on the posterior part of the arm, it will be observed that the entire surface lies in the same plane and apposes the board throughout its entire length. The upper end of the board is firmly fixed to the upper part of the arm by adhesive straps. The hand is now forcibly pulled downward, and the wrist is firmly anchored to lower end of the board. A good degree of extension and counter extension is made by these straps, and the fragments are held in perfect apposition. A bandage is now placed around the arm and the dressing is complete. The bandage is removed from time to time for inspection, but the board remains undisturbed. The circulation cannot be embarrassed on account of the width of the board. The patient should be instructed to move the fingers freely. Physicians should insist on patients observing this rule. After three weeks union will be firm and the dressings may be removed. During the fourth week the arm should be placed in an anterior perforated tin splint. Active and passive motion, massage and hydrotherapy should now be practised daily.

This dressing is so simple in method, and so easy of application and so successful in results, that I feel like recommending it to all. The plaster-of-Paris is a splendid dressing in the hands of an expert, but should not be employed by a physician inexperienced in its use.

Pott's fracture of the ankle-joint is another

fracture sufficiently characteristic as to admit of a uniform dressing. I have employed the same dressing for this fracture for several years past. It is so simple of application and so effectual in results, that I have no desire to change it. A good working knowledge of the anatomy of this joint, and a thorough appreciation of the pathology of this fracture, are absolutely essential for perfect adjustment and correct application of splints. This is the most frequent fracture found in the wards of our hospitals, and not a few of them are compound. Very soon after this fracture has occurred, the swelling is so great that the normal outlines of the ankle-joint are soon obliterated. A radiograph should be taken and the patient etherized.

To correct the deformity and restore normal function, the foot must be strongly inverted or adducted. The slightest eversion of the foot invites disaster, for the reason that the lower fragment of the fibula unites obliquely, and its function as a brace to the foot is lost. This inverted position of the foot restores the internal malleolus, which has been broken off flush with the joint and followed the foot in its outward dislocation, to its normal position. It must not be forgotten that the annular ligament is frequently torn, releasing the tibialis posticus from its groove, and destroying its function as a supporter of the arch of the foot. Whenever this occurs it is doubtless good surgery to make an incision, suture the annular ligament and restore the tibialis posticus to its normal position. Many cases of pronounced flat foot would then be avoided.

After the foot and leg have been thoroughly cleansed, a posterior splint is applied to the leg extending from the gluteal fold to the lower part of the calf, immobilizing the knee joint. This splint is a bass-wood board one-half inch thick, and as wide as the leg at every part. A side splint with foot-piece attached, is next applied. The foot can be firmly held in its inverted position by the side splint, and the foot-piece holds the foot securely in its corrected antero-posterior position.

This dressing is equally effectual for closed or open fractures. It absolutely immobilizes the ankle-joint in its new position. The leg can be moved about or handled without pain or without endangering the integrity of the dressings. This remains undisturbed for three or four weeks, when it is removed and the foot and leg are encased in a plaster cast.

After eight weeks all dressings are removed, active and passive motion, massage and hydrotherapy instituted.

In the preparation of this paper I have consulted Stimson and Scudder on fractures, Keen's system of surgery and the various medical journals of the day.

## RADICAL CONSERVATISM IN THE TREATMENT OF COMPOUND FRACTURE.*

By MARTIN B. TINKER, S.B., M.D.

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EVERY year thousands of fingers, hands, legs and arms are amputated after compound fracture. Every year tens of thousands are disabled by contractures, atrophy of muscles, paralysis of nerves, and stiff joints, following compound fractures. The support of many families and their happiness depends largely upon the usefulness of these extremities of working men. Our treatment, as outlined by modern text-books is, in all essentials, the same as that of ten years ago. Modern surgery has shown wonderful results from tendon transplantation, skin-grafting, nerve anastomosis, and vessel suture. Are these resources of modern surgery applied in dealing with compound fractures as frequently as they should be? The success or failure of our treatment hinges in large measure on our success in managing details of treatment of the wound of the soft parts. Unless we can save or restore the main nerve or blood supply, the extremity must be sacrificed. If our wound is aseptic, tetanus and blood-poisoning are impossible; bony union and a moveable joint are favored; osteomyelitis will not develop; and a useful, if not perfectly normal, extremity will usually be saved.

In discussing this subject I wish specially to emphasize some plans of procedure which are not in general use.

The methods of treating lacerated and contused wounds are faulty and illogical in three important particulars:

1. Scrubbing wounds as is commonly done, still further damages tissue already badly injured.

2. Irrigation with antiseptic solution *kills* damaged tissue and hinders, rather than helps, by leaving large areas of devitilized tissue to slough.

3. Bacteria are more often carried into the deeper parts of the wound from the skin and superficial parts than removed by scrubbing, and these bacteria usually complete the destruction begun by mechanical injury, aided by the injury of scrubbing and the caustic action of the antiseptic solutions.

A more rational method of dealing with many of these wounds seems to me:

First. Pack the wound with tampons of sterile cotton or gauze saturated with sterilized oil.

Second. Scrub the surrounding skin thoroughly, and prepare as for an aseptic operation. The oiled tampon and packing will prevent the bacteria which surely contaminate the scrub water, from penetrating into the wound.

Third. After scrubbing thoroughly, and the use of antiseptic solutions for the surrounding

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skin, the oiled tampons should be removed. The oil can be removed by means of ether, gasoline or benzine swabs. The badly lacerated tissue should then be thoroughly swabbed with some powerful, certain germicide. It does not matter specially, what germicide is used. Harrington's solution, pure carbolic acid, strong solutions of formalin may be used. The wound should be thoroughly swabbed and an effort made to reach the bottom of every pocket and to work the disinfectant well into the ragged and bruised tissue. Only important structures, such as main vessels or nerves should be avoided.

Fourth. With knife or scissors excise tissues damaged by injury or the germicide solution. It is of advantage to use a tourniquet during excision of damaged tissue, otherwise free flow of blood is apt to obscure our field and prevent thorough work.

Fifth. The wound can usually be closed safely as an ordinary clean incised wound without drainage; for if our work has been thorough, we are dealing with healthy tissue of good vitality.

This method sounds very radical, and of course, it cannot be applied in the treatment of all lacerated wounds. It can be used in a much larger number of cases than would at first seem possible, and the results are very satisfactory. Joints opened by lacerated and contused wounds, complicated by compound fractures, even if contaminated, apparently, with the worst possible filth, need not necessarily suppurate and become stiff if treated by this method. As an example of what can be accomplished, I would call your attention to a brief table of somewhat unfavorable cases treated according to the methods described. Photographs and skiagraphs will give you a more accurate estimate of the results obtained.

A second method, which is a radical departure from the generally employed methods of treatment, I would suggest in dealing with the severer forms of compound fractures. When, instead of lacerated wounds of moderate size, which can be disinfected, damaged tissue excised and the wound sutured; when, instead of such a relatively simple injury we have an extremity crushed and pulpified; even then amputation may be frequently avoided by using conservative measures, provided the main nerve or blood supply is not cut off, or if nerve or vessels can be repaired. Raw surfaces are covered with oil compresses, as with the less extensive wounds; the surrounding skin is prepared as for an aseptic operation; the wound is disinfected according to the method already described, but is *not* trimmed with knife or scissors; the crushed parts are dressed with aseptic or moist mildly antiseptic dressings. If these measures be carried out thoroughly, crushed parts may be safely left until a line of demarcation forms. Nearly always, more tissue lives than we expect, and even if it all dies, nothing has been lost but a little time. I have sometimes waited for the slough to separate; more often in extensive injuries much time will be gained by operating as soon as a line of demarcation has formed, and it is evident just how the rescued tissues may be best employed. Every useful fraction of a useful extremity should be saved.

The possibility of infection with tetanus in wounds which have been contaminated with street dirt, the filth of stables, or in gun-shot wounds, should always be kept in mind. If the wounds are thoroughly disinfected by swabbing into every recess with a powerful, penetrating antiseptic, and subsequent trimming away of all lacerated tissue, the risk is greatly lessened, if not entirely removed. As a precaution in such cases, however, I am accustomed to give an immunizing dose of tetanus anti-toxin. The anti-toxin has proved of but relatively little value, whether given subcutaneously or directly into the brain, provided the disease is thoroughly developed. Several surgeons believe, however, that it may have more value if given as a routine, early, before the development of any symptoms, and I am not aware that any harmful results have ever followed its use.

As to the best means of holding fractured bones in position in these bad forms of compound fractures, plaster-Paris encasement with abundant padding and dressings to prevent harmful pressure, has seemed to me most satisfactory. In determining the position of the fragments after the retention dressing has been applied, the X-rays are often more valuable than in the diagnosis and location of the fragments before the dressing is applied. Getting the patients up early, on crutches if necessary, helps to improve their general health as well as their spirits, and is often an aid in repair.

I believe an attempt to obtain fixation of fragments by bone suture, the use of clamps, rings, pegs, bolts or plates, would generally better be deferred until the wound is healed, for the patients are generally considerably shocked and these procedures often necessitate extensive manipulation. Even a little extra manipulation may destroy the vitality of torn or pulpified tissue and do more harm than good; and very often nature does better for our patients than we expected, and we see later that wiring was not needed. Bones do much better than tendons or nerves without suture. In later operations for fixation of fragments I have had good results from the use of heavy silver wire, and in specially difficult cases, with Hansemann's plates.

In the short time remaining, it will be possible only to outline briefly a few of many other improvements in modern surgery not generally applied in these cases.

Among these I wish to urge the more general use of local anesthesia to lessen and prevent shock. Blocking main nerve trunks with cocain

solution or solutions of other allied drugs (as described by Crile for amputation) will also lessen shock when amputation is not needed, and will permit us to give necessary care to many badly mangled extremities without general anesthesia. Local instead of general anesthesia means life instead of death for many of these profoundly shocked patients.

Morphin is often more valuable than stimulation in combatting shock.

Normal saline solution should be used even more freely than is now customary; infused into loose areolar spaces; given with black coffee by rectum.

Transfusion of blood will save an occasional patient. Crile has greatly simplified this procedure for us: all surgeons should own his outfit and know how to use it.

Blood vessel suture has an important future in the treatment of many compound fractures, I believe. Most of us have used lateral suture of large blood vessels, and we should at least follow the rapid advances now being made along these lines in experimental surgery, with the prospect that some time, to many of us may come the opportunity of saving an extremity by anastomosis of severed blood vessels.

Suture of main nerve trunks is as important to the life and usefulness of the extremity as the blood supply and the necessity for nerve suture should never be overlooked.

Skin-grafting should be used more frequently than is now usual. It should always be tried where tendons, bone, or cartilage are exposed, for if left uncovered these tissues soon lose their vitality. More general and earlier use of skin-grafting would prevent many serious contractures which we now see.

Bone-grafting has been used with considerable success, both clinically and experimentally, and methods of bone-grafting should be given further study. It may prove the means of saving many extremities that would otherwise be sacrificed, or of giving useful function instead of impaired function.

By the methods of conservatism which I have outlined, I believe it should usually be possible and advisable to save:

All parts of the hand or foot if hanging by skin, and frequently if entirely severed;

All upper extremities, provided the injury has left the blood vessels with sufficient skin to cover them;

All lower extremities, if vessels and skin to cover them are left with the addition of the periosteum of the bone or sufficient number of fragments so that a stiff leg may be reproduced, even though many inches shorter than the other;

All serious infections should be avoided, provided the patient is seen within a reasonable time after the injury.

There is at present a tendency to neglect common forms of surgical disease or injury in favor of the surgery of the stomach, pancreas, brain, heart or other recently invaded territories. Hospital surgeons too often turn over fractures to their internes without any personal attention or even instructions as to treatment. If further advance is to be made in treating this important class of injuries, it is imperative that our best trained men give some of their best effort and time to the subject of compound fractures.

METHOD I.

1. Oil tampon. 2. Skin disinfection. 3. Wound disinfection. 4. Wound excised. 5. Suture.

| Compound Comminuted Fracture. | Cause. | Result. |
|---|---|---|
| 1. Patella — cavity knee-joint contaminated. | Horse kick. | Perfect union and function of knee. |
| 2. Surgical neck of humerus pulpified. | Run over by freight car. | Flail joint. Good function arm. |
| 3. Hand and thumb. | Crush in test machine for steel. | Good function. Thumb slightly stiff. |
| 4. Hand and finger. | Gun shot. | Fair function. Finger saved. |

Clean healing all wounds.

METHOD II.

In extensive injuries and doubtful vitality of tissue.
1, 2, 3. As Method I. 4. Await line of demarcation.
5. Operate as indicated—save all useful.

| Compound Comminuted Fracture. | Cause. | Result. |
|---|---|---|
| 1. Foot and toes. | Gravel car wheel crush. | Perfect function foot. |
| 2. Wrist and forearm. | Railroad wreck. | Good function wrist. |
| 3. Hand and fingers. | Buzz-saw. | Most of hand—part of one finger and thumb saved. |

All wounds clean but aseptic slough.

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## A FURTHER EXPOSITION OF THE ABDUCTION TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR.*

By ROYAL WHITMAN, M.D.
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IN contrast with other fractures, the technical treatment of fractures of the neck of the femur as a local injury and deformity, is subordinated, both in theory and practice, to the physical disabilities of the patient that may render it difficult, impracticable and often futile. It is assumed that restoration of function is impossible, and that nonunion is the usual result if the fragments are separated; consequently it is a surgical axiom that the so-called impacted fracture is to be undisturbed because reduction of deformity would endanger union, which is the standard of success.

What may be called official treatment, as illus-

*Read before the New York State Medical Society, January 27, 1909.

trated by the routine of the large hospitals and approved by the textbook, is apparently a compromise between the local and general disabilities of the individual and between some treatment and no treatment. After a conventional period it is discontinued and the case passes from observation. If, as a class, these patients were as old and feeble as they are generally supposed to be, the character of the treatment would be less open to criticism, but as a matter of fact a large proportion are young and vigorous, and yet they receive no better care, as far as quality is concerned, than the others; for, as has been stated, the physical disabilities of the majority regulate the treatment of all.

The relative frequency of fracture of the neck of the femur in the aged is reasonably accounted for by the atrophy of structure, which, although affecting all bones in like degree, makes an exposed part like the femoral neck relatively weak in proportion to the strain to which it is subjected. It is a logical sequence, therefore, that the neck of the femur has always been relatively a weak part, as is indicated by its shape and position. Because it is weak it may be broken at any age by slight force advantageously applied, the two periods of life at which it is, in this sense, most vulnerable being adolescence and old age.

But while in the aged the presence of the injury can hardly be open to doubt, in early life it is usually overlooked.

For example, upwards of fifty cases of fracture of the neck of the femur in early life have come under my observation at periods from a few weeks to several months after the injury. In possibly ten of these, including five ununited fractures previously treated in hospitals, had the diagnosis been made.

The same failure to identify the nature of the injury, at least in so far as the diagnosis influenced the treatment, appears in the history of a large proportion of the comparatively numerous cases of fracture of the neck of the femur in vigorous adult life, that are observed from year to year at the Hospital for Ruptured and Crippled.

I am convinced, contrary to the prevailing belief, that there is a large class of cases which, as far as the patient is concerned, may be treated on the same principles as for fracture of the ankle or of the elbow. In these situations, age is a secondary consideration, and it is generally admitted that the results depend, in great degree, upon the accuracy of adjustment of the fragments and upon the supervision that is exercised during the period of repair.

Of fracture at the hip however, it is taught that repair is doubtful and that functional recovery is practically impossible:*

*Five ununited fractures of the neck of the femur (not epiphyseal) in childhood and adolescence have come under my observation. All had been treated in hospitals by the conventional methods. As there could have been no question of sufficiency of blood supply, it would appear that the failure to appose the fragments must explain the results.

(1) Because of the deficient blood supply which explains non-union even if the fragments are opposed.

(2) Because in the vigorous person great violence is required to break the bone, which under such conditions is often shattered beyond the possibility of repair.

(3) Because correction of deformity, if the fragments are impacted or apposed, must not be undertaken.

(4) Because disorders of nutrition, inducing abnormal absorption or formation of bone, often follow the injury and lead to progressive disability.

This teaching, which has long served to justify a routine, manifestly defective, and to excuse neglect, is not supported by positive evidence, since the results, from the clinical standpoint at least, may be as well explained by inefficient treatment as by the situation and character of the injury. On the other hand, the evidence of cases reported and presented at medical meetings proving that satisfactory results and even functional cures may be obtained by positive and effective treatment, is constantly increasing.

In the present discussion let us dismiss the preconception that this fracture differs from all others, in so far as it applies to the class of cases under consideration, namely, those in which the condition of the patient permits the most effective local treatment; for until a sufficient number of cases have been treated in a manner to deserve success, one cannot judge as to how far results may be influenced by surgical skill.

In complete fracture of the neck of the femur, the shaft is usually displaced upward and slightly outward, and lies behind the inner fragment with the fractured surface turned forward.

If the fracture is incomplete, the deformity is in a minor degree the same, the limb being in characteristic cases slightly flexed, adducted and rotated outward.

The essentials in the treatment of a fracture involving a joint, if functional cure is its object, are:

(1) Immediate and complete reduction of deformity, whether it is due to separation, impaction or interlocking of the fragments.

(2) Secure fixation until there is no longer danger of displacement.

These conditions are manifestly far more difficult to meet at this joint than at any other, for as direct manipulation is impossible, apposition can be attained only by adaptation of the outer to the inner fragment, while the depth of the fractured bone, the yielding character of its coverings and its position, at the junction of two parts of different size and function, explain the difficulty in assuring effective support.

Routine treatment may be criticized because it is conceived and conducted on the supposition that these obstacles are insurmountable. For example, in impacted fracture the aim is simply

to prevent displacement of the apposed though distorted fragments, and as the results in this most favorable class of cases set the standard of success, we may by comparison with the normal, judge in how far they fall short of functional cure.

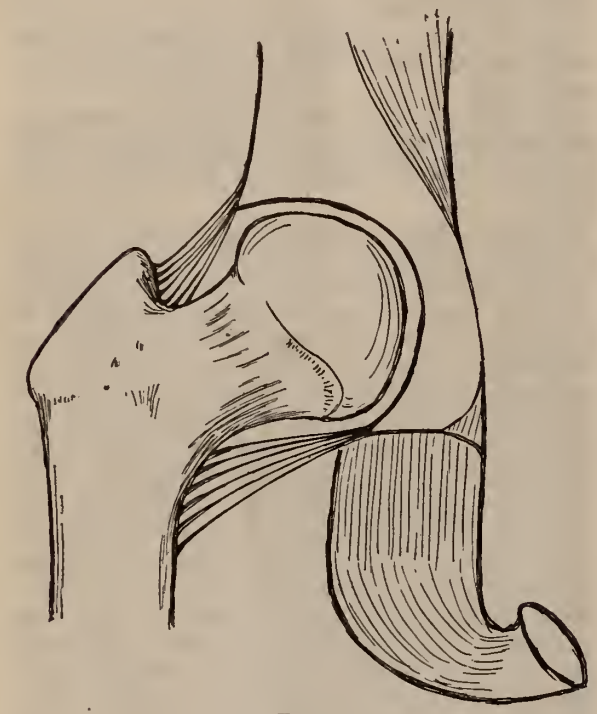

FIG. 1

The neck of the femur projects upward, inward and slightly forward from the shaft, the elevation to about one hundred and twenty-eight degrees, permitting the normal range of abduction, which, with the limb extended, is about forty-five degrees. That is, the femur may be abducted until the neck is slightly inclined downward.

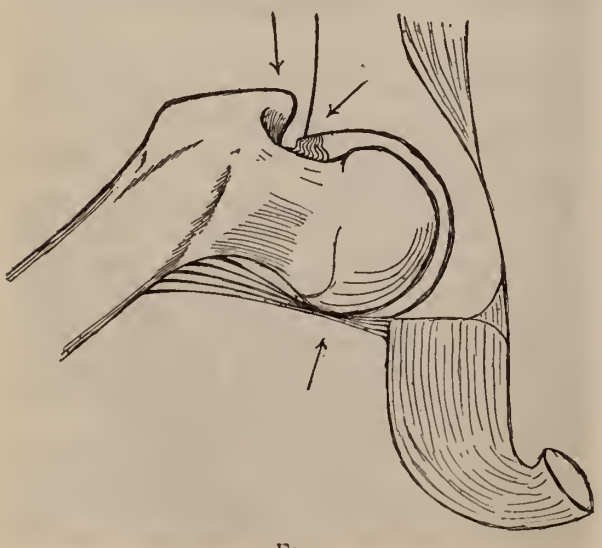

FIG. 2

At this limit of abduction, the outer and upper surface of the neck is in contact with the projecting rim of the acetabulum, the upper extremity of the trochanter, its base enclosing the acetabular margin lies in contact with the muscles covering the ilium and the anterior and inferior portion of the capsule is made tense, the three checks operating at the same time.

If, however, the angle of the neck is lessened, as in Coxa Vara, abduction is checked by contact of the neck and acetabulum before traction is made on the capsule, while the lateral displacement of the trochanter prevents it from coming into contact with the ilium. Furthermore, the range of voluntary motion is controlled by the muscles which check it before the bones are in actual contact or the ligaments are made tense. Thus the direct limitation of abduction due to deformity is always exaggerated by the adaptive changes in the muscles. Such limitation, if at all marked, is followed by a compensatory tilting of the pelvis upward on the affected side, inducing what is called practical shortening, which is of far greater importance, from the functional standpoint, than is the direct shortening due to the deformity.

Finally, the normal upward inclination of the neck protects it from strain, a strain that is very greatly increased by the depression, so that deformity, whether induced by fracture or by previous weakness, as in Coxa Vara, is often progressive. This has been proved by actual observation in young subjects, and there is every reason to believe that the deformity of impacted fracture is actually increased under the strain of weight bearing, which is permitted and encouraged before repair is complete.

These facts which may be so easily demonstrated, would perhaps have lead to a more critical consideration of the treatment, were it not that the ability to use the limb without support after an injury of this character, is considered sufficient proof of its efficiency.

The term impaction, as it is usually interpreted, implies a degree of violence sufficient to drive one fragment into the other, and "breaking up" an impaction suggests, doubtless, a corresponding violence of manipulation. This classical impaction is, I believe, but one, and a comparatively unusual variety, of incomplete fracture, a form that must be accompanied by the evidence of similar injury to the tissues covering the broken bone.

The incomplete fracture finds its most perfect example in early life. In one variety the neck is directly depressed, a form of green stick fracture. In another, the line of separation is at the epiphyseal junction, and the neck, held in contact with the head by the tissues on its posterior aspect, is turned forward.

Beside the three varieties mentioned, there is another and far more important class of cases in which the injury usually passes for impaction

because the deformity is slight, and because the ability to move the limb is retained. In this form the fracture is complete, but the fragments are held in contact by unruptured periosteum and by the capsule.

Partial, or complete, fractures in adult life are often caused by indirect violence as is indicated by the character of the accident and by the absence of local bruising of the tissues. Both in, and out of hospitals they often pass as contusions because, as has been suggested, the fact that the neck of the femur may be broken by slight violence at any age, is not yet established. In these cases, whether treated or not, the final result is in most instances a loss of the upward inclination of the neck of the femur with the functional disability that must follow the deformity.

This paper is concerned with the treatment of fracture of the neck of the femur in the adult.

I have so often and so recently (*N. Y. Medical Record,* January 2, 1909) described the fracture in early life that I shall not again consider it. I may say however, that I am convinced by my own experience that the line between youth and age, in so far as it relates to diagnosis, to causes and to effects, is in great degree imaginary and that a treatment that may be applied in the one class may be applied also, if not as easily, in the other, with a measure of the same success.

Assuming then, that in the ordinary form of incomplete fracture the fragments are not crushed or telescoped, an assumption justified by physical examination and by X-ray pictures, but that the essential deformity is an absolute or relative loss of the normal upward inclination of the neck, we may now consider a treatment designed to improve functional results by correction of deformity to the degree at least which the nature of the injury permits.

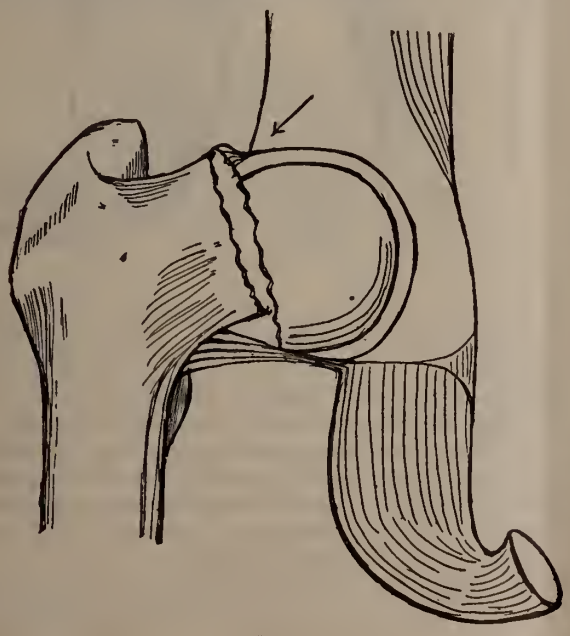

Fig. 3

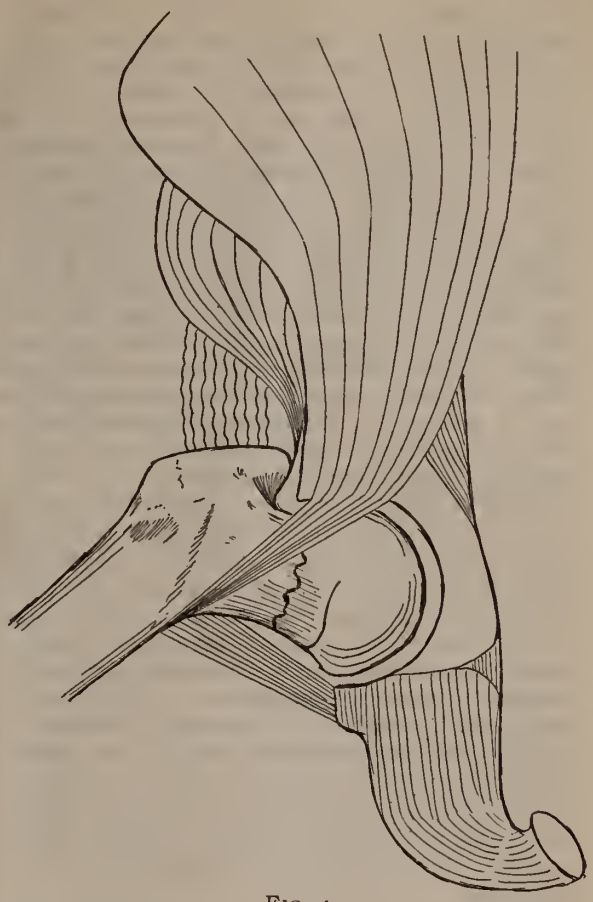

Fig. 4

The patient having been anæsthetized the upper part of the trunk is placed upon a box. The sacrum rests upon a secure pelvic support and each lower limb is held by an assistant in the extended position so that the body is symmetrical, the pelvis level and perfectly balanced. The operator stands on the injured side, his hands supporting the thigh. The assistant holding the sound limb in the extended position, abducts it to the normal limit, which is reached when the outer border of the neck comes into contact with the upper border of the acetabulum. If the limb is held firmly in this position, the pelvis is fixed, the anterior superior spines lying in the same plane. At this moment the assistant supporting the injured limb in slight flexion, rotates it inward to the normal attitude, then under steady traction slowly abducts it, the operator meanwhile supporting and guiding the thigh and pressing downward on the trochanter, which should regain the normal relation to Nélaton's line when the deformity, under the combined influence of pressure, leverage and traction, is corrected. When the limb has been abducted to the desired degree, preferably the normal limit, as indicated by comparison with its fellow, a firm well fitting plaster spica is applied from the upper part of the thorax to the toes.

The efficacy of this method of correcting deformity without the slightest violence is explained by the construction of the joint. Thus, as the range of abduction is checked by the direct contact of the neck of the femur and the acetabulum, one may fix the pelvis by abduction of the sound limb. On the injured side abduction is restricted by contact of the deformed neck and the acetabulum and as this contact fixes the neck, further abduction of the limb aided by fixation of the pelvis, assured by the abduction on the sound side, enables one to adjust the shaft to the inner fragment at a relatively normal angle. In this position consolidation takes place. At its completion the support is removed and the limb is brought to the median line and the deformity having been corrected the normal range of motion should be assured.

If the deformity is of the green stick variety, it is corrected by direct leverage, but if, as I believe, the majority of fractures of this type in adult life are practically complete, then the deformity is corrected by traction and pressure with but slight leverage. This gentle manipulation, in which the limb is moved only for the purpose of correcting deformity, or if this seems inadvisable merely to an improved position as regards ultimate function, and is then immediately fixed by an effective splint, can hardly correspond, I think, with the mental picture of the "breaking up of an impaction," that surgical bugbear which has thus far discouraged rational treatment.

I have mentioned another type characteristic of the epiphyseal fracture in adolescence in which the neck, firmly held against the head, is turned forward so that disengagement and reposition, at least at the later period when the opportunity for positive treatment is offered, necessitates an open operation. The same condition may be found in adult life, as proved by a case recently operated on. In this form, which would be indicated by extreme outward rotation of the limb, by a projection below and in front of the anterior superior spine, and confirmed possibly by an X-ray examination, disengagement and adjustment could be accomplished only by flexion, abduction and inward rotation followed by fixation in the attitude described. If this were not successful, the open operation would be indicated.

The treatment of complete fracture is conducted on the same principles, the first step being the immediate reduction of the deformity. The anæsthetized patient is placed in the attitude described with the pelvis fixed by abduction of the sound limb. The operator then flexes the injured thigh, pushes it gently backward and rotates it inward, the object being to disengage the fragments, from the capsule and the overlying psoas muscle, which may have fallen between them. The limb is then brought to the extended position and traction is exerted by the assistant until the shortening has been completely overcome, as proved by measurement or by the relation of the trochanter to Nélaton's line. It is then gently and slowly abducted until it corresponds exactly to the position of its fellow, the operator, meanwhile, supporting and lifting the thigh which has a tendency to fall below its normal level.

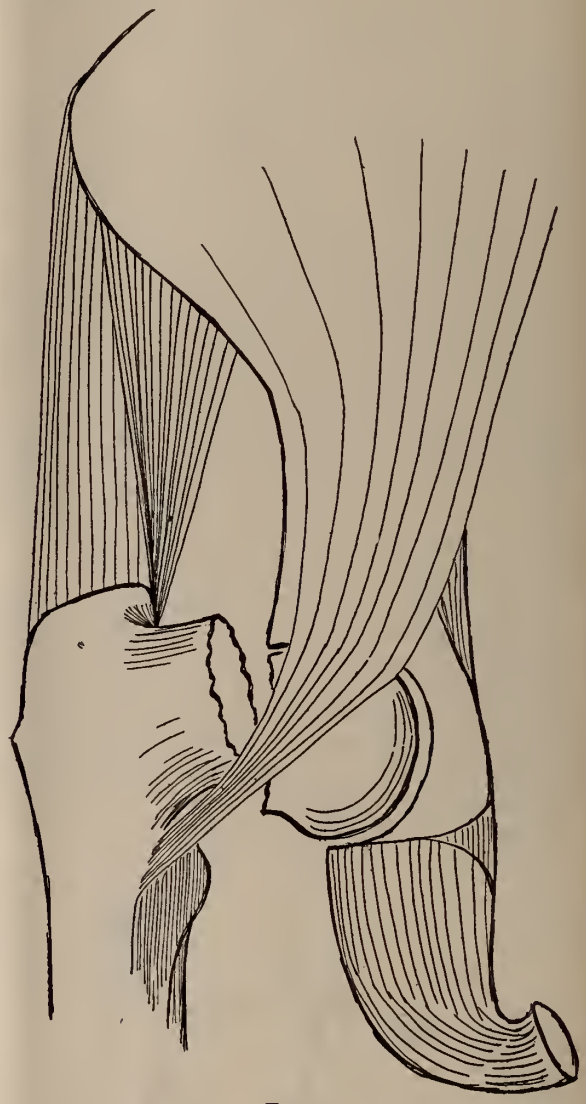

FIG. 5

In this attitude of full abduction it is firmly fixed by a spica plaster bandage, applied and supported with especial reference to holding the thigh in its exact relation to the body. The obvious advantages of this method are these:

1. The muscular spasm having been relaxed, the limb may be easily drawn down to its proper place. From this point abduction turns the surface of the outer fragment downward and into relation with the inner fragment.

2. Abduction draws upon and finally makes the capsule tense, and as it encloses each fragment, such tension should overcome lateral

displacement and direct the fractured surfaces toward one another.

3. In this attitude the anterior border of the capsule, reinforced as it is by the Y ligament, forms a resistant wall, against which the fragments may be aligned by pressure from beneath.

4. Abduction checks the deforming influence of the muscles, since it relaxes the pelvitrochanteric group, while the tension on or active contraction of the ilio-psoas and adductors would tend to appose, rather than to separate, the fragments.

5. Finally, in full abduction the trochanter is apposed to the side of the pelvis in a manner to check mechanically upward displacement.

It is evident that the limit of surgical aid is reached when the fractured surfaces are fixed in apposition. Although I believe that the plaster apparatus, properly applied, will assure such fixation, yet for additional security I have, in a number of cases, used the more direct support, furnished by a drill passing from one fragment to the other. An ordinary bone drill is used, about one-sixth of an inch in diameter, from four to five inches in length, according to the size of the patient. This, fixed in its handle, is pushed directly through the soft parts to the bone, the cortex is easily penetrated and there is no further resistance until the head is entered. The handle is then removed, the now slightly projecting base of the drill is driven further in, and the skin is drawn over it, a so-called subcutaneous operation. As the drill is inserted with the limb in abduction, its direction must be from a point about three inches below the apex of the trochanter, slightly forward, in a horizontal direction. The handle enables one to appreciate the resistance of the tissues through which it passes, and thus to guide the instrument, both as to direction and depth.

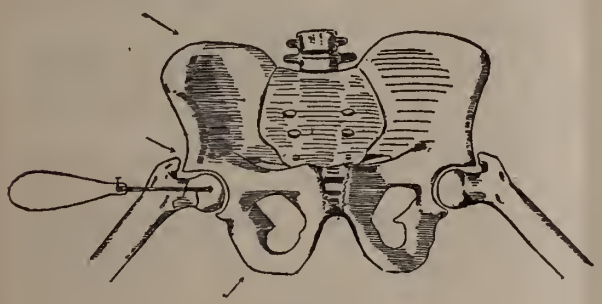

Fig. 6

This direct splint is merely an adjunct in treatment, an additional assurance of fixation, of service until the natural process of repair is sufficiently advanced to prevent displacement. During this process the bone softens and the drill becomes loose, as may be ascertained by pressure on its base projecting beneath the skin, and at a convenient time from three to six months later, it may be removed through a small incision.

If supports of this character can serve but a temporary purpose, it would seem that the form described, which can be so easily applied with so little disturbance of the tissues, should be preferred to nails driven without accurate reduction of deformity, or to spikes of silver or to splints of bone or aluminum, which necessitate an open wound, and usually preliminary boring of the bone to permit their insertion.

If the deformity has been corrected, the fragments fixed and the limb held securely in the best possible attitude by a plaster spica bandage, the immediate treatment of the fracture is completed, and the result is not, as far as the local condition is concerned, influenced by the character of the nursing on which other methods of treatment are dependent.

In the abduction method of treatment, the anatomical structure of the joint has been utilized to reduce deformity with the same definiteness as in the manipulative reduction of dislocation of the hip. But although it has been often described, its purpose and the manner of its application are constantly misapprehended by those who have not seen it demonstrated.

For example, the following is a quotation from the last edition of a standard work on fractures. "Whitman's proposal to abduct the limb under anæsthesia until the trochanter rests against the ilium, and then to force the abduction, using the trochanter as a fulcrum, so as to restore the normal angle between the neck and the shaft, does not commend itself to me."

It has been sufficiently emphasized that if the fracture is complete the limb must be drawn downward until the shortening has been overcome before abducting it. For if abduction is made before the shortening is reduced, the trochanter impinging on the ilium, would serve as a fulcrum to separate the fragments. Whereas, when properly applied, it will appose them, unless it is carried beyond the normal limit. This is, however, most unlikely, because of the resistance offered by the muscles and by the capsule. These facts have been confirmed by Taylor's experiments on the cadaver published in a former paper on this subject. (*American Journal Medical Sciences,* July, 1905.)

In the impacted fracture the neck is depressed, consequently abduction is limited by contact of its outer border with the acetabulum. It is the neck, not the trochanter, that furnishes the fulcrum by which one may adjust the shaft in its normal relation.

If the fragments were telescoped so that the neck were much shortened, the trochanter lying in contact with the rim of the acetabulum might serve as a fulcrum to withdraw the neck if it were driven into the shaft, or to withdraw the head if it were driven through the acetabulum. These are, however, unusual conditions, the ordinary type being one in which the deformity is corrected by traction and pressure, aided by slight leverage.

It has been suggested also, that as traction in the line of the body may tilt the pelvis downward, the relation between it and the limb thereby becoming one of some degree of abduction, one may employ, though unwittingly, the abduction method whenever Buck's extension is applied.

The essential distinction between full abduction of the limb, on the level pelvis, in which the movement takes place in the joint and at the seat of fracture, and the indifferent abduction incidental to tilting of the pelvis and lateral distortion of the spine, which does not even indicate that the shortening has been reduced, should, however, be clear to any one who has read the description of the method. The plaster spica is a convenient, efficient and comfortable support, although not an essential part of the treatment, since full abduction may be maintained by splints or by traction and countertraction, if intelligent supervision is assured.

Repair after fracture of the neck of the femur, especially if the fragments have been separated, must be slow, and recovery can hardly be anticipated within a year. During this period a modified hip-splint that permits motion without weight bearing, is a very valuable adjunct in treatment.

Functional recovery implies a range of motion sufficient for ordinary use. This requires first, reduction of deformity, and second, the removal of restrictions due to fixation and disuse of the limb by a series of active and passive exercises.

In this connection another advantage of this treatment appears, for as the limb has been fixed in extension and abduction, it may be easily replaced in this position after the apparatus has been removed. If, on the other hand, the limb has been held in the line of the body for the same period, the range of abduction is always restricted, and this favors the characteristic attitude of flexion and abduction.

The conclusion seems justified that whatever the treatment employed, whether traction and splinting, or traction and suspension, or support without traction, whether the fragments are spiked or not, its efficiency will be increased in proportion to the degree of normal abduction of the limb. For abduction here corresponds to the attitudes of selection after injuries elsewhere, which assure the greatest usefulness of the joint if function is to be permanently impaired, a point which has not thus far attracted attention.

It is not claimed that deformity may be always perfectly reduced, or, that repair will always follow if the fragments are apposed. The method is simply a practical means of applying surgical principles in the treatment of a fracture to which surgical principles have not been heretofore applied.

The abduction treatment is not automatic. It must be used with discretion and its proper application may require more skill and experience than the ordinary methods of routine. It simply enables one, as it were, to lay the foundation of success, which, as experience has now demonstrated, is no longer beyond the scope of surgical endeavor.

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## VOLKMANN'S ISCHAEMIC PARALYSIS AND CONTRACTURE.*

By REGINALD H. SAYRE, M.D.

AS far back as 1875, Richard Volkmann called attention to the bad effects of dressings applied too tight after fractures; and again, in 1881, he gave his further conclusions regarding these cases.

Comparatively few cases have found their way into literature partly from the dislike of reporting results that have been caused by improper treatment, and partly because efforts to relieve the condition have not been very brilliant in the majority of instances.

Powers, in 1905, reported fifty-two cases, but this list should be increased to fifty-three, as Henle had two cases of resection of the bones of the forearm, while Powers mentions but one. In 1908, Taylor added seven cases, including the one here reported, thus bringing the number up to sixty.

Volkmann reported a case occurring in the lower extremity, a bandage having been applied very tight around the knee on account of a hydrops and allowed to remain in position for three days. On removal of the bandage slight pressure sores were seen, the calf was contracted and painful, and the foot in an equinus position. The foot-drop continued, the contraction of the calf muscles increasing. On account of this contraction it was necessary to approximate the origin and insertion of the calf muscles by flexing the knee in order to make it possible to bring the foot to a right angle with the leg. The patient recovered after many months.

In the majority of cases, however, the forearm is affected and the deformity is a claw hand very similar in appearance to the main-en-griffe resulting from nerve involvement.

Volkmann drew attention to the fact that the cause of the disability in the cases under consideration is primarily a myositis, and that the deformity comes on much more rapidly than when the nerve has been injured. In some cases it is true that we find the nerve compressed by the scar tissue of the injured muscle, but this is a secondary result.

Lesser, in 1884, published the results of experimental ischæmic paralysis produced in animals by occluding the arteries by tight bandages, in which he showed that if pressure is continued for six hours or more the muscle substance rapidly degenerates, a condition of rigor mortis sets in, and we may have gangrene and the production of cutaneous blebs. If the pressure is re-

* Read before the Medical Society of the State of New York at Albany, N. Y., January 27, 1909.

lieved there is marked congestion of the muscles, effusion takes place from the vessels into the muscle substance, and a myositis is set up which later on transforms the muscle wholly or in part into a fibrous cord.

In Lesser's animals, if the constriction was suddenly removed, the effusion into the muscle was great; if the constriction was gradually lessened the effusion was much less.

If the splints were removed from the animals altogether the muscles gradually resumed their normal condition. If, however, they were reapplied, even quite loosely, there was more or less permanent disorganization of the muscles.

According to Lesser, the nerves did not suffer from the constriction of the limb by tight splints, the muscles alone being affected. Von Frey produced ischæmia of the sciatic and later on faradized the nerve and produced contraction of all the muscles supplied by it.

Lapinski, on the other hand, after cutting off all the arterial supply with the resultant acute ischæmia found that a trophic disturbance of the nerve substance occurred, with complete atrophy of the muscles, and abolition of the reflexes and disappearance of sensibility.

Clinically we often have the trophic changes in the skin and nails due to nerve destruction associated with the contracture described by Volkmann, and those who have operated on these cases have frequently found the nerves much atrophied. This, however, has in almost all cases been apparently due to constriction of the nerves by fibrous cords of disintegrated muscle substance and in a few instances by bony callus.

The typical cases are almost all the result of fractures in the upper extremity, the great proportion being the bones of the forearm, and almost all in children.

It is true that at the time of the injury there may be such damage to the blood-vessels that subsequent contracture of the muscles may result, but all the cases so far recorded were treated by splints which became so tight in a few hours as to cause swelling of the extremity and the damage was due to this cause. In one case the bones of the forearm were reunited by a callus which was extensive enough to press on the muscles and nerves, but in the majority of cases the pressure has been due simply to the dressings. It is possible to produce a decided interference with the circulation in the forearm simply by flexing the elbow, and this fact should be remembered in treating these cases. In fractures of the lower end of the humerus, if the fragments are not properly reduced, pressure of the bone against the vessels may cause ischæmia.

The application of the Esmarch bandage has been responsible for the occurrence of some of these cases. Usually it has been applied while operating, but in one case reported by Bernays, all four extremities were rendered bloodless for six or eight hours in the effort to save a patient exsanguinated by a postpartum hemorrhage, the result being that ischæmic contractures occurred in all four extremities with a fatal result.

The clinical features of Volkmann's paralysis are as follows: Shortly after the application of the dressings the hand swells, becomes dark, even purplish, and spots may be seen on the skin if the bandage is tight enough and left on a sufficient time. The pain is often most acute, and this, according to Owen, is one reason why so few cases are seen in adults, as they cause the dressings to be removed in a short time, while children are compelled to suffer. After a time the pain may disappear to be succeeded by a feeling of numbness as if the hand were "asleep." The bandages are usually then renewed or reapplied somewhat looser, and shortly a contraction of the long flexor muscles of the fingers takes place, the hand eventually assuming a claw-like appearance, the wrist being slightly flexed, the proximal phalanges hyperextended on the metacarpal bones and the distal phalanges flexed, this flexion at times being so marked as to drive the nails into the palms.

The lumbricals and interossei are not implicated in the trouble, and so when the wrist is sharply flexed, it is possible to extend the fingers to a greater or less extent, but as soon as the wrist is again extended the fingers close automatically in spite of all efforts to keep them extended.

The prognosis is very grave and depends largely on the amount of injury which has been done. If the entire body of the muscles has been destroyed, recovery is impossible, and even with damage of a slighter extent recovery is usually imperfect. It is only in the very mild cases that the full function is restored, and Volkmann even went so far as to say he had never seen this take place.

The treatment first and foremost is prophylactic. Recognizing the fact that swelling is apt to follow a fracture, splints should be applied sufficiently loose to allow it to take place, and the patient seen at intervals of not longer than four hours during the first day. If it is impossible for the patient to be so examined, if a plaster-of-Paris splint has been applied, it should be cut through to the skin from end to end, and the patient's family instructed to gap it sufficiently to relieve the trouble if there should be swelling or pain.

If the patient returns with pain and swelling the splint should be removed. If plaster-of-Paris is used the front of the splint should be taken off and only a trough like a sling left to support the arm, as Lesser's experiments clearly showed that in animals, after the removal of dressings, the muscles speedily became normal if unconfined, while if the dressings were applied even loosely, the contractures supervened.

If the case does not come under observation until the contracture has set in, several methods of procedure present themselves: manipulations,

massage, faradism and galvanism, and forcible extension under anæsthetics have been tried and have been found almost useless, except in very mild cases.

The trouble being a permanent shortening of the flexors, lengthening of these tendons has been advocated. On account of danger of adhesions forming in the annular ligament, the operation must be well up on the forearm and may consist of splitting the tendons close to the remains of the muscle belly and sliding them on each other, or by means of a Z-shaped cut elongating them. There is much danger that adhesions will form between the tendons, making independent use of the fingers impossible, and the tendons sometimes become adherent to the skin wound and still further complicate the matter.

These considerations led Henle in 1890 to shorten the bones of the forearm and so approximate the origin and insertion of the affected muscle, instead of trying to lengthen the latter. His results were more satisfactory than the majority of the operations on the tendons themselves, and his teaching has been followed by a number of operators, both in England and in this country.

At the meeting of the American Orthopædic Association in 1907, Mr. Robert Jones, of Liverpool, detailed the method which he had used in several cases, and which, as far as I know, had not at that time been published. Making use of the fact that by flexing the wrist the flexor tendons were relaxed enough to make it possible to draw the fingers slightly away from the palm, a bent metal splint was applied to the palmar surface of each finger while the wrist was thus flexed. In a few days it was possible to draw the finger still straighter while the wrist was flexed, and the metal splints were straightened accordingly. This method was pursued until the fingers were in full extension, while the wrist was sharply flexed. The splint was now carried up on the forearm and the wrist was extended more and more every few days, the finger still being kept in extension. By degrees the hand was brought into extension with the arm and then hyper-extended, the fingers meanwhile being kept from flexion. Later on massage and electricity were used to still further aid in restoring function. The results reported by Mr. Jones were so excellent that when, in September, 1907, a girl of eleven presented herself at my clinic with a typical Volkmann's Ischæmic contracture and paralysis, I determined to put this method to the test.

The history was that two years before there had been a fracture of both bones of the forearm, which was put up in wooden antero-posterior splints. The hand soon swelled and was painful, but the splints were not removed for four days, when pressure sores were found. The splints were reapplied looser, and the fingers in a short time began to contract, and in about seven weeks had been drawn close against the palm. They also became cold, blue and glassy, and had continued so until coming under observation. At the time I first saw her the deformity was the typical main-en-griffe (see Fig. 1) and the fingers could not be separated from the palm without flexing the wrist. The proximal phalanges were hyper-extended, the knuckles being recessed, while the heads of the metacarpal bones were unduly prominent. A scar was visible on the flexor aspect of the forearm. The flexor muscles consisted of a small ball of elastic tissue near the elbow, and a long, fibrous band which occupied the rest of the forearm.

FIG. 1.—Volkmann's ischæmic paralysis and contracture when first seen.

Not recollecting exactly Mr. Jones' instructions about splinting each finger by itself, I flexed the wrist and extended the fingers as well as I could and put up the hand and arm in plaster-of-Paris.

At the end of a week I removed the dressing and found I could still further extend the fingers (Fig. 2), which I did, retaining them in the improved position by another plaster-of-Paris dressing. This process was continued at weekly intervals until the fingers were straight. The hand was then put in a wooden palmar and forearm splint, the two parts of which were joined by a strap of malleable iron, so that the extension of the wrist could be made from time to time (Fig. 3). By means of this splint, treatment was continued until hyper-extension of the wrist could be obtained (Fig. 4).

Fig. 2.—Shows possibility of extending fingers when wrist is strongly flexed.

Fig. 3.—Hand and forearm secured to palmar splint with flexible rod at wrist to permit gradual change of position.

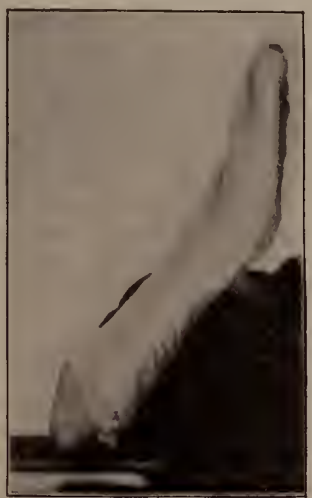

Fig. 4.—Hand fastened to palmar splint with wrist hyperextended.

At this time massage of the hand and forearm were begun and farradism applied. The child was encouraged to use her fingers, the splint being removed daily for this purpose. It was very difficult at first for her to bend the fingers and very decided force was necessary in giving passive motion, but she can now extend and close them quite well and touch the tips of each finger with the thumb (Figs. 5 and 6). In this case the thenar and the hypothenar muscles were somewhat involved, which is quite uncommon and flexion of the metacarpophalangeal joint of the thumb has been very difficult.

Fig. 5.—Extension of wrist with extension of fingers. Contrast improvement with Fig. 1.

Fig. 6.—Extension of wrist, flexion of metacarpal phalangeal joint, approaching normal. Can touch tip of each finger with tip of thumb. Contrast with Fig. 1.

The solid wood-like mass of tissue still persists in the forearm, though it is less extensive than formerly, and the muscles are constantly increasing in size.

It is to be remembered in these cases, as in cases of paralytic club-foot, that the rate of bone growth is often in excess of the rate of growth of the damaged muscles—and just as we sometimes see cases of talipes equinus recurring after tenotomy of the tendo Achillis in consequence of this fact, so we may have recurrence of the Volkmann contracture in growing children if gymnastic exercises are not carried out during the period of growth.

The accompanying pictures do not show the deformity as well as they should, as they were not taken until after treatment had been begun, and it was then impossible to put the hand exactly in its original position. They, however, show quite well the nature of the deformity and the method of applying the wooden splint, although photographing the earlier plaster splint was overlooked. The improvement has been progressive, and now that splints have been removed from the hand, massage and gymnastic exercises and electricity will be continued for many months, as by this means only can the best results be secured.

Full use of the hand is now prevented more by the stiffness of the knuckles than by anything else, and these joints are becoming daily more flexible under massage.

This is my only experience with the method of Mr. Jones and I was somewhat skeptical about it when I began, but my experience of the very surprising results to be obtained by putting constant traction on resisting club-feet, made me willing to try what could be done in this case. The result, so far, has been as good as that which might have been secured by open incision, and I believe somewhat better.

In cases where the nerves are involved in scar tissue, great gain is often had by relieving by dissection, but there are cases in which more good can be done by the removal of exudates by patient massage than by any other method.

Between bone resection and tendon elongation the choice lies in favor of the former as being easier and shorter, and apt to give a better result, although at the expense of shortening the length of the forearm. The Jones method avoids the latter deformity and should be given a trial first of all, as if it fails to give a satisfactory result the cutting operations may be still used to supplement it.

In contrasting the various methods, it seems to me that each has its own special field of usefulness, and, in some cases, that a combination of methods may be best.

A bibliography is added for the benefit of those interested in the subject.

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## RELATIVE AORTIC INCOMPETENCY OF MUSCULAR ORIGIN.*

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As far as my experience goes, it would seem probable that relative aortic incompetency of muscular origin is not so infrequent as one is lead to suppose from an examination of the literature. The important subject of the relation of cardiac dilatation to that of relative incompetency with its accompanying murmurs, however, is one that is still imperfectly understood. Dombrowski[1] invites attention to the fact, first pointed out by Wolf, that the surface of the mitral leaflets actually exceeds the orifice, and Kirschner and Garcin contend that the anterior flap alone suffices to close the mitral orifice, "even when the heart is considerably dilated."

There are two main categories of cases, which manifest relative aortic incompetency: First, an interesting and generally well-recognized group due to excessive fusiform dilatation of the aorta at its root. A similar condition obtains where an aneurysm of the aorta is situated just above the aortic cusps. Calvert[2] reported a case of acute dilatation of the aorta with double aortic and mitral systolic murmurs. In these instances, the diastolic murmur is occasioned by an eccentric stretching of the aortic ring. While most writers affirm the existence of relative aortic insufficiency of this description without lesions of the aortic valves, a few question its occurrence, *e. g.*, Guttman,[3] Tosenheim,[4] and others. The condition is by no means uncommon, but in the present discussion will be included only those cases belonging to the second group in which neither the segments are the seat of sclerosis, nor the walls of the aorta appreciably dilated; or in other words, only cases which are of muscular or neuro-muscular origin will be described.

I believe there is ample support for the opinion that imperfect coaptation of the valves, due to defective nutrition, to decided anemia or disturbed innervation even, may cause a diastolic murmur which may or may not prove to be permanent (relative). Again an asthenic condition of the heart muscle, more particularly McCallum's[5] fourth division or that encircling the left auriculo-ventricular region and the aorta may produce relative aortic incompetency. Preble[6] states that relative aortic insufficiency is due to dilatation of the heart wall, and also that the diastolic murmur is occasionally produced by inflammation of the aorta. Aortitis, a subject which cannot receive further consideration here, occurs more frequently in older subjects and as the disease progresses, the murmur is apt to disappear. Here should be pointed out that a diastolic murmur due to overstretching of the aortic ring, from the presence of an aneurysm situated just above the orifice, may also absent itself at varying intervals of time.

I have observed that disappearance of the murmur may coincide with periods of absolute rest, while *per contra,* increased activity of the circulation, the result of mental excitement and physical exertion tends to reproduce the murmur for the reason, presumably, that the distending force within the sac is thereby increased. In the same category belong the cases due to high pressure in the aorta opposed to slightly diseased segments. These two last named varieties of aortic incompetency can be readily separated clinically from the myocardial form which is under discussion, by a consideration of the associated conditions, and their etiologic significance In a paper on "Relative Insufficiency of Pulmonary Valves," Preble[7] has called attention to the anatomic and functional similarity of the aortic and pulmonary valves. Preble found six cases of the latter condition supported by autopsy, to which he added the report of a seventh from Herrick's ward in the Cook County Hospital.

Bramwell[8] claims that relative aortic incompetence is never muscular. Edwards[9], however, has reported a case in which chronic fibrous myocarditis was present without valvular changes (See Table below). The condition is also referable to still other degenerative lesions of the myocardium of the left ventricle. This view, which is extensively supported by clinical and post-mortem observations, as will be shown hereafter, is also corroborated by convincing experimental evidence. Thayer and McCallum[10] produced artificially, a loud diastolic murmur in the dog in eight instances; "this murmur sometimes replaced the second sound; sometimes the two sounds were heard in association." The character, seat of maximum intensity and area of transmission of these experimentally induced murmurs, were similar to what is observed in aortic incompetency in man.

Say Thayer and McCallum further, "The most interesting points brought out by these cases of

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aortic insufficiency would seem to be the intensity of the diastolic murmur at the ring and its feebleness over the aorta above, and over the right and left ventricles below, a condition in every way analogous to that observed in the human heart, and wholly in accordance with the well-known fact that the murmurs of aortic insufficiency are often very difficult to hear. Especially interesting was the production of a functional aortic insufficiency from dilatation, an observation supporting entirely the conception of those observers who have insisted upon the important part which the muscle of the left ventricle plays in the closure of the aortic ring."

Cases of relative aortic incompetency, due to the toxic action of bacterial poisons on the cardiac muscles in the course of certain acute infectious diseases, *e. g.*, rheumatism, influenza, diphtheria, pneumonia, may also occur, though rarely. It is of more than passing practical importance to note the cause of the dilatation when it arises under these circumstances for therapeutic and hygienic reasons. Lees,[11] Robinson[12] and others, have enlarged upon this thought in the past, and the latter further invites attention to acute cardiac dilatation of nervous origin, giving rise to temporary systolic and diastolic murmurs.

While in this form of aortic incompetency the murmur may disappear as the result of marked improvement in the size and action of the heart in consequence of appropriate treatment, it is to be recollected that the diastolic murmur may also disappear when acute failure of the left ventricle supervenes in the course of the usual type in which degenerative changes in the segments occur. Obviously, the theme of our inquiry does not embrace the latter class. The pulse, it should be noted, is less collapsable in the variety of relative aortic incompetency under discussion, and hypertrophy of the left ventricle is also less pronounced in some cases at least than in true aortic regurgitation, due to chronic valvulitis. Dilatation of the left ventricle, however, may be of marked extent. The murmur of relative insufficiency is of unusual intensity and of musical quality (Grœfel, Von Leube and others).

Muscular incompetency may also arise secondary to primary chronic valvulitis, affecting the mitral segments during the stage of noncompensation. When extreme dilatation follows on mitral valve disease, there are two principal types of myocardial changes present, to wit: general fibroid and fatty degeneration.

Charles Lyman Greene[13] has directed attention to the importance of a modified second carotid tone as a concomitant of aortic regurgitation, and records cases in which the diastolic murmur was present temporarily, the second carotid being either inaudible or scarcely heard. On the other hand, the brief, often loud murmurs of relative insufficiency to which especial attention is directed in this paper, may be attended with a fair degree of carotid tone (as in case two of my series—*vide infra*) in cases in which the valves are healthy, but slightly incompetent, owing to an overstretched aortic ring.

I shall here quote from illustrative cases, and subsequently consider further the principal questions involved.

Case I. W. J. H., age 27, a physician; height, 5 ft. 2 in.; weight, 118 lbs.

*Family History*—Both parents living, mother has been dyspeptic for ten years; father subject to epilepsy from the age of 23 to 33 years, then attacks disappeared (without operation); maternal grandmother has carcinoma of face.

*Previous History*—Patient had the usual childish diseases; at ten years of age, had typhoid fever and at 21 years eczema, while two years since suffered from an acute indigestion for a few days.

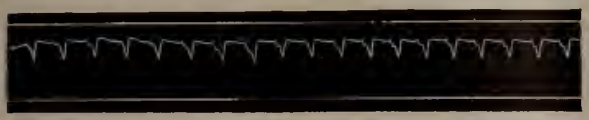
*Social History*—Single, has given careful attention to diet, uses neither tobacco nor alcoholic intoxicants of any sort; on account of a large obstetric practice, the patient has been subjected to physical overstrain.

*Present Illness*—This began about one month before he consulted me with gastric symptoms, discomfort, more particularly after food, distention of stomach, by gas and troublesome palpitation with general nervousness at night. The patient is decidedly neurasthenic.

The physical signs reveal typical aortic regurgitation at an early stage, there being but little hypertrophy present, although evidence of a considerable degree of dilatation exists. There is marked arrhythmia as shown by abnormalities of both rhythm and volume of the radial pulse, which is full, although less collapsable than in typical aortic incompetency. The murmur is best heard at the inner end of the second right intercostal space, is rather loud, and is transmitted in the usual direction. The capillary pulse and throbbing vessels so characteristic of this lesion, are both present. The blood pressure is 132 systolic and 120 diastolic, as a rule.

Examination of the urine and blood gave negative results. The treatment embraced careful regulation of the diet (the carbohydrates and saccharine substances being minimized), an increased number of hours for rest and the use of small doses of digitalis, spartein sulphate, arsenic and strychnin in combination. As the result of this method of treatment, a slow and gradual improvement in the general condition supervened; the murmur became less pronounced in the course of six months, and reached the vanishing point at the end of one year. The absence of the diastolic murmur in this instance was at first temporary, but since taking two courses of the Schott treatment, one at Glen Springs, New York, and the other more recently, at Bad Nauheim, in connection with the measures previously adopted, it has not been audible during the past year and a half. The heart, as shown by a physical examination, is of about normal

outline or size, and the usual secondary accompaniments of aortic regurgitation have also disappeared. The subjoined pulse tracing, which corresponds with the normal, taken November 10, 1908, shows definitely, that all arterial evidence of the disease has been removed.



Case II. Dr. H. L., age 44; weight, 135; height, 5 ft. 7 in.

Father deceased of pernicious anemia at 65, mother of arteriosclerosis and nephritis at the age of 70. Among paternal uncles and aunts, rheumatism, apoplexy and nervous complaints prevailed. The patient had the usual diseases of childhood, including scarlatina; also repeated convulsions during the first four years of life. At the age of 17, and again at 18, had inflammatory rheumatism followed by a mitral lesion.

The social history furnishes the following points: Married, no children, physician by occupation for many years, during which time his habits as to eating and sleeping were most irregular; does not use alcohol, but tea and coffee to a moderate extent.

During the second attack of acute articular rheumatism, a mitral regurgitant lesion was discovered and the compensation remained uniformly good until six years ago, when it was lost as the result of repeated attacks of la grippe. Mental worry and exposure to inclement weather were probably contributory causes.

On admission March 10, 1908, the patient exhibited marked dyspnœa with a sense of suffocation in paroxysms, and marked edema of the legs and thighs. The physical signs were those of combined mitral and tricuspid incompetency, the latter being attributed to relative insufficiency. Additionally, both in the carotid area and from the inner end of the second right interspace, downward, along the left edge of the sternum, and outward to a point beyond the left mid-clevicular line, could be distinctly heard a diastolic murmur, moderately harsh and blowing in quality. On making an X-ray examination, the cardiac shadow was found to extend practically from one side of the chest to the other.

The blood pressure was 125 systolic and 100 diastolic. The urine analysis showed a heavy ring of albumin, a faint reaction for indican, and an excessively large number of broad hyaline and finely granular casts.

During the next four months, the patient's condition fluctuated considerably with, however, a downward tendency toward the grave, and on June 5, 1908, gangrene affecting the lower extremities supervened and carried off the patient in the course of three days. It should be stated that the diastolic murmur disappeared about two weeks prior to the fatal termination.

The post-mortem findings embraced the following points: The heart, when removed, weighed 790 grams. The ventricles more particularly the left, showed hypertrophy associated with a moderate degree of dilatation. Both the right and left auricles were much dilated, the left enormously so with exceedingly thin walls. With the exception of a few atheromatous patches, the aorta and pulmonary artery were normal. Macroscopically, the aortic segments were normal, and the aortic ring was of about normal or slightly increased dimensions. On the other hand, mitral leaflets were very much thickened and sclerosed, containing several calcareous deposits; these valves were markedly incompetent. Neither the tricuspid nor pulmonary artery valves showed any organic changes. The pericardium was somewhat roughened and the sac contained considerable serous fluid.

Dr. Edward M. L'Engle made a microscopic study of the aorta, the semilunar segments and myocardium near to the valve, and reported negative findings, excepting that the muscular structure showed a slight degree of brown atrophy and increased connective tissue.

Case III. D. B., age 58, white, native of Russia. Father died at the age of 75, but cause not known; mother died suddenly at the age of 90. Had been suffering from shortness of breath all her life. Four sisters living and well, no brothers. All members of his paternal family died comparatively young, although as far as he knows, they did not suffer from any hereditary diseases. On his maternal side, they all lived to an old age. Occupation until eight years ago, was that of a presser, since then he has not done anything. Married, and a father of two children; youngest being eight years old. Uses tea and coffee, freely diluted and sparingly; alcohol moderately; smokes four to six cigarettes daily, and does not pay any attention to diet or exercise; no venereal disease.

*Previous History*—Thinks that he has had childhood's diseases. Suffered from scrofula, and eczema until his twentieth year, and from intestinal worms until his 30th year. When he first arrived here (thirty years ago) he developed eczema on his legs; this persisted for only three months, and has never had a rash since; several attacks of la grippe. Since childhood developed sudden attacks of syncope which lasted but a moment; these come on very frequently now—four or five times daily—and last much longer.

*Present Illness*—Eight or nine years ago, while walking on the street, he collapsed, was taken home and a physician called, who told him that he had heart disease. First came to the dispensary of the M. C. H. seven years ago when his disease was diagnosticated as mitral regurgitation. The patient has been under the care of Dr.

Loewenberg since 1903, suffering from mitral insufficiency. In the autumn of 1905 he met with an accident (in a collision of cars); he was taken home in a semi-conscious condition. On the day after the accident, Dr. Loewenberg discovered a distant murmur at the second aortic cartilage, diastolic in time and transmitted downwards. That murmur persisted for nearly four weeks and then disappeared. In February, 1907, he had an attack of constipation (paresis of bowel), following which attack, he again presented the aortic regurgitant murmur with symptoms of failure of compensation. This time the murmur returned without any apparent cause, and persisted for six weeks. At this time there were several other murmurs, a mitral stenotic? and surely a mitral regurgitant, and also a hemic. Since then the patient has been constantly kept on cardiac stimulants, and when they have been withdrawn for three or four weeks, the aortic murmur has returned with signs of failure of compensation. The mitral regurgitant murmur was always present with the aortic diastolic murmur.

Blood pressure, systolic 142; diastolic could not be gotten. Urine negative as to albumin (except during periods of lost compensation), casts and glucose; few epithelial cells, a moderate amount of uric acid crystals.

It is interesting to note that the diastolic murmur in Cases II and III, was due to mitral disease, followed by failure of the left ventricle. This bruit, however, disappeared in Case II with the development of extreme asystole, while in Case III such disappearance coincided with a diminution in the cardiac dilatation, and in creased vigor of the myocardium as the result of treatment.

The accompanying table includes a tabular statement of eight cases gleaned from the general literature. These added to those herewith reported, make a total of eleven cases.*

*General Remarks*—Case I of my series was most probably an instance of relative incompetency of muscular and nervous origin without organic changes of any of the valve segments. In Cases II and III, the temporary aortic insufficiency was secondary to mitral incompetency, due to chronic valvulitis. It is when the systolic mitral becomes soft and whiffing with rapid feeble heart and increased dyspnœa, that the left ventricle is laboring and a diastolic aortic murmur becomes audible. Later still, in the course of mitral disease, the diastolic aortic may, as stated above, disappear, in consequence of oncoming asystole. It can also be easily demonstrated, that with improvement in the myocardial strength as the result of treatment whereby the dilatation is overcome, the aortic regurgitant murmur may disappear.

While these are instances in which relative aortic insufficiency supervenes in the course of chronic endocarditis affecting the mitral valves, it is well known that where these two murmurs are combined, the mitral systolic is in the majority of instances secondary to primary sclerotic endocarditis affecting the aortic segments. The possibility, however, in cases in which this association of murmurs is met with of primary mitral disease, followed by relative aortic incompetency, should be, in view of the above cases, recollected.

Of the eight cases included in the above table, four showed organic changes in the mitral cusps at necropsy, while the aortic valves were apparently normal (and this was also true of Case II of my series), and the explanation of these cases of relative aortic incompetency, may be reasonably thought to be dependent upon marked left ventricle dilatation after failure of compensation in the course of mitral incompetency with its classical murmur. These examples of relative aortic insufficiency confirm the independent observations in Cases II and III of my series. Now, while searching the literature, twenty-one cases were encountered in which the necropsy showed both left ventricle dilatation and morbid changes, with more or less dilatation of the root of the aorta. It is not improbable that here the condition of the left ventricle also shares in the production of the relative aortic incompetency, but I have excluded all examples of the sort from the above tabular list of recorded cases.

Not only eccentric stretching of the aortic ring may result from dilatation of the left ventricle, but also a similar stretching of the root of the aorta, more particularly if it has been previously diseased—an ascending process. In other cases, the distending force is most probably exerted, both within the aorta and the left ventricle simultaneously. At all events, it is not improbable, that in cases in which dilatation of both the left ventricle and the root of the aorta is met with post mortem, the ventricular condition may have shared in the causation of the enlargement of the aortic orifice.

It is quite true, that in cases in which no post-mortem evidence is obtainable, other causes than myocardial weakness and dilatation may have been operative. On the other hand, the instances that came to necropsy, place the possibility of a purely myocarditic origin of aortic incompetency beyond all doubt. Dilatation of the left ventricle should be taken into account in any effort to decide the cause of aortic diastolic murmurs, when such dilatation is associated with other causative lesions. It may be stated here parenthetically, that the converse is found in stenosis of this orifice due to "narrowing of the left ventricle immediately below the level of the valve, which is little, if at all, affected."

While the murmurs due to relative incompetency may, as already pointed out, disappear either when the left ventricle becomes extremely weak or in cases in which the dilatation bearing a causative relation to the murmur, has been

* For table see end of article.

overcome as the result of appropriate treatment, it is important to separate these as I have attempted to do above, from the organic murmurs, since the latter may likewise absent themselves either temporarily or permanently. Boyd refers to a case of the sort in which an aortic diastolic murmur was missing for two years after its detection in consequence of an attack of acute rheumatism. Greene[14] reports cases met with in their incipiency with disappearance of the murmur. Saundby[15] and Musser[16] have reported instances of mutability and disappearance or organic murmurs originating at the aortic orifice. Indeed, as Strumpell observes, the murmur may be absent throughout the long course of the disease. Poynton asserts that in some cases, in which mitral and aortic lesions are combined, the latter may be slight and even disappear. He also calls attention to post-mortem investigations, in which the aortic valves have been found to be slightly damaged, and yet during life there has been no suspicion of aortic disease.

In the presence of the incipient lesions of aortic regurgitation, then, the murmur may display vagaries somewhat similar to those of functional origin, becoming continuous at a later date in a certain proportion of cases, at least, especially when progressive degenerative changes in the aorta and valve segments are associated. One point, however, may be here emphasized, namely, that the aortic diastolic of organic origin is probably the most constant among the classical murmurs. At all events, if we except intercurrent acute infections which may cause its temporary disappearance, just as in the case of other organic murmurs, the preceding statement is doubtless correct.

Cases are also reported by Litten, Duroziez, Gerhardt, Von Leube and others, in which accidental diastolic murmurs were heard over the upper and mid-sternal regions, which murmurs were ascribed either to "sehenflechem" on the pericardium or originating in the veins, *e. g.*, subclavian, inferior vena cava. Some of the latter grow in intensity as we pass downward toward the lower sternal region, while others become more and more pronounced as the bell of the stethoscope is moved upward to the cervical vessels.

The bruit diable may give rise to confusion, but if it be recollected that venous sounds have a different quality, become louder during inspiration, are not strictly synchronous with the second tone, and that the latter can be clearly heard to accompany the former adventitious sound, error can be avoided.

In conclusion, based upon my own studies and the observations of others, the cases of muscular relative incompetency at the aortic orifice may be placed into three well-defined divisions: (a) Cases of muscular and nervous origin, that supervene in the course of fibrous myocarditis and other less serious conditions of the myocardium, independently of valvulitis or advanced organic changes in the aorta; (b) Cases secondary to chronic vulvulitis, affecting the mitral segments with failure of the left ventricle, and (c) Cases occurring in the course of or following acute infective diseases, due to the action of the toxins upon the myocardium. Cases of purely nervous origin may also be met occasionally.

There are on record a sufficient number of examples of relative incompetency of muscular origin to form a sub-class that should be more generally recognized than it has been in the past, both for therapeutic and prognostic reasons. As in Case I of my series, the dilatation on which the murmur depends, is not necessarily progressive and fatal, and apparent recovery may occur as in that instance. It is quite possible, indeed presumable, that toxic effects upon the myocardium may greatly diminish the contractile power of the heart, thus leading to muscular incompetency without producing detectable histologic changes. Persistent rest and the judicious use of remedies and eliminative measures will sometimes suffice to overcome the dilatation in these cases. In each of the first and third group of cases described above, the soft systolic mitral makes its appearance more frequently than the diastolic aortic. Obviously, additional illustrations of the sort of cases here narrated, are needed.

Finally, the principal object of this paper is to show that functional incompetency of the aortic segments due to dilatation of the left ventricle is not sufficiently recognized.

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| *Reporter.* | *Diastolic Murmur and Its Vagaries.* | *Associated Murmurs.* | *Clinical Peculiarities.* | *Post-Mortem Findings.* | *Causes.* |
|---|---|---|---|---|---|
| Jaccoud.[1] | Permanent. | Mitral systolic. | | Dilatation of left ventricle due to synechia cordis; relative aortic and mitral regurgitation; valve leaflets normal. | Dilatation of left ventricle. |
| Peacock.[2] | Not heard, due to asystole. | None. | Rheumatic fever fourteen years previously; marked dyspnœa; edema present a few days before death; almost pulseless; arrhythmia. | Heart markedly dilated, especially left ventricle; all orifices increased in size; aortic valves and aorta healthy; mitral leaflets healthy, but incompetent. | Dilatation of left ventricle from failure of muscular power. |
| Litten.[3] | Transitory murmur at the aortic area, but repeatedly disappearing after rest. | None. | The secondary manifestations of aortic regurgitation with hypertrophy of left ventricle. | | Of ventricular origin (?) |
| Edwards.[4] | Permanent. | None. | Quincke's capillary pulse absent. | Valves normal; hypertrophy and dilatation of left ventricle; chronic fibrous myocarditis caused by sclerosis and thrombosis of coronary arteries. | Hypertrophy and dilatation of left ventricle. |
| Pitt.[5] | Permanent. | None. | | Early atheroma of aorta; aortic valves normal, but incompetent, because of stretching; left ventricle greatly dilated and hypertrophied. | Dilatation of left ventricle. |
| Willson.[6] | Permanent. | Mitral systolic and pre-systolic; pulmonary and aortic systolic. | Previous attacks of inflammatory rheumatism and endocarditis (affecting mitral leaflets); complained of precordial pain; angina pectoris. | Heart enormously hypertrophied with dilatation; aorta slightly thickened; aortic leaflets normal; mitral orifice admits three fingers; its leaflets show slight puckering and thickening. | Marked hypertrophy with dilatation, especially of left ventricle. |
| Hamilton and Byers.[7] | Appeared seven days before, and persisted until, death. | Soft systolic at apex — not transmitted; loud pulmonic systolic. | Profound secondary anemia; arteriosclerosis; emphysema; cystitis, due to polypoid growth. | Heart dilated with some hypertrophy of the left ventricle; aorta not dilated; valves normal and competent; slight atheroma of aorta. | Myocardial weakness, especially of bundle around auriculo-ventricular orifice and aorta. |
| Cautley.[8] | Persisted for twenty-six days, with exception of three days; disappeared gradually, reappeared during attack of mumps | Mitral systolic. | Followed acute rheumatism; pericarditis with effusion; recovery practically complete. | | Dilatation of heart, probably due to myocarditic. |

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# OPHTHALMIA NEONATORUM. *

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Mr. President, Ladies and Gentlemen:

IT is now more than a quarter of a century since the three immortal men, Lister, Neïsser and Credè, gave us the means of recognizing and combating the gonococcus, and so thoroughly have they done their work that we have scarcely improved upon it.

So thoroughly have the physician and intelligent laity become imbued with the value of these measures that they have risen and demanded that we spread our knowledge broadcast and enact laws, enforcing their application. This is part of our task to-day and an excuse for this paper.

Ophthalmia Neonatorum, or the inflamed eyes of the newborn, is an inflammation of the mucous membrane of the eye produced usually by the gonococcus of Neïsser, and frequently by other micro-organisms alone or mixed, as e. g., the pneumococcus, bacterium coli, Koch-Week's bacillus, Morax-Axenfeldt bacillus, Klebs-Loeffler bacillus, influenza or pseudo-influenza bacillus, common pyococci, streptococcus pyogenes, strepts-bacilli, micro-coccus luteus and the bacillus pyocyaneus. It is imperative that smears and cultures be made for diagnosis, prognosis and proper treatment. Ordinarily the symptoms become recognizable the second or third day.

Billard's sign, a narrow transverse red line in the center of the lid, is present before the seropurulent discharge.

The lids become swollen and congested.

On separation a thin saneous matter wells up. Later the swelling increases, lids becoming tense, hot and glazed. Large quantities of greenish-yellow pus is discharged.

The cornea may become involved, at first slightly clouded. There may be ulcerations of greater or lesser extent with hernia of Descemet's membrane, often perforation with prolapsed incarcerated iris, anterior synechia, anterior capsular cataract, or rupture with expulsion of the lens, panophthalmitis, phthisis bulbi, etc.

At any stage according to the resistance of the patient, treatment, virulence of the germ, the disease may be checked and healing set in—often with unexpected good results.

Long after the symptoms have disappeared gonococci may be found, which accounts for the seeming relapses.

Many cases have a grayish, easily detachable membrane, so-called "croupus cases." Klebs-Loeffler bacilli are not always present.

There may be ulcerations on the tarsal conjunctiva due to the pressure of the heavy upper lid on the lower.

Infection usually occurs during the passage of the head through the vagina and from the subsequent manipulations. Resting of the eyes on the perineum, especially if lacerations occur, is a favorable moment for infection. Children have been born with eyes partially or totally destroyed. Stephenson gives ninety cases of prenatal congenital ophthalmia neonatorum.

In the case of Cæsarean section, by Cullingworth, the child developed opthalmia one or two days after birth.

Neiden had a case born in a caul which developed ophthalmia in twenty-four hours, despite all precautions against infection. He explained that the amniotic fluid became contaminated by the diffusion of the materies morbi through the enveloping membranes. No gonococci were found.

A case born with both cornea destroyed and irides prolapsed was reported by Feis.

Dry labors, premature rupture of the membrane, difficult and protracted labors necessitating manipulation, instrumentation, repeated digital examinations, offer opportunities for intrauterine infection. Though it is claimed that the lids are always closed, yet children have been born with the lids everted. Frequently infection occurs postpartum. Great stress has been laid on the "Giftwasser" as the first bath is termed. They often delay the bath for several days. I believe the hands of the physician, nurse, and, even more, the child's hands, covered as they now are with infected secretions, to be most dangerous.

Fingers, toweling, etc., and the nurses' clothing, wet and covered with secretions against which the child's face is pressed during cleansing, dressing and carrying, are the prominent sources of infection.

Credè advocates that immediately upon the birth of the head, the child's eyes should be cleansed and a drop of 2 per cent. nitrate of silver solution be instilled between the lids, from a glass rod one-eighth of an inch in diameter. That destroys all infection up to that moment. The action of the silver is but momentary, being quickly neutralized by the chlorides of the tears. Hence any germs gaining entrance to the eyes subsequent to the instillation of the silver, are not only *not* killed but have favorable conditions for their growth.

Many justly object to the 2 per cent. solution on account of its severe reaction, but fear the 1 per cent. on account of the frequency of ophthalmia despite the prophylaxis. Now, I firmly believe that 1 per cent. solution is prophylactic, and that the cases occurring despite it are due to infection after it has been used.

Accordingly I wish to modify Credè's method in this wise.

On birth of the head, cleanse eyes thoroughly and instill a drop of 1 per cent. solution, allowing it to flow freely under the lids. Later when the child has been cleansed, dressed and put into its crib, and the nurse's hands have been cleansed,

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instill another drop of 1 per cent. solution, allowing it to flow freely, and follow this with a little salt solution or a drop of adrenalin chloride 1-5000. The latter stops the pain and neutralizes further action of the silver.

This I believe to be an efficient and satisfactory prophylactic, and think that it should do away with a promiscuous search for "something else to take the place of the silver nitrate."

We now come to the treatment of those cases which occur despite our prophylaxis or are due to subsequent infection.

That "cleanliness is next to Godliness" is apropos to this disease. In fact we might call it the treatment, the rest being merely adjuvants. Cleanse your hands and cleanse the eyes. Keep them clean, that is the watch-word. If the cornea is not involved, use preferably cold boric acid solution, wiping away all external pus, etc. Then gently raise the lid by rotating the thumb on the brow, avoiding all pressure on the tender lids and globe. Insert the tips of a soft rubber bulb syringe under the upper lid, towards the side, opposite to which the cornea is directed. Slowly and gently irrigate and wash out all purulent matter. This should be done every fifteen minutes or more often if the descharge be profuse.

Instill 4 per cent. cocaine solution and adrenalin chloride 1-5000 of anesthesia and depletion. This depletion tends to open up any pockets of pus in the fornix allowing medication.

Inspect the cornea. If need be, use a lid elevator. If the cornea is involved, heat is indicated, atropin, etc.

Care must be exercised that fluids, etc., from one eye do not flow into the other. Use separate instruments and disinfect hands for each eye. When only one eye is infected, protect and isolate the other by means of a Buller's shield or other device. Always treat better eye first.

Once a day apply nitrate of silver 1 per cent. in this wise:

Raise the lid slightly as before, and with a cotton swab, saturated with the silver solution, enter under the upper lid to the side opposite the cornea, and encircle the upper cul-de-sac, slightly lifting the lid on the shaft of the swab. Lower lid *similarly*. This breaks up all the adhesions, opens the pockets of pus and enables the medicament to reach all the parts. This may occasion some bleeding, but that in itself is good. As ordinarily applied the silver reaches only the tarsal conjunctiva, whereas the germs lie principally in the upper fornix.

The point of the swab should be protected, by folding the cotton over the point while making the swab. This is most important, as I saw one case in which both of the corneæ were cut by the unprotected point, with loss of both eyes.

Everting the lid is dangerous, unnecessary and exceedingly painful. Difficult enough under ordinary circumstances, with a tense, swollen, tender lid, the thumb nail is apt to injure cornea with grave results.

Elevating the lids as described is sufficient for inspecting the palpebral conjunctiva for ulcerations and membranes in the so-called "croupous" cases.

In croupous cases, diphtheria antitoxin has an excellent and almost abortive effect.

According to the severity of the disease argyrol even as high as 50 per cent. should be instilled every one or two hours.

Argyrol by itself does not seem satisfactory, but when reinforced by the daily application of silver nitrate 1 per cent. solution, usually gives gratifying results.

Many argue against the use of nitrate of silver, where there is a discharge, as it produces a discharge, but it kills the germs and that is of prime importance.

Ice compresses should be applied from ten to twenty minutes every one or two hours of if possible more frequently, according to the vitality of the child. If the cornea is involved and the swelling of the lids is not so great as to be paramount, heat should be used.

Ulcers, hernias of Descemet's membrane, perforation, prolapsis, incarcerated irides, synechiæ, ectasias, rupture of globe with loss of lens, etc., should be treated as they arise. These conditions should be considered beyond the general practitioner and hence, the scope of this paper.

Premature, marasmic, specific, tubercular, and poorly nourished children from whatever cause are very susceptible to ophthalmia and fall easy victims to its horrors. The corneæ are usually involved and the eyes lost, and the child's low resistance is so overtaxed by the disease as frequently to end in death.

Of twenty-two cases, I had three die of inanition, having been brought to the hospital with both corneæ gone and in a deplorable condition.

Hygiene and feeding are potent factors. Children should be kept on the mother's breast where practicable. Care must be taken to protect the mother's eyes, clothing and breasts. Cover the breast with a large piece of oiled silk with a hole for the nipple. Cuffs or splints should be put on the child's elbows to prevent its reaching its eyes, while not unnecessarily limiting its motions.

Delay in obtaining the proper medical attention, the criminal ignorance or carelessness of the midwife and the pitiful ignorance of the laity, account for the great loss of many eyes.

One mother told me that the midwife forbade her to wash the child; others that they were advised to put urine, mother's milk, bread-poultices, spittle, etc., on the eyes and they would get well.

The father of one case said that the midwife delivered another child in the same block, at about the same time, and that it was similarly infected. He suggested that the midwife was

the source of the infection. It is terrible to see a little child suffering with ophthalmia and gonorrheal vaginitis.

The effects of this infection are not always limited to the eyes. The records show many cases of gonorrheal rheumatic joints, also infection of peritoneum, pleura, pericardium, endocardium and meninges; even general sepsis.

Haushalter, of Nancy, had a case of microcephalus and idiocy, probably due to the gonococci entering the meninges after ophthalmia. Suker had a case of ethmoiditis with orbital cellulitis, four days after onset of ophthalmia.

Panophthalmitis often results, necessitating enucleation. Where an eye is removed, that orbit does not develop as well as the other side, hence must affect the brain, nasal and accessory cavities. The eye is a portion of and intimately connected with the rest of the brain, also the vascular and general nerve supply; hence, disease or removal must have its bad effects on the brain, etc.

Acute, chronic and latent gonorrhea in male and female, to the infection of the newborn's eye, is a story well known to all.

It is not the writer's purpose to antagonize, offend, or limit the powers or privilege of any physician, nor should any physician who already uses a prophylactic or treats his childbirths as surgical cases take offense nor feel that his rights are infringed upon by the recommendation of the enactment of laws regarding midwifery and compelling the use of a prophylactic, but he should feel that his acts are justified and followed by the law; also it is the writer's purpose to show that each and every one has a bounden duty to perform, that the child has rights that must be observed, and that we shall place our known duty and the patient's welfare above all personal feelings.

The purpose of these recommendations is not to hinder progression in medical science by the enactment of laws, but to prevent retrogression or inertia that would result in their absence.

We cannot judge of the frequency of ophthalmia by the number in the public institutions, for those in the institutions are the absolutely blind. By far the greater number are outside. We encounter many people with but one eye, a great many more with large maculæ on both or either eye, and many more who have but nebulæ of each or either corner, and the story is usually that they had sore eyes when they were born. It is only the poor dependent blind that are enumerated in our statistics. Neither do the afflicted of rich parents come under our notice. Those people do everything in their power to keep it secret.

Great too is the danger to those who come in contact with the infected child, and many are the cases of mothers becoming infected from the child's eyes, and gonorrheal ophthalmia in an adult is a serious matter.

We now ask, "What is to be done?"

Prevent infection. Treat every childbirth as a surgical case.

Employ some means of prophylaxis.

Distribute (free) this prophylactic remedy with instructions.

At first sign of infection take the child to a properly equipped institution or qualified physician. Make ophthalmia neonatorum a subject of importance in our colleges, and a question *sine qua non* in our State Board examinations.

Establish schools for midwives, and compel those already practicing to attend, licensing only graduates. Require midwives to present their obstetrical bags for inspection once a month; attach a tag with the name, address, license number, date of inspection, examiner's signature and condition of bag and contents under penalty.

Compel the midwives to wear clean surgical gowns when examining or delivering a parturient woman.

There must be a bowl of disinfectant visible in the sick-room.

Birth report cards should be in two perforated pieces. One-half with the usual questions, name and license number of midwife, whether or not, when or why not, was a prophylactic used.

The second half to be sent immediately on first sign of infection or about tenth day, with conditions and to where the child was taken.

On receiving such a notice the Board of Health should communicate with the physician or the institution and *vice versa,* with the name of the child and the midwife. If a child be brought to an institution or physician by parents or friends, notify Board of Health, which must investigate at once, why physician or midwife failed to report. First offense, fine or reprimand; second, forfeiture of license.

Any unlicensed person practicing midwifery to be guilty of a misdemeanor.

Enact the laws and allot their enforcement to the Board of Health. Hold the Board of Health responsible for their enforcement under pain of public censure and the individual responsible as unfit for office.

That the county societies appoint committees who shall give to the press articles instructive and warning.

Those physicians wilfully neglecting to use a prophylactic without sufficient reason (stated before a medical board) to be held liable.

This is not a time to consider whether we may hurt someone's feelings or not. The State and ourselves have a duty to perform, and the people the right to demand it.

When a representative of the Board of Health investigates a case of neglect, etc., among the lower class of midwives, he should be accompanied by some one in a uniform.

To try and teach the public first, and then by the force of public opinion to compel ourselves to do our known duty, is ludicrous.

Society has always frowned upon anyone spitting in public places, but it required the $500.00 fine or one year imprisonment placards to scare the vulgar into a semblance of decency. Among the classes where ophthalmia neonatorum is most prevalent, moral suasion and gentle admonitions are wasted. Fear of the law—a law enforced by imprisonment and heavy money fines, and the fines must be sufficiently heavy so as to inflict a hardship on the guilty party—is the only teacher. If anyone wilfully or carelessly puts another's eye out, he is arrested for felonious assault. Why not if you put a helpless child's eyes out through wilful negligence or culpable carelessness?

Anyone who has ever had any dealings with the ignorant classes knows that it would be impossible to make them realize the dangers of ophthalmia or the benefits of cleanliness.

Some midwives are infamous for their filth. Make them keep clean, and when they see the good results, maybe, if sufficiently urged, they will do it of their own accord.

It is discouraging to hear a first-class, highly-educated physician boast that *he* never uses a prophylactic, and then try to ease his conscience by the remark that *his* patients are not of *that* class, and *he* would not dare to offend them by using a prophylactic.

It is just as prevalent among the higher classes as among the poor, only the former have the means to hide it, while the poor fellow must go to our clinics and make our statistics.

Does the physician explain all his actions to the patient? Does he not prepare the abdomen, before operating, even of the cleanest of his patients? He does not consider their feelings then. Everyone knows the gonococcus may be found in a healthy vagina. Why should he fear to use a prophylactic which might save the baby's eyes? If it is the law and his patient objects, he can protect himself by saying that it is the law.

Now, it will not do to sit back and wait for the Central Committee to do it all. It is impossible for that committee to reach each one individually.

Every medical society shall pledge its members to do their duty; to instruct and warn the midwives with whom they come in contact. That they will keep records of their births, with prophylactic used; if not, why not, and the results.

All cases of ophthalmia neonatorum with final results shall be reported to the Board of Health and the secretary of their society.

The secretary of each society shall tabulate with all information all of these cases and forward a copy to the Board of Health and the County Society.

The secretary or committee of the County Society shall make a full report to the State Medical Society or District Branch and the State Board of Health, which in turn shall report to one Central Committee of the American Medical Association and the Federal Board of Health.

The various boards of health shall do likewise.

By these means, and by these means only, shall we get reliable statistics and a consensus of opinion.

Experimentation should only be undertaken by institutions, special committees and others properly qualified and granted special permission, and then if something better than silver properly applied be found, the law specifying a special prophylactic may be amended and this other drug or method added.

We must first have a fixed point, a firm foundation, and then only work on our superstructure.

I would suggest the organization of societies among the midwives for continual instruction.

### THE LAWS AND THEIR PURPOSE.

These laws requiring the use of a prophylactic are not for the purpose of stopping experimentation or depriving any qualified physician from using a method as good or better. It shall stipulate that he may use other than the aforesaid method, but that he must use some method as good or better for which he has good reasons to believe are better. If, however, he uses a method different from the aforesaid and ophthalmia occur, he must, before a medical board, give his reasons or be held liable. By a qualified physician I mean one who has notified and received sanction from the committee of his County Society that he wishes to employ such and such a means and state his reasons. That he agrees to report to the committee his results and conclusions at stated intervals. Institutions where the method, results, number, etc., can be watched and carefully judged and noted, be *ipso facto* permitted to use a different method than the aforesaid, but that a method of prophylaxis must be employed.

These laws are to compel the use of the aforesaid method as agreed upon by the majority of the A. M. A. by all physicians in general and by every midwife under penalty.

### THE PHYSICIAN AND HIS DUTIES.

The physician is in existence primarily and solely for the relief and prevention of pain and disease, and no other view can be considered in permitting his acts.

The fact that he must ask and make money is merely the outcome or a necessity arising from the fact that he must provide for himself and family a home and means of support.

Independence of thought and action are only permissible where the patient shall profit thereby. That he shall do or neglect to do anything he chooses whereby ill may come to his patient is not freedom or independence, but license and wilful culpable abuse of the necessary confidence reposed in him by the patient, with whom he

agrees (morally) to do only and all for the patient's welfare.

The physician, with the minister, holds the position of highest sacred confidence of the patient, a confidence which even the highest courts honor, hence any one wilfully insulting that confidence by doing or failing to do the very best in his power, as he believes or as is generally accepted by the profession, especially if without reason, or if because he, and unjustly so, feels that his unreasonable pride is hurt, because he is told by some one or commanded by the law to do. that which is believed at that time to be the best by the profession at large, is guilty of a great crime, and should be punished in accordance, because he wilfully, knowingly and with aforethought does or fails to do that which is the best for his patient.

### THE STATE AND ITS DUTIES.

Everyone the moment he enters a State is amenable to its laws, hence has a right to its full protection.

The State has first right over a person over and above his parents. If he commits a crime against the State, it, without question, takes him from his parents and punishes him. If his services and life are needed by the State, he may be drafted into the army and at the point of the bayonet be forced to fight or suffer the consequences. Therefore he has 'a right to demand that as it is impossible for himself or his parents to acquaint themselves with all the knowledge of medicine that the State surround him with all the safeguards.

Therefore, he has a right to demand of the State to enact such laws to compel its agents, the physicians, as the State licenses, sanctions and permits them to practice, to use those means from the moment of his birth or before that will with ordinary care and knowledge guarantee him normal faculties.

Therefore, I maintain that the State has a right and shall enact such laws compelling all physicians, its agents, to use a prophylactic, and one that has the sanction of the majority of the medical profession.

It is impossible to say that there is no gonococcus or other germ present in the vagina, or the secretions covering the child, even though smears and cultures were negative, but it is quite probable that the disease germs are present, hence the only reasonable assumption is that the disease is present, therefore it is the duty of the attending physician to use a prophylactic.

Ophthalmia neonatorma must be classed among the infectious and communicable diseases, and the Board of Health in the city of New York has that power.

We know that only a small percentage of the people have tuberculosis, but every one who has it or not and spits in public places, or where others may be, is amenable to the law.

The State's power to pass such a law is *no* longer questioned.

The State under the police power has the right to do all those things which are necessary for its protection.

That a child when born is the offspring of rich parents does not mean that it may never become a charge of the State, for there is nothing so variable and uncertain as riches. Hence the State to safeguard itself in the future must act in the present.

The State has the right to prohibit anyone from entering its territory with contagious diseases of the eye, or with a disease that may result in blindness and possibly become a charge. Therefore, as a child is entering the State, the State has the right to demand of the parents that everything shall be done to insure good eyes for the child, or to make use of a prophylactic compulsory.

### REDRESS.

It has been said that the patient becoming infected with ophthalmia through the carelessness of the physician, can obtain redress at law. How can a lawyer or the patient establish the guilt of carelessness, if even such a learned body as the medical profession cannot agree on or define a standard? The patient is without redress and at the mercy of the physician.

When one sees a little child so infected and at the same time suffering from a gonorrheal vaginitis, its eyes and health ruined through some one's unpardonable carelessness or indifference, he realizes the cruel inefficiency of the law.

We must work individually and collectively. Our work must be uniform, harmonious and synchronous, an organized and concerted effort; each physician, each society, county, State and the Union must rise as one, and by sheer force of numbers, carry the day, for right often fails where might does not aid. Our county is first and most munificent in aid to stricken neighbors. Shall we be less charitable to those helpless dependent babies?

The world is appalled at this recent catastrophe, the greatest ever known. But do you realize that there is ever present among us a catastrophe even greater, one not only in the hands of fate, but brought about by our criminal indifference and culpable ignorance? The sufferings of the victims are not over in a day or week, but last a lifetime of darkness.

That is merely the sentimental side. When we consider the great expense of caring for these unfortunates, the immense institution to be maintained, that the State is deprived of the services of these people, we of commercial ideas should be influenced by this alone.

America must force the other nations by her example to enact laws, enforcing the use of some prophylactic regulating and instructing the midwives and otherwise safeguarding the newborn and guaranteeing them the light of day.

POWER OF BOARD OF HEALTH.

*New York City has an enactment which enables the proper authorities to formulate rules and regulations for the control of contagious and infectious diseases of whatever kind and nature. This is the power invested in the Board of Health the right to exclude any person known to have any disease which is contagious or dangerous to public health, or who has been in contact with any person having such a disease, whether they come from a neighboring city, county or State, or from a foreign State. It makes no difference where one may have obtained authority to come into this city, the authority of the Board of Health overrides all other authority. Under this code the Board of Health has the right to declare any disease contagious or dangerous to public health.

It follows that the Board of Health can declare ophthalmia contagious and dangerous and can compel measures to prevent it or bring about its cure. If this can be done in New York City it can be done in all cities, etc., of the State. Let New York set the example and the other States will be quick to follow.

The State can enact laws regulating the actions of its agents.

But the physician is an agent of the State, inasmuch as the State can prevent him from practicing, or can license him to practice under its laws.

Therefore the State has the power to enact laws regulating the actions of the physicians, or make it compulsory to use a prophylactic.

Now, Mr. President, so far the writer has voiced the opinions for drastic measures of the compulsory order, and has explained how and why it can be done; however, he realizes that while it will soon come to pass, the time has not as yet arrived in which those drastic measures are practical, excepting with reference to the midwives, and with them every one with whom the writer has spoken agrees that that must be done.

With regard to the legally qualified physicians, we must put ourselves on record as believing in the absolute necessity of the use of a proper method of prophylaxis at every childbirth, and that the society shall withdraw its protection legally and morally from any physician who in case of ophthalmia neonatorum did not employ the essentials of the so-called Credé's method or its modification. In support of which I would submit the following resolution:

WHEREAS, It was demonstrated by Credé in 1884 that opthalmia neonatorum is, with few exceptions, a preventable disease, and

WHEREAS, The method of prevention is so simple as to be easily within the reach of any practitioner of medicine;

*Resolved,* That in the opinion of the Medical Society of the State of New York the occurrence of a case of opthalmia neonatorum in the practice of any physician who has *not* observed the *essentials* of the so-called Credé method renders him open to the charge of culpable negligence and makes him vulnerable in any suit for damage for loss of sight resulting from such neglect. . . .

Disregard of such an expression of the opinion of the Medical Society of the State of New York, as set forth in the resolutions, would be a matter of record and a strong weapon in the hands of the prosecution, and would, of necessity, cut off from the protection of the Society any practitioner guilty of such disregard or negligence. He would go into court stamped with the disapproval of his professional brethren and would therefore be compelled for mere self-protection, if from no higher motive, to comply with the suggestions of the Society.

PLAN OF ORGANIZATION.

A CENTRAL COMMITTEE—Who shall define the proper prophylactic, draft forms of bills to be brought before the legislature of each state simultaneously by the state committee, which bill shall be endorsed by the committees of the various counties and the individual societies. The bills shall call for a prophylactic and a punishment for its non-use. School for midwives, maintained by the State, compelling midwives to attend, licensing only graduates. After six months all unlicensed midwives, etc., to be punished.

For regulation of midwives with regard to gowns, hygiene, cleanliness, birth reports, heavy punishment for failure to report and obtain proper treatment for all Ophthalmias. For the inspection of obstetrical bags, punishment for failure or substitution.

STATE COMMITTEE, A.M.A.—Who shall by all means energetic and lawful endeavor to bring about this needed legislation and keep before the County Societies the need of their assistance and unremitting efforts in publicity, education and example.

COUNTY SOCIETY COMMITTEE—Who shall aid by all their influence the State Committee in passing these bills. Look after the publicity, etc., and pledge its members and get the pledge of the members of independent Societies to aid, urge and practice these requirements and to report at once any midwife who does not observe the law, etc.

The members of all societies shall report to their secretaries or committee and Board of Health any case of Ophthalmia, its cause, etc., and disposition of the case, with (later) the final results (failure punishable by law), comments on prophylaxis, suggestions, treatment, etc.

These committees shall in turn report to the

*The laws of the State of New York relating to contagious diseases of the eye. Frank Von Fleet, *Pediatrics*, Vol. XIV, No. 3, 1902.

Committee of the County Society and file a copy with the Board of Health.

The County Society Committee shall tabulate and arrange these reports fully, with detail of observations, and in return report to State Committee and State Board of Health.

The State Committee shall report to the Central Committee of the A.M.A and the Federal Board of Health a tabulated, statistical, geographical report which shall be published in the Journal of the A.M.A each quarter.

The various Boards of Health shall do likewise, one acting as a check on the other, thereby obtaining reliable statistics and scientific information.

Institutions, Hospitals, Clinics, shall be compelled to report and record all cases coming in their care.

Midwives' Society shall be organized, at which meeting physicians assigned by the county society shall lecture and instruct a caution. Attendance compulsory.

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## THORAX TRANSFIXION.

**By E. H. HYLAND, M.D.**

UTICA, N. Y.

IT is my pleasure to present to you the report of a case of thorax transfixion, which I believe has hardly a parallel, one which I believe to be among the most unique of its kind in surgical records.

The case is that of George Lanz, age 38, of Forestport, N. Y., who, on June 14, 1906, while engaged in operating an edging machine in the lumber mills of Pullman Brothers, at Fulton Chain, N. Y., the machinery became stuck or blocked in some way, and upon being released, in some manner unknown to Mr. Lanz, an edgeing was broken off and driven through his chest and arm. He was thrown to the floor unconscious, but regained consciousness quickly. When fellow workmen reached him, the board was protruding from both sides of the body.

The edging was a part of a rough board, being 1x¾ of an inch at the small end, or the end which entered the body, and 1x¼ inches at the larger end, which is broken off at the point of entrance; the piece of board as you will see is 23 inches long. It entered the chest through the left nipple, breaking the rib and depressing it, punctured the left lung, the right lung, finally passing through the arm about three inches below the shoulder joint, posterior to the humerus, and pinning the arm to the body.

The accident occurred at 6:30 in the morning; Drs. Nelson and Lindsey, of Old Forge, were called and rendered all possible assistance, placing him upon a train and accompanying him to Utica, a distance of fifty miles. In the meantime I had been summoned to meet the train, which I did, and by request of Mr. Pullman who accompanied him, he was conveyed to St. Elizabeth's Hospital, where I proceeded at once, with the assistance of Doctors Wetmore and Groman, to remove the piece of edgeing. I might add, that up to the time of administering the anesthetic Lanz was perfectly conscious.

On two sides of the edging the grain of the wood ran in opposite directions, and believing that the loose slivers were already detached from the edging, and probably embedded in the lungs, I deemed it advisable to remove the edging by carrying it through in the direction in which it had started. I enlarged the openings and with a great deal of force drew it loosely through the body.

The hemorrhage resulting was insignificant. The right lung collapsed below the seat of the injury. Upon inhalation and exhalation, the air passed freely through both openings. Gauze and tubes were used for draining, extending through the pleura to the lung tissue in both openings, and a very free drainage installed. The wound in the arm was drained with gauze.

When placed under the anæsthetic Lanz's pulse rate was 80 and respiration 24.

At 1 P. M., on the day of the operation, respiration 28, pulse 76, temperature 99.8.

At 5 P. M., respiration 30, pulse 86, temperature 101.

*Friday.*

June 15th, the first day after operation, 6 A. M., respiration 30, pulse 84, temperature 100.2.

At 9 A. M., respiration 42, pulse 82, temperature 101.

At 5 P. M.—Respiration 40, pulse 90, temperature 101.

At 10 P. M.—Respiration 48, pulse 84, temperature 101.

*Saturday.*

June 16th, the second day, 6 A. M., respiration 48, pulse 86, temperature 102.2.

At 9 A. M.—Respiration 46, pulse 84, temperature 100.2.

At 5 P. M.—Respiration 48, pulse 86, temperature 101.

At 10 P. M.—Respiration 44, pulse 90, temperature 101.2.

*Sunday.*

June 17th, the 3d day, 2 A. M., respiration, 54, pulse 86, temperature 99.6.

Lanz was suffering a great deal from pain and the escape of air through the openings was very annoying to him, his respiration was labored; this condition was relieved after a coughing spell, during which he raised a clot of dark blood at 2.30 P. M.

At no time since the operation was there any pronounced symptoms of pneumonia.

*Monday.*

June 18th, the 4th day, 5 A. M.—Respiration 20, pulse 78, temperature 100.

He complained of a great deal of pain and soreness across the chest. Pleuritis had developed in the left side. He required very little anodyne, ⅛ grain of morphine usually giving sufficient relief. The usual remedies for pleuritis were applied. The temperature, pulse and respiration continuing about the same following the onset of the pleuritis. This, no doubt, was due to the fact that the fluid was not confined in the chest, but was allowed to flow freely through the drainage tubes as fast as it formed. The pleuritic fluid was draining profusely, expectoration bloody, practically the same condition continuing until Friday the 22d, the 8th day after the operation. During the afternoon and evening temperature went up to 102, pulse 74, and respiration 24. The pain extending across the chest, and at 8 P. M., pleuritic fluid began to flow from the wound in the right side; soon after the onset of pleuritis in the right side the fluid became purulent, taking on the form of empyema, which with the drainage already well established, ran an uneventful course and Lanz was discharged from the hospital and allowed to return to his home August 27th, about ten weeks after the injury, the wounds having nearly healed.

Lanz suffered intensely from the pain and swelling in the arm, as the result of the injury to the nerves. He was unable to move the arm for some time. The extensor muscles of the forearm were paralyzed, which was evidenced by wrist-drop. The swelling disappeared after several weeks with gradual improvement of the paralysis, all of which has entirely cleared up, and his usual health and vigor have been restored.

Through the kindness of Mr. Lanz I am permitted to exhibit the photograph taken before the edging was removed, the piece of edging, and the patient.

## PHYSICAL TRAINING OF CHILDREN.

By FRANK W. SEARS,

BINGHAMPTON, N. Y.

In our modern struggle for material attainments, we are very apt to overlook the greatest element which bears directly upon our progress, both individual, and public; it is an axiom, which cannot be disputed, that there can be no true happiness without good health, also that there can be no lasting benefits for the public good, or of those that surround us, except that which is forced by a vigorous manhood and womanhood. No inheritance is so dear as that of a good physical constitution. It is greater than all material or mental endowments, and it enables its possessor to force both material and mental prosperity.

This question of physical development has a far-reaching effect. Its results reach the individual, conferring happiness and prosperity, upon the community, the state and the nation, in the recognition of our force of character, in the recognition of our material resources, and in the physical superiority of our people.

Prophylaxis, the modern attainment of Medicine, which at present is receiving so much attention and study, will be useless, unless the greatest prophylactic measure receive its proper attention; that is individual physical betterment, for 'tis well understood that disease is best combatted by the physical resistance of the body. It is not sufficient that a very small minority of our boys and girls should have an occasional hour in the gymnasium; every child in this country, from the age of 12 to 18 years, should have systematic and well directed physical training, not of a specialized character for the purpose of showing superiority in sports, but of a graduated symmetrical development, which should train the spine to be erect, the chest and lungs to expand, the eye and ear to be acute, the skin to be clear and bright, the hands and feet to be dextrous and graceful and the mind well disciplined to attention, promptness and obedience. These things all go to the making of a self-reliant man, with pride of person and race. Personal pride tends to habits of cleanliness and industry; cleanliness promotes individual and public health; industry promotes material well-being.

Standing outside of any of our educational institutions and watching critically the students as they go or come, we find the vast majority are stoop-shouldered, bending forward on the hips with shoulders and head thrust forward, the centre of gravity striking well in front of the feet. The arms are carried loosely, the feet and legs are handled awkwardly, many of them with a noticeable curving of the spine forward. There will be exceptions noted; these are the boys who have taken pp athletics; they will be clear of eye, erect of figure, the glow of health

emanating from thew as they walk with graceful and springing step.

Athletics as they are practiced at present are all right as far as they go, but they do not reach all; some method should be found which would reach and develop every child in this country. It is as important a question as Mathematics, Geography, or History.

Mental development is more easily attained if the child enjoy perfect physical well-being. It would permit more close application to studies, more prolonged hours of study. We would not be consulted as frequently as we now are for the relief of weak and nervous children. The only cure for this child is to remove him from school and keep him in the open air with strict injunctions to stop all studies.

The argument in favor of greater attention in our schools to physical training will be met with the statement and objection, that the hours at present are too long and yet too short to teach all the subjects demanded; this is a fallacy. This statement can be controverted by pointing to two schools in this country, where the physical training is perfect and the studies and mental training required are nearly twice as great as in any other educational institution in America, namely: West Point and Annapolis. Here the boys are taken from the ages of 16 to 20 , and in the short space of one year the body receives such benefits that its impressions last during a strenuous life to ripe old age.

They do not demand physical perfection as a requirement for admission. Boys are taken small or large, thin or stout, yet the development is so gradual and symmetrical that the whole student body on graduation shows a uniform degree of development.

There can be no question but that a Military training is the best method of developing the body and mind. First and most important, is the requirement of implicit obedience, next the fixing, the prompt and concentrated attention to instructions. This inculcates the habit of close observations, and these qualities go to the making of a better student. It prevents the mind of the child wandering to other subjects than to those at hand.

Erect carriage, head erect, chest fully expanded whether walking or sitting at the desk, the arms hanging naturally and easily, the body well balanced upon the hips, the feet planted firmly and easily, the walk natural and graceful, are the desired characteristics of physical health.

The clothing worn properly, the shoes cleaned, and shame to say it, the body, the face, hands and feet clean. These are all simple matters and should be required of every student; these things go further towards making a self-respecting man than anything else.

Military training consists, first, of setting-up exercises, which are not trying to the most delicate; next the marchings and turnings; then the manual of arms and movements with larger bodies, the proper handling of fire-arms and marksmanship, which every man should know, These subjects should be taught by competent teachers and should be obligatory upon all male students. There should be as much time given as to any other subject.

The argument could be raised that at present calisthenics are now practiced, but there is a vast difference in the manner in which they are practiced. The simplest movements can be made to produce the greatest results, or they can be worthless as a means of exercise. From the standpoint of the individual child everything is to be gained by this form of physical training. There can be no rational argument against it.

As a requirement of citizenship, every male child should have four years of Military training, carried out during his schooling period. This, in a generation or two would make a body of men in this country irresistible in their force, and by doing this it would not be necessary to take out of the industriial pursuits so many men each year to receive the specialized training for military life.

Every man who enjoys the privileges granted by our form of government should be not only willing but ready to respond to the need of his country. While war is to be deplored, the best guarantee of peace is to be always ready.

This instruction should not be intrusted to civilian teachers, but should be in the hands of men trained and supplied by the State and Federal Government.

The war department is now ready to furnish arms to such schools as are fitted to receive them, but the idea should be carried still further, and every school should be compelled to undergo this training. The expense would be only a small portion of what is at present expended in this country for military purposes.

At present, only a very small minority of the men know anything about military matters, while every man in his youth should be taught the rudiments of his profession. It should go hand in hand with the other subjects.

A paper on this subject may seem out of place in a body of this kind, but in no place is the study of preventative medicine carried out to so great an extent as in the military life, personal hygiene, camp hygiene, sanitary cooking, the study of proper articles of sustenance, the disposal of sewage and garbage, the study of infectious diseases, and those carried by insects and their kind, those caused by contact with animals, the means of prevention and cure.

The fundamental part of all military life is the caring for the individual, and body at large, both civil and military.

The field is very comprehensive and the subjects should be drilled into the boy along with his physical development, during the formative period of his life.

# Medical Society of the State of New York.

## NOTICE.

The February issue of the NEW YORK STATE JOURNAL OF MEDICINE is exhausted, and the Publication Committee will esteem it a favor if any member who can spare his copy of this issue will forward the same to the office of the Medical Society of the State of New York, 17 West 43d Street, New York City.

## CORRECTIONS.

Through a clerical error the name of C. E. Townsend was printed in the April issue of the JOURNAL as a member of the Committee on Pharmocopœia. It should have been S. W. S. Toms.

## CORRESPONDENCE.

BOONVILLE, N. Y., Feb. 2, 1909.

W. R. TOWNSEND, SECRETARY,
*Medical Society of the State of New York:*

MY DEAR SIR: I wish to express to you, and also to the Society, my gratitude and appreciation for the help afforded me by James Taylor Lewis, Attorney, in the case of Capron against Douglass, for malpractice, as noticed in November JOURNAL, 1908, and tried again last week with a disagreement of the jury. I feel that we will come out victorious next time if it comes to trial again. I am very grateful to the State Society for its backing and help in this case.

Thanking you again, I remain,

Yours fraternally,
(Signed) J. W. DOUGLASS.

*To the Officers of the Medical Society of The State of New York:*

Through THE NEW YORK STATE JOURNAL OF MEDICINE I wish to express my thanks to the officers of the Society and to James Taylor Lewis for the very able manner in which he conducted my suit for malpractice before Judge Coman in Binghampton, N. Y., April 7, 1909.

Result was a nonsuit. This alone is reason enough for all physicians in good standing to become members of the State Society so that they can avail themselves of the services of its counsel to defend them in malpractice suits.

Respectfully,
(Signed) J. H. MARTIN.
157 Robinson Street. Binghamton, N. Y.

## COUNTY SOCIETIES.

### MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

SPECIAL MEETING AT KINNEY HOUSE, CUBA, N. Y., APRIL 22, 1909.

"Diagnosis of Infectious Disease," J. C. Young.

"Treatment of Infectious Disease," Edith W. Stewart.

Discussion opened by F. J. Redmond, Fillmore, N. Y.

### RICHMOND COUNTY MEDICAL SOCIETY.

REGULAR MEETING HELD IN THE STATEN ISLAND ACADEMY, APRIL 14, 1909.

"The Post-Operative Patient," John F. Erdmann.

After the meeting a collation was served.

### COUNTY OF ROCKLAND MEDICAL SOCIETY

Regular quarterly meeting was held April 7, 1909, by invitation, at the Lederle Anti-Toxin Laboratories at their farm between Nanuet and Pearl River. The pharmacists of the county also had received special invitations to be present and several responded. The visitors were received by the gentlemen in charge and presented with handsome programs.

The meeting was called to order by the President, M. J. Sanford, and after routine business was transacted the Society listened to an able and interesting paper by William A. Anderson, Phar.D., of Brooklyn, on "The Relation Between the Physician and the Pharmacist," which was very generally discussed by those in attendance. It was voted to contribute from the Society's funds one dollar for each member to be added to the fund now being raised for the benefit of the widow and children of Major James Carroll, an army surgeon, who was bitten in Cuba by a yellow fever mosquito, and ultimately died from the same.

After adjournment the visitors were conducted through the establishment where they witnessed the collection of vaccine virus from an inoculated calf; also the method by which horses are inoculated with the toxine for medical purposes.

The physicians and pharmacists present included Drs. G. F. Blauvelt, A. K. Doig, E. H. Maynard, S. W. S. Toms and J. W. Giles and Mr. Charles Van Wagner, representing John D. Blauvelt, of Nyack; Drs. G. A. Leitner, of Piermont, Ralph De Baun, of Congers; J. C. Dingman and A. Bogert, Mr. H. D. Fink, of Spring Valley; Drs. S. S. Bogert and R. R. Felter, of Pearl River; Alva Dingman, of Paterson, N. J.; M. J. Sanford, R. W. Seitler and S. Demarest, of Suffern, and Druggist Egge, of New City.

The next meeting of the Society will be held at Piermont, the first Wednesday of July.

### MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

REGULAR MEETING HELD AT THE MOHAWK GOLF CLUB, APRIL 21, 1909.

"Address on Medical Defense," James Taylor Lewis, Counsel, Medical Society of the State of New York.

"The Limitations of the X-Ray in Fractures from a Diagnostic and Medico-Legal Standpoint with Presentation of a Cace," C. A. MacMinn.

### BROOME COUNTY MEDICAL SOCIETY.

QUARTERLY MEETING AT BINGHAMTON, APRIL 6, 1909.

"The Relationship of Dentistry to the Practice of Medicine," J. O. McCall.

"Brief Verbal Reports of Cases of Foreign Bodies in Ear, Nose, Throat, Alimentary Canal and Air Passages," J. M. Farrington.

"Report of Case," H. W. Brown.

"Mistakes in Diagnosis that should be Corrected, or Some Death Certificates Rejected," J. H. Martin.

### MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.

REGULAR MEETING, APRIL 13, 1909.

"Medicine and Religion and the Emmanuel Movement," A. S. Chisholm.

"Normal Suggestion," Hiram Elliott.

"Enlargement of Thymus Gland," William Kirk, Jr.

"Gangrene of Bowel Complicating a Case of Acute Lobar Pneumonia."

## MEDICAL SOCIETY OF THE COUNTY OF ST. LAWRENCE.

Semi-Annual Meeting Held at Gouverneur, April 6, 1909.

SCIENTIFIC SESSION.

Address—"Physiological Liberty—Some Thoughts of American Social and Economic Life as an Etiological Factor in Disease," W. C. Thompson.

Vice-President's Address—"General Paralysis," W. G. Ryon.

"Alopecia Areata and Trichophytosis Barbæ," J. C. Willson.

"Epilepsy," W. G. Cooper.

"Serum Diagnosis and Serum Therapy," R. L. Leak.

"Should a New Subject be Added to the Curriculum of our Public Schools, viz., The Cause and Prevention of Preventable Diseases?" W. C. Smith.

"The Part St. Lawrence County Should Take in Dealing with the Tuberculosis Problem," E. A. Nevin.

*Reports of Cases.*

"Cases of Cesarean Section," G. C. Madill.

"A Case of Pheumonokoniosis," D. M. Taylor.

"Some Cases Showing the Diagnostic Value of Early Pulmonary Hemorrhages," F. J. Fuller.

"A Report of Ten Cases of Gallstone Disease, with Special Reference to Diagnosis," James Wiltse.

## MEDICAL SOCIETY OF THE COUNTY OF MONTGOMERY.

Regular Meeting Held in Amsterdam, March 24, 1909.

SCIENTIFIC SESSION.

Dr. H. C. Deaver, of Philadelphia, read a paper on "The Results of One Hundred Herniotomies in Children.". The paper was discussed by Drs. Macdonald, Moriarta, Traver, Wood, Faust, Beilby, Lempe, Stanton, Lenz and Conant.

The meeting was attended by about one hundred members of the profession, including men from Albany, Saratoga, Johnstown, Gloversville and Schenectady.

## ONEIDA COUNTY MEDICAL SOCIETY.

Regular Quarterly Meeting Held in Utica, April 13, 1909.

SCIENTIFIC SESSION.

"The Fallacy of the Routine Diagnosis of Chronic Rheumatism" (illustrated with lantern slides), Clarence E. Coon.

"Electro-Therapy, its Clinical Application," John H. Burch.

"Ophthalmia Neonatorum, and its Treatment." T. H. Farrell.

"Report of Cases," E. M. Hyland and T. Z. Jones.

## MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

Regular Meeting at the Albany Medical College, Albany, April 14, 1909.

SCIENTIFIC SESSION.

"The Percutaneous Tuberculin Reaction of Moro," Erastus Corning.

"The Early Diagnosis of Cancer of the Stomach," James F. Rooney.

"Myocarditis and its Treatment," Samuel B. Ward.

"Intestinal Autointoxication." Leo H. Neuman.

## TOMPKINS COUNTY MEDICAL SOCIETY.

Regular Meeting, April 15, 1909.

BUSINESS SESSION.

The following Milk Commission was appointed: Prof. Veranus A. Moore, chairman; Dr. A. D. White, Dr. H. L. Van Pelt.

## ONTARIO COUNTY MEDICAL SOCIETY.

Quarterly Meeting at Clifton Springs, April 13, 1909.

SCIENTIFIC SESSION.

"The Function of the Great Omentum," H. J. Knickerbocker.

"Ontario County's Tuberculosis Problem," A. L. Beahen.

"Some Observations on Post-Operative Treatment of Surgical Cases," J. H. Jewett.

## MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

Regular Meeting at the City Hall, Kingston, April 6, 1909.

SCIENTIFIC SESSION.

"Postural Treatment to Avoid Vomiting Following Anesthesia," George F. Chandler.

"Some Laboratory Tests, and the Use of the Microscope in General Medicine," John R. Gillett.

## THE MEDICAL SOCIETY OF THE COUNTY OF CATTARAUGUS.

Regular Meeting at Gowanda, April 6, 1909.

SCIENTIFIC SESSION.

"Diseases of the Gall Bladder," C. C. Frederick.

"Diphtheria," F. C. Robbins.

"Surgical Diseases," Charles Congden.

"Naso-pharyngeal Obstruction," J. E. Holden.

In the afternoon a Clinic on Mental Diseases was held by Dr. D. H. Arthur at the State Hospital.

## LEGISLATIVE NOTES.

Senate Bill, Int. No. 491, Printed No. 592, permitting the "Medical Society of the State of New York to alter the time of holding its Annual Meeting," which was printed in full on page 173 of the New York State Journal of Medicine in the April, 1909, issue, has been passed by both the Senate and Assembly and is now chapter 213 of the Laws of 1909.

### BILLS INTRODUCED INTO THE LEGISLATURE.

March 24 to April 23.

In Assembly.

An Act to amend subdivision 2 of section 30 of the Consolidated Agricultural Law, relative to adulterated milk. By Mr. Evans. To Agricultural Committee. (Same as S. 773.) Printed No. 1424. Int. 1225.

An Act to amend the charter of the city of Oswego, relative to water supply and police department. By Mr. F. L. Smith. To Cities Committee. (Same as S. 748.) March 26, reported; March 29, to third reading; March 30, amended in revision; April 5, passed; April 6, in Senate. Record No. 366. To Cities Committee. Printed Nos. 1428, 1691. Int. 1230.

An Act to amend sections 681 and 692 of the Greater New York charter, relative to authorizing the public charities department and the trustees of Bellevue and Allied Hospitals to establish bureaus for ambulance service. By Mr. Robinson. To Cities Committee. (Same as S. 727.) Printed No. 1443. Int. 1249.

An Act to amend section 1170 of the Greater New York charter, relative to authorizing the department of health to assume exclusive charge and control of hospitals for the treatment of contagious, pestilential or infectious diseases. By Mr. Robinson. To Cities Committee. (Same as S. 726.) April 7, reported; April 8, to third reading. Printed No. 1444. Int. 1250.

An Act authorizing the town board of the town of Rye, to appropriate certain moneys to the Ladies' Hospital Association of Port Chester. By Mr. Mead. To Internal Affairs Committee. (Same as S. 707.) Printed No. 1462. Int. 1262.

An Act to amend the Consolidated Agricultural Law, by adding two new sections, 33a and 33b, relative to samples of milk that have been tested at butter and cheese factories and to licenses to be issued by the Commissioner of Agriculture. By Mr. Gray. To Agriculture Committee. (Same as S. 791.) March 29, amended and recommitted. Printed Nos. 1475, 1672. Int. 1276.

An Act to amend sections 22 and 23 of the Consolidated Public Health Law, relative to vital statistics and burial permits. By Mr. Wood. To Public Health Committee. March 31, reported, amended; April 6, to third reading; April 7, amended in revision. Printed Nos. 1477, 1739, 2005. Int. 1278.

An Act to amend section 5 of the Consolidated Public Health Law, relative to vital statistics. By Mr. Wood. To Public Health Committee. March 31, reported; April 1, to third reading; April 6. passed; April 7, in Senate. Record No. 399. To Public Health Committee. Printed No. 1478. Int. 1279.

An Act to amend section 371 of the Consolidated Real Property Law and sections 62 and 65 of the Consolidated Membership Corporations Law, relative to the acquisition of lands for cemetery purposes in certain counties. By Mr. Walters. To Judiciary Committee. (Same as S. 820.) March 31, reported; April 2, amended in revision; April 8, passed. Printed Nos. 1529, 1885.

An Act to amend sections 230 to 241, inclusive, of the Consolidated Public Health Law, relative to the practice of pharmacy. By Mr. Conklin. To Public Health Committee. April 7, reported. Printed No. 1610. Int. 1297.

An Act to grant and release to the city of Rochester all the right, title and interest of the people of the State in and to certain lands in said city, formerly used as a site for the State Industrial School. By Mr. Whitley. To Ways and Means Committee. (Same as S. 809.) April 1, reported; April 2, to third reading; April 5, amended in revision; April 8, passed. Printed Nos. 1540, 1905. Int. 1302.

An Act to amend the Consolidated Town Law, by adding a new section, 298, relative to the powers of commissioners of water districts outside of incorporated cities and villages. By Mr. Shea. To Internal Affairs Committee. April 2, reported; April 5, to third reading; April 9, passed. Printed No. 1589. Int. 1320.

An Act to amend the Consolidated Public Health Law, by adding a new section, 5a, relative to creating a eugenic department of the State Board of Health. By Mr. Cuvillier. To Ways and Means Committee. Printed No. 1677. Int. 1372.

An Act to amend the Consolidated Agricultural Law, by adding three new sections, 109, 110 and 111, relative to abattoirs and places where meat and meat products are manufactured, sold or kept for sale, and making an appropriation therefor. By Mr. Lansing. To Agriculture Committee. (Same as S. 837.) April 1, reference changed to Ways and Means Committee; April 8, reported amended. Printed Nos. 1679, 2063. Int. 1374.

An Act to amend sections 2, 25, 28, 33, 35, 49, 50, 53 and 54 of the Consolidated Public Service Commissions Law, relative to water-works corporations. By Mr. Wende. To Electricity, Gas and Water Committee. (Same as S. 850.) Printed No. 1684. Int. 1377.

An Act to authorize the board of trustees of the village of Hempstead, Nassau County, to regulate the construction, alteration or removal of all buildings and structures. By Mr. W. G. Miller. To Villages Committee. April 8, reported; April 9, to third reading. Printed No. 1711. Int. 1395.

An Act to provide for the expense of installing certain sewers and outlet sewers in the borough of Brooklyn, New York City. By Mr. Clarke. To Cities Committee. April 7, reported amended. Printed Nos. 1712, 2020. Int. 1397.

An Act to amend chapter 724, Laws of 1905, relative to reorganizing the water supply commission of New York City, abolishing the office of the present members and regulating the powers and duties of the various boards and officers of said city in respect to water supply. By Mr. Bates. To Cities Committee. April 7, reported amended. Printed Nos. 1756, 2022. Int. 1407.

An Act to authorize the board of water and sewer commissioners of the village of Watkins to retire certain bonds issued by said board pursuant to chapter 338, Laws of 1888. By Mr. Leffingwell. To Villages Committee. (Same as S. 853.) April 8, reported; April 9, to third reading; passed. Printed No. 1771. Int. 1422.

An Act to amend section 84 of the Consolidated Labor Law, relative to sanitation. By Mr. Lee. To Labor and Industry Committee. Printed No. 1772. Int. 1423.

An Act to amend section 332 of the Consolidated Public Health Law, relative to the application of certain provisions to the village of Saranac Lake. By Mr. Shea. To Public Health Committee. (Same as S. 858.) April 7, reported; April 8, to third reading. Printed No. 1776. Int. 1427.

An Act to amend the Greater New York charter, by adding a new section, 221a, relative to the powers of the commissioners of the sinking fund of the city of New York, in their discretion, to cancel and annul taxes, assessments, Croton water rents, etc., in certain cases. By Mr. Sheridan. To Cities Committee. Printed No. 1777. Int. 1428.

An Act to amend the Penal Law, by adding a new section, 197, relative to cruelty to animals. By Mr. Lansing. To Codes Committee. Printed No. 1792. Int. 1443.

An Act to amend the Consolidated State Board and Commissions Law, by adding two new sections, 25 and 26, relative to the powers of the State Water Supply Commission. By Mr. Hawley. To Judiciary Committee. (Same as S. 875.) April 8, reported amended. Printed Nos. 1841, 2062. Int. 1452.

An Act to amend section 328 of the Consolidated Public Health Law, relative to fees of physicians for making examinations in tuberculosis cases. By Mr. Thorn. To Public Health Committee. (Same as S. 861.) Printed No. 1845. Int. 1457.

An Act to amend section 19 of the Consolidated State Charities Law, relative to reports to State Board of Charities. By Mr. Hoey. To Judiciary Committee. Printed No. 1848. Int. 1461.

An Act to amend section 190 of the Penal Law, relative to poisoning or attempting to poison horses. By Mr. Goldberg. To Codes Committee. Printed No. 1855. Int. 1470.

An Act to license laundries that no person shall open, keep or carry on a public laundry until such person shall procure a license therefor from the Department of Public Health of the county in which such person intends to conduct such laundry. By Mr. Baumann. To General Laws Committee. Printed No. 1886. Int. 1474.

An Act providing for the construction of buildings and improvements for the New York State Training School for Boys, and making an appropriation therefor. By Mr. Merritt. To Ways and Means Committee. Printed No. 1892. Int. 1482.

An Act to amend the Greater New York charter, by adding three new sections, 245a, 245b, 245c, relative to granting authority to the Board of Estimates and Apportionment to exchange lands under water in creeks, tributaries thereto, ditches, ponds and bays no longer required by the city of New York for public purposes, for lands of private owners necessary for the purpose of constructing a sewer drainage canal within the same borough. By Mr. C. F. Murphy. To Cities Committee. (Same as S. 884.) April 7, reported. Printed No. 1893. Int. 1483.

An Act to amend sections 76, 77 and 77a of the Consolidated Public Health Law, and adding two new

sections, 76a and 76b, relative to prohibiting the disposal of sewage and manufacturing waste into the waters of the State. By Mr. Robinson. To Public Health Committee. (Same as S. 900.) Printed No. 1895. Int. 1485.

An Act to amend the Consolidated County Law, by adding ten new sections, 45, 46, 47, 48, 49, 49a, 49b, 49c, 49d and 49e, relative to the establishment and maintenance of county hospitals for the care of persons suffering from the disease known as tuberculosis. By Mr. Whitney. To Internal Affairs Committee. (Same as S. 881.) April 7, reported; April 8, to third reading. Printed No. 1897. Int. 1488.

An Act to amend the Penal Code, by adding new section, 178a, relative to furnishing medical attendance and medicines to persons sick and disabled. By Mr. Cuvillier. To Codes Committee. Printed No. 1948. Int. 1519.

An Act to amend section 194 of the Consolidated County Law, relative to stenographers for coroners. By Mr. Lewis. To Internal Affairs Committee. (Same as S. 915.) Printed No. 1975. Int. 1544.

An Act to provide for the restoration, as near as may be, of the sewer system, gas supply and service and water supply and service of any city, village, town or municipality interfered with by the construction of any canal work. By Mr. Fellows. To Ways and Means Committee. (Same as S. 914.) Printed No. 2032. Int. 1552.

An Act to incorporate the Provident Hospital. By Mr. Sargent. To Judiciary Committee. (Same as S. 925.) Printed No. 2038. Int. 1558.

An Act to amend sections 230 to 241, inclusive, of the Consolidated Public Health Law, relative to the practice of pharmacy. By Mr. C. F. Brown. To Public Health Committee. (Same as S. 961.) April 8, reported amended. Printed No. 2030. Int. 1559.

An Act creating a commission to study, investigate and suggest preventives for suicide, and making an appropriation therefor. By Mr. Cuvillier. To Ways and Means Committee. Printed No. 2084. Int. 1586.

An Act authorizing the board of aldermen of the city of Oneonta to appropriate certain moneys to the Aurelia Osborn Fox Memorial Hospital Society of Oneonta. By Mr. C. Smith. To Cities Committee. Printed No. 2086. Int. 1588.

An Act to amend the State Boards and Commissions Law, by adding fourteen new sections to be sections 25, 26, 27, 28, 29, 29a, 29b, 29c, 29d, 29e, 29f, 29g, 29h and 29i, relative to the powers and duties of State Water Supply Commission in respect to drainage. By Mr. Gray. To Judiciary Committee. Printed No. 2090. Int. 1592.

An Act to amend sections 40 and 41 of the Consolidated Agricultural Law, relative to oleomargarine and oleaginous substances not made from pure milk or cream from the same. By Mr. Boshart. To Agriculture Committee. (Same as S. 954.) Printed No. 2094. Int. 1596.

An Act to amend sections 92 and 93 of the Consolidated Agricultural Law, relative to quarantining of farms, extension of premises, detention and destruction of animals. By Mr. Boshart. To Agriculture Committee. (Same as S. 955.) Printed No. 2095. Int. 1597.

An Act making an appropriation for construction, additions and improvements at the State Hospitals for the Insane. By Mr. Merritt. To Ways and Means Committee. Printed No. 2120. Int. 1611.

An Act to amend the Consolidated Agricultural Law, by adding a new section, 64a, relative to tuberculin, issuing certificates relative to tuberculin-tested cattle, and to branding of tuberculosis cattle. By Mr. Boshart. To Agriculture Committee. (Same as S. 968.) Printed No. 2125. Int. 1617.

An Act to amend the Greater New York charter, by adding new sections, 694a, 718 and 719, relative to the department of correction. By Mr. A. E. Smith. To Cities Committee. (Same as S. 1019.) Printed No. 2166. Int. 1632.

An Act to amend the charter of the city of Lockport, relative to the number of members of the police force, the police fund, the garbage collection fund and fire fund. By Mr. Jordan. To Cities Committee. (Same as S. 979.) Printed No. 2145. Int. 1635.

An Act authorizing the city of Lockport to raise money for building a bridge across the Eighteen-Mile Creek in said city and for improving its fire department, police department and garbage system. By Mr. Jordan. To Cities Committee. (Same as S. 980.) Printed No. 2151. Int. 1636.

An Act to amend the Consolidated Insanity Law, by adding a new section, 20, relative to power of the State Commission of Lunacy in respect to the detention and care of the insane, or apparently insane persons, prior to their transfer to institutions for the insane. By Mr. Ward. To Judiciary Committee. (Same as S. 1007.) Printed No. 2150. Int. 1637.

An Act to amend sections 84, 86, 87 and 88 of the Consolidated Insanity Law, relative to the care and treatment of insane persons, and persons under examination as to their insanity pending such examinations and prior to their transfer to institutions for the insane. By Mr. Ward. To Judiciary Committee. (Same as S. 1008.) Printed No. 2167. Int. 1638.

An Act to incorporate the city of New Rochelle. By Mr. Duell. To third reading and to Cities Committee. (Same as S. 944.) Printed No. 2270. Int. 1640.

An Act to amend the charter of the city of Buffalo, relative to the letting of contracts and spreading of assessments for the improvement and maintenance of Buffalo river and other waterways within said city and for cleaning streets. By Mr. Weimert. To third reading and to Cities Committee. (Same as S. 982.) Printed No. 2159. Int. 1644.

An Act to authorize the commissioners of the Sinking Fund of the city of New York to remit certain taxes upon property of the Philanthropin Hospital of the city of New York. By Mr. Bohan. To Cities Committee. Printed No. 2161. Int. 1646.

An Act to amend sections 37 and 49 of the Consolidated Agricultural Law, relative to condensed milk and evaporated milk and the branding of cheese and butter. By Mr. Boshart. To Agriculture Committee. (Same as S. 1000.) Printed No. 2185. Int. 1648.

An Act to confer certain rights upon the city of Mount Vernon in the question of water and upon the city of New York in respect to supplying Mount Vernon with water from the present water supply of New York City. By Mr. Duell. To Electricity, Gas and Water Committee. (Same as S. 944.) Printed No. 2186. Int. 1649.

An Act authorizing the city of New Rochelle to borrow $25,000 for taking up and retiring outstanding, over-due sewer certificates of indebtedness. By Mr. Duell. To Cities Committee. (Same as S. 907.) Printed No. 2188. Int. 1651.

An Act authorizing the village of Canajoharie to borrow not exceeding $7,500 for the purpose of meeting the preliminary expenses for the establishment of a water system in such village and to issue notes or certificates of indebtedness therefor. By Mr. Staley. To Villages Committee. (Same as S. 1017.) Printed No. 2223. Int. 1672.

An Act relative to the filing of data in regard to the water supply of cities of the first class in their water departments, boards of officers and the receipt in evidence of such data. By Mr. Conklin. To Cities Committee. Printed No. 2226. Int. 1675.

An Act to amend section 326 of the Consolidated State Charities Law, relative to the New York State Women's Relief Corps Home. By Mr. J. L. Miller. To Judiciary Committee. Printed No. 2279. Int 1707.

IN SENATE.

An Act to amend the charter of the city of Johnstown, relative to water supply. By Mr. Heacock. To Cities Committee. (Same as A. 1055.) March 31,

reported, amended; to third reading; April 7, passed; April 8, in Assembly. Record No. 179. To Cities Committee. Printed Nos. 837, 1008. Int. 734.

An Act making an appropriation for rebuilding a barn recently destroyed by fire at the Thomas Indian School, and for completing the Hospital of the Women's Relief Corps Home at Oxford. By Mr. Davis. To Finance Committee. (Same as A. 1328.) March 25, reported; to third reading; March 29, passed; March 30, in Assembly. Record No. 107. To Ways and Means Committee; April 8, reported; April 9, to third reading; passed. Printed No. 846. Int. 743.

An Act to amend the charter of the city of Oswego, relative to the water supply and police department. By Mr. Cobb. To Cities Committee. (Same as A. 1230.) Printed No. 851. Int. 748.

An Act to amend subdivision 2 of section 30 of the Consolidated Agricultural Law, relative to adulterated milk. By Mr. Rose. To Agricultural Committee. (Same as A. 1225.) Printed No. 876. Int. 773.

An Act to amend chapter 104, Laws of 1902, relative to the Syracuse Hospital for Women and Children. By Mr. Holden. To Judiciary Committee. April 1, reported; April 5, to third reading; April 7, passed; April 8, in Assembly. Record No. 182. To Judiciary Committee. Printed No. 903. Int. 785.

An Act to amend the Consolidated Agricultural Law, by adding two new sections 33a and 33b, relative to samples of milk that have been tested at butter and cheese factories and to licenses to be issued by the Commissioner of Agriculture. By Mr. Cobb. To Agriculture Committee. (Same as A. 1276.) March 29, amended and recommitted. Printed Nos. 909, 978. Int. 791.

An Act to repeal sections 104 and 105 of the Consolidated Agricultural Law, relative to veterinary surgeons. By Mr. Allds. To Agriculture Committee. (Same as A. 1304.) March 31, reported; to third reading; April 8, passed; April 9, in Assembly. Record No. 193, to third reading without reference; passed. Printed No. 910. Int. 792.

An Act to amend sections 100, 103, 106, 107, 122, 140, 144 and 145 of the Consolidated Public Health Law, relative to commissioners of quarantine and health officers at the port of New York. By M. Gledhill. To Finance Committee. Printed No. 933. Int. 797.

An Act to amend chapter 769, Laws of 1896, relative to water supply of the village of White Plains and to taxation therefor. By Mr. Wainwright. To Villages Committee. (Same as A. 1282.) March 31, reported; April 1, to third reading. Printed No. 937. Int. 801.

An Act to amend sections 99, 101 and 102 of the Consolidated Agricultural Law, relative to appraisal of diseased animals and compensation to owners of animals destroyed. By Mr. Hamilton. To Finance Committee. (Same as A. 1184.) Printed No. 949. Int. 814.

An Act to amend section 95 of the Consolidated State Prisons Law, relative to the compensation of the chaplain and physician at the State Prison for Women. By Mr. Hewitt. To Finance Committee. Printed No. 968. Int. 824.

An Act to amend the Consolidated Agricultural Law, by adding three new sections, 109, 110 and 111, relative to abattoirs and places where meat and meat products are manufactured, sold and kept for sale. By Mr. Agnew. To Finance Committee. (Same as A. 1374.) Printed No. 984. Int. 837.

An Act to amend sections 2, 25, 28, 33, 35, 49, 50, 53 and 54 of the Consolidated Public Service Commissions Law, relative to pipe line and water-works corporations. By Mr. Cobb. To Judiciary Committee. (Same as A. 1377.) Printed No. 1038. Int. 850.

An Act to authorize the Board of Water and Sewer Commissioners of the village of Watkins, to retire certain bonds issued by said board pursuant to chapter 338, Laws of 1888. By Mr. Conger. To Villages Committee. (Same as A. 1422.) Printed No. 1041. Int. 853.

An Act to amend section 328 of the Consolidated Public Health Law, relative to fees of physicians for making examinations in tuberculosis cases. By Mr. Davis. To Public Health Committee. (Same as A. 1457.) Printed No. 1049. Int. 861.

An Act to amend the State Board and Commissions Law, by adding two new sections, 25 and 26, relative to the powers of the State Water Supply Commission. By Mr. Cobb. To Judiciary Committee. (Same as A. 1452.) April 9, reported, amended. Printed Nos. 1068, 1216. Int. 875.

An Act to amend sections 76 and 77 of the Consolidated Public Health Law, and adding two new sections, 76a and 76b, relative to the discharge of sewage into the waters of the State. By Mr. Witter. To Public Health Committee. (Same as A. 1167.) April 8, reported. Printed No. 1069. Int. 876.

An Act to amend the Consolidated County Law, by adding ten new sections, 45, 46, 47, 48, 49, 49a, 49b, 49c, 49d and 49e, relative to the establishment and maintenance of county hospitals for the care of persons suffering from the disease known as tuberculosis. By Mr. Hamilton. To Internal Affairs Committee. (Same as A. 1488.) April 8, reported. Printed No. 1074. Int. 881.

An Act to amend the Greater New York Charter, by adding three new sections, 245a, 245b, 245c, relative to granting authority to the Board of Estimate and Apportionment to exchange lands under water in creeks, tributaries thereto, ditches, ponds and bays no longer required by the city of New York for public purposes, for lands of private owners necessary for the purpose of constructing a sewer drainage canal within the same borough. By Mr. McCarren. To Cities Committee. (Same as A. 1483.) Printed No. 1092. Int. 884.

An Act making an appropriation for the purchase of lands under provision of chapter 77, Laws of 1909, upon requisition of the State Commission in Lunacy. By Mr. Allds. To Finance Committee. April 7, reported, to third reading. Printed No. 1099. Int. 889.

An Act to amend sections 76, 77 and 77a of the Consolidated Public Health Law, and adding two new sections, 76a and 76b, relative to prohibiting the disposal of sewage and manufacturing waste into the waters of the State. By Mr. Burlingame. To Public Health Committee (Same as A. 1485.) April 8, reported. Printed No. 1113. Int. 900.

An Act to provide for the restoration, as near as may be, of the sewer system, gas supply and service and water supply and service of any city, village, town or municipality interfered with by the construction of any canal work. By Mr. Heacock. To Finance Committee. (Same as A. 1552.) Printed No. 1133. Int. 914.

An Act to amend section 194 of the Consolidated County Law, relative to stenographers for coroners. By Mr. Davenport. To Internal Affairs Committee. (Same as A. 1544.) Printed No. 1134. Int. 915.

An Act to incorporate the Provident Hospital. By Mr. Gledhill. To Judiciary Committee. (Same as A. 1558.) Printed No. 1153. Int. 925.

An Act to amend chapter 724, Laws of 1905, relative to reorganizing the water commission of New York City, abolishing the office of the present members and regulating the powers and duties of the various boards and officers of said city in respect to the water supply. By Mr. Agnew. To Cities Committee. Printed No. 1194. Int. 938.

An Act to confer certain rights upon the city of Mount Vernon in the question of water and upon the city of New York, in respect to supplying Mount Vernon with water. By Mr. Wainwright. To Cities Committee. Printed No. 1193. Int. 944.

An Act to amend sections 40 and 41 of the Consolidated Agricultural Law, relative to oleomargarine and oleaginous substances not made from pure milk

or cream from the same. By Mr. Platt. To Agriculture Committee. (Same as A. 1596.) Printed No. 1204. Int. 954.

An Act to amend sections 92 and 93 of the Consolidated Agricultural Law, relative to quarantining of farms, extension of premises, detention and destruction of animals. By Mr. Platt. To Agriculture Committee. (Same as A. 1597.) Printed No. 1205. Int. 955.

An Act authorizing the board of aldermen of the city of Oneonta to appropriate certain moneys to the Aurelia Osborn Fox Memorial Hospital Society. By Mr. Allds. To Cities Committee. Printed No. 1206. Int. 956.

An Act to amend sections 230 to 241, inclusive, of the Consolidated Public Health Law, relative to the practice of pharmacy. By Mr. Witter. To Public Health Committee. (Same as A. 1559.) Printed No. 1211. Int. 961.

An Act to amend the Consolidated Agriculture Law, by adding a new section, 64a, relative to tuberculin, issuing certificates relative to tuberculin-tested cattle, and to branding of tuberculosis cattle. By Mr. Allds. To Agriculture Committee. (Same as A. 1617.) Printed No. 1222. Int. 968.

An Act to amend section 484 of the Greater New York charter, relative to rights of owners of land abutting on aqueduct. By Mr. Alt. To Cities Committee. (Same as A. 1647.) Printed No. 1237. Int. 970

An Act to amend the charter of the city of Lockport, relative to members of the police force, the police fund, the garbage collection fund and fire fund. By Mr. Mackenzie. To Cities Committee. (Same as A. 1635.) Printed No. 1249. Int. 979.

An Act authorizing the city of Lockport to raise money for the purpose of building a bridge across the Eighteen-Mile Creek in said city, and for the improvement of its fire department, police department and garbage system. By Mr. Mackenzie. To Cities Committee. (Same as A. 1636.) April 15, reported, to third reading. Printed No. 1246. Int. 980.

An Act to amend sections 37 and 49 of the Consolidated Agricultural Law, relative to condensed milk and evaporated milk, and the branding of cheese and butter. By Mr. Platt. To Agricultural Committee. (Same as A. 1648.) Printed No. 1273. Int. 1000.

An Act to amend the Consolidated Insanity Law, by adding a new section, 20, relative to the detention and care of insane, or apparently insane persons, prior to their transfer to institutions for the insane. By Mr. Agnew. To Judiciary Committee. (Same as A. 1637.) Printed No. 1280. Int. 1007.

An Act to amend section 1271 of the Penal Law, relative to hours of labor to be required. By Mr. Burlingame. To Codes Committee. (Same as A. 1628.) Printed No. 1286. Int. 1013.

An Act to amend sections 100, 103, 105, 106, 107, 108, 109, 110, 111, 120, 121, 122, 124, 128, 134, 138, 139, 142, 144 and 145, and repealing sections 101 and 102 of the Consolidated Public Health Law, relative to the quarantine commissioners. By Finance Committee. To third reading. Printed No. 1300. Int. 1026.

An Act providing for the construction of buildings and improvements for the New York State Training School for Boys, and making an appropriation therefor. By Finance Committee. To third reading. (Same as A. 1482.) Printed No. 1301. Int. 1027.

An Act relative to the filing of data in regard to water supply of cities of the first class in their water departments, boards and officers and the receipt in evidence of such data. By Mr. Schulz. To Cities Committee. Printed No. 1311. Int. 1037.

An Act to authorize the Board of Trustees of the village of Ellenville, Ulster Co., to provide for a supply of water for such village and to raise the necessary funds therefor. By Mr. Cordts. To third reading and Villages Committee. Printed No. 1341. Int. 1039.

An Act making an appropriation for construction, additions and improvements at the State Hospitals for the Insane. By Finance Committee. To third reading. Printed No. 1348. Int. 1047.

## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

All books for review should be sent to the business office of the Medical Society of the State of New York, 17 West Forty-third Street, New York.

Oxford Medical Publications. Infant Feeding. A practical guide to the artificial feeding of infants. By J. S. Fowler, M.D., F.R.C.P. Ed. Physician to the Royal Hospital for sick children, Edinburgh Joint-Clinical lecturer on diseases of children, University of Edinburgh. London. Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909.

## BOOK REVIEWS.

Text-Book of Gynecological Diagnosis. By Dr. George Winter. With the collaboration of Dr. Carl Ruge. Edited by John G. Clark, M.D. After the Third German Edition. Philadelphia and London, J. B. Lippincott Co., 1909. xxi, 670 pp., 2 col. pl., 2 col. fold. pl. 4vo. Price: $6.00 net.

Ten years after the second edition of this work, the third edition comes to us entirely rewritten and expresses such changes in opinion on many points as constant work and improved technique would bring to one who is conscientious and untiring in his work.

The illustrations are nearly double the number in the early edition and some old pencil drawings replaced by photogravures.

Throughout the work the author, Prof. Winter, has shown the results of great care, untiring labor and research in the fields of embryology, topical anatomy, histology, pathology and bacteriology, both on his part and of his colleague, Prof. Carl Ruge. The profession is deeply indebted to Dr. Goepp, who translated it into such excellent English, and to Dr. Clark, for the arrangement and editorial notes with which it is freely sprinkled. These notes, which are in brackets and thus preserve the text inviolate, explain or modify statements adapting them to the needs of the American reader.

The work is arranged in three parts:—General Diagnosis, Special Diagnosis and Analytical Diagnosis. The first division takes up all the modern methods of examination, external and internal, including manual, visual, instrumental, bacteriological and radiographical—excluding obsolete and crude instrumentation and methods.

The second division, Special Diagnosis, is preceded by a chapter on normal findings in order that the reader may become familiarized with the healthy normal tissues and organs in the proper relations before he is led from that normal standard into the deviations, abnormalities and diseased conditions.

In the last division is taken up the method of reasoning from the symptomatic history of the case as it comes to the first notice of the physician, leading up to the examination necessary for corroborative diagnosis of the patient's abnormal condition and making clear the particular region or organ to which one is to look for the trouble.

The chapter on the premonitory signs and symptoms of early carcinomatous invasion is worthy of the careful consideration of every practitioner, and if the lesson is given proper heed much may be done to diminish the number of inoperable cases afflicted with that malady which now overwhelm the specialist.

Tribute is paid to our American Pioneers in Gynecology,—McDowell, Sims, Hodges, Skene, Emmett and others of equal prominence and fame.

FREDERIC J. SHOOP.

DISEASES OF THE DIGESTIVE CANAL (ŒSOPHAGUS, STOMACH, INTESTINES.) By PAUL COHNHEIM. From the Second German Edition Edited and Translated by DUDLEY FULTON, M.D. Philadelphia and London, J. B. Lippincott Co., 1909. xxi, 373 pp. 8vo. Price: Cloth, $4.00 net.

In the portion devoted to Physical Examination the "Habitus" of the patient is carefully gone over, which is all important. Percussion is placed secondary to palpation. The statement that the lower gastric border reaches only to where the palpating finger can "feel" the "splash" is wise. To "hear" and "feel" the chyme passing through the pylorus would require considerable experience, and that with patients of "habitus enteropticus." In the space devoted to chemical examination of the gastric contents, I find no mention of Gunzburg's reagent, though it is generally regarded as more sensitive to Hcl than any other. It is gratifying to see emphasis laid by such authority as Cohnheim, upon the "blind" stomach tube. He also remarks further on that "for therapeutic purposes, the stomach tube is rarely used at the present time." This is true, and should be more thoroughly appreciated by the profession at large. Mention is made of the infrequency of organic as compared to functional disease of the stomach. Few maladies are more frequently diagnosticated, when in reality they do not exist, than "catarrh of the stomach." That the tongue is not the "mirror of the stomach" is clearly brought out.

The treatment of ulcer by lavage is with the conservatism employed in the book, decried. That hyperchlorhydria is in many instances dependent upon constipation is the daily experience of those working in gastroenterology.

Coming to gastroptosis, it is refreshing to see the plaster bandage described at length and even with illustration. Why this method of support has not been more generally taken up by the profession is unexplained. Cases of abdominal ptoses occur in a large majority of instances in persons of typical "habitus enteropticus," and this form of artificial support is the only one that will *do* to any degree what is required of an abdominal bandage.

The assumption that there is no real pain in a purely nervous affection of the stomach is open to discussion. In the management of nervous nausea and vomiting, anesthesin deserves mention as well as the remedies alluded to.

Under "Diseases of the Intestines," the point that the cause of the prevalent bowel disturbances can be traced to use of artificial foods during the first few years of life, is well taken, as is also the plea for the scant use of opium in intestinal disease. Personally I believe peristaltic unrest does occur without pyloric obstruction. The great value of this work, particularly to the general practitioner, lies in the fact that it is from beginning to end the experience of the author, and not a compilation of tiresome statistics of what somebody reports *that somebody else has reported that somebody else has really done!*

H. W. L.

STUDIES OF THE HUMAN FORM: FOR ARTISTS AND SCULPTORS AND SCIENTISTS. By R. W. SHUFELDT, M.D., Major, Medical Department, U. S. Army (ret.). First Edition: Royal quarto. Three styles of binding ($25, $20, $15); 642 pp.; nearly 500 illustrations, half tones and special cuts. F. A. Davis & Co., Philadelphia. 1908.

This magnificent production is the first treatise of the kind that has made its appearance in this country, and in saying this it may be added that it is far and away ahead of nearly every work of the same character and purpose that has yet appeared.

Its author is unusually well equipped to undertake the task of giving to Art and Medicine the great work which we now have before us. Dr. Shufeldt has for many years been known as a writer in many departments of science, and has achieved an international reputation, not only as a naturalist and anthropologist, but likewise in special departments of law, medicine, psychics and other branches; while as an authority in comparative anatomy his memoirs are standard the world over. The present work is the outcome of a long series of contributions on the study of the human figure which have appeared for the last ten years in various magazines in this country and Europe.

The work, fitly dedicated to the distinguished Dr. Stratz, of Holland, is divided into forty-two chapters; and these not only take into consideration every part of the body in men, women and children, but go further and compare such data in our own race with what we know of such matters among other races of the world, both savage and civilized. With this information at hand the author clearly points out its value to the sculptor, the artist, the artisan, the criminologist and the ethnologist, indeed, to any and all who have to comprehend the form of man in all of its possibilities and variations. The vast majority of the superb illustrations of the volume appear for the first time, and these have been photographically taken direct from the living models by the author himself at his own studio. His accomplishments in this direction have long been celebrated, not only in his own works but in those of foreign production. It would be impossible in a brief notice to do this great volume anything like justice in the way of a review, so it only remains for those of the various professions which it will interest either to secure it through purchase or consult it in the libraries where it may be found. It has been received by scientists of the highest distinction on both continents with the utmost favor, and we wish it success.

LES SYNESTHESIES. Par HENRY LAURES. Paris, Bloud & Cie., 1908. 97 pp., 12mo. Price: Paper, francs 1.50 net.

The synesthesias are phenomena of association awakened simultaneously between two or more of the special senses, the original stimulus having acted on but one. Seeing certain colors with certain sounds is the type oftenest met; but odors may have colors or temperatures, geometrical figures give rise to sounds or odors and so on with certain individuals. In 1759 an attempt was made to convey ideas of music to deaf-mutes by a series of colored lamps; a century later the same attempt was made by a selection of different tasting liqueurs. The extensive classifications of these associations of both Flournoy and Mendoza are here given in full; while the author contents himself with treating the subject under two heads—Simple Colorists and Emotional Colorists.

In simple colored audition neither the invoking nor evoked sensation has any emotional character. The reports of artists and literary men are touched upon, but discarded on account of their imagination leading too far astray. Four cases of investigation are seriously reported and discussed. First, a lady who always sees colors for vowels, words and musical notes. Second, tests made on two children at intervals of several years. Third, a series of families containing several audito-colorists; in one, nine out of ten of the family. Fourth, a young male epileptic constantly observed for three years. Although not belonging under this class a description of the famous play, "Canticle of Canticles," given in 1891, follows, in which the actors were dressed in colors of different vowels, spoke their parts in words arranged to contain many of their particular vowels, with an appropriate perfume, and musical tones of the proper color.

Under Synthesias with an emotional character, or Correspondances, are taken up at length three classes; First, Those accidentally induced by intoxications; Second, Cases where the primary sensation evoked seems to have no connection with the fact involved; Third, Logical synesthesias, seeming to be real correspondances

Many interesting lists of correspondances follow with the ideas of well-known men who have breathed music, heard perfumes, experienced the noises and tastes of colors, seen sounds, heard colors and odors, etc. In explanation, M. Laures inclines to the physiological theory for the first class of colorists and to the psychological for the emotional colorists, while admitting that many cases may demand both theories. He discards the embryonic and anatomic theories of their etiology, thus agreeing with Dr. A. Marie.

While Max Nordau denounces audito-colorists as degenerate, Laures holds that an aptitude to establish correspondances between sensations resembling each other in emotional character, is an index of superior mental power of synthesis. That this power is developed in proportion to education and cultivation in children who commence as simple colorists; though, on the contrary, if commencing after infancy, it is a sign of some morbid condition. Artists may legitimately call on another sense than the one ordinarily accepted as the appropriate one, to express difficult or abstruse ideas. The frescos of Puvis de Chavannes when properly placed amount to music, poetry and painting.

A small bibliography is appended, the editor not wishing to repeat the voluminous one on this subject given in volume 2 of the series.

ROBERT KINGMAN.

LA PATHOLOGIE DE L'ATTENTION. Par N. VASCHIDE ET RAYMOND MEUNIER. Paris, Bloud & Cie., 1908. 115 pp., 12mo. Price: Paper, francs 1.50 net.

The authors launch their subject with a review of the work of Pillsbury, Nayrac, Roehrich and Ribot; criticising the first three, while holding that Ribot, the oldest, 1889, with his classification of disorders of attention into hypertrophies and atrophies, is of most value, although he unfortunately complicates his second class with dreams and hypnotism. This present work reviews all the experimental and laboratory tests upon the psycho-pathology of attention up to the time of its publication. Later on Meunier intends to bring out a work on attention considered from the psycho-physiological aspect.

A chapter is devoted to the early experiment work of Sancte de Sanctis, Obersteiner and Buccola on reaction time to auditive impressions and to induced thoughts; these were made on normal subjects, in various mental disorders, and before, under and after taking hasheesh. The general conclusions of these authors as to the difference in time reaction under normal and abnormal conditions are quoted. Next are given the valuable figures obtained at Nancy, in 1888, under the direction of Rémond upon tactile time reaction in its relation to the attention. Tests were made before, during and after bad weather, under conditions of distraction, with sensory nerve compressed and on soldiers, students, the aged, and mentally disordered.. Six different points in the relations of the time of sensory transmission, motor transmission and of internal psychic operations, were kept in view. Rémond's tables are given in full, showing that the time increase is for the psychic element in all nervous disorders investigated, with the exception of epilepsy where the centripetal conduction appears increased instead.

The work of M. Raymond and P. Janet at La Salpetrière is most interestingly traced. First, tests on attention and mental work; Second, measuring the visual field for contraction in feeble and fatigued attention; Third, the classic time reaction tests, with a complete description of Marey's cylinder equipped with Despret's electric sounder and the written curves obtained thereby. In these tests the famous paradoxical curve left many results in perplexity, showing astonishing regularity and rapidity long after fatigue should have operated. The case of hysteria which was tested for two and a half hours before, during and after a crisis of religious ecstasy, and thereby established the fact of automatization and subconscious response to reaction investigation, thus explaining the paradoxical curve, is reported in full.

The concluding chapter reviews the more recent work. That of Wiersma, 1903, proving the fact of quicker reaction in exalted states, with increased power of attention and the opposite in depression; thus constituting oscillations of attention. Consoni's thirteen conclusions upon tests of dynamic and static attention made upon children follow. And especially interesting is de Tursac's work (1905), on disorders in writing, in which omissions, interpolations, repetitions, etc., in writing, copying, dictation and speaking are analyzed and classified in their relations to feeble and fatigued attention, both in normal and abnormal subjects. Dr. A. Marie's more recent work, 1906, upon time reaction, using the chronometer of Arsonoval, concludes that the more a psychic disorder becomes grave, the slower and more irregular becomes the reaction and the quicker does fatigue manifest itself. A remarkably comprehensive table, 1875 to 1908, of authors, their cases and their conclusions bearing on the subject in hand, ends the volume.

ROBERT KINGMAN.

L'AUDITION MORBIDE. Par le DR. A. MARIE. Paris, Bloud & Cie., 1908. iv, 146 pp., 12mo. Price: Paper, francs 1.50 net.

Under the two classes of Hypoacusia and Hypercusia Dr. A. Marie discusses the abnormalities of diminished and increased hearing, confining himself more to functional anomalies than to central or peripheral lesions. The steps of speech organization in the child are discussed in detail as an introduction and resemblance traced between speech of infancy and idiocy. The dependency of idiocy on poor peripheral audition, association of hearing with tactile sense in infants, and stages of development for different forms of sound are sketched.

Under Hypoacusia is taken up primitive perception of sound or the recognition of sound as mere sound and part played therein by tactile sense of skin of ear and by ear muscles,, and angle of insertion of ear, as well as by movements of the head in adjusting the ear to the axis of sound. Secondly, Acquired perception of sound or the recognition of the qualities of sound, a knowledge built up by education and the use of other special senses. Cases are quoted showing the co-existence of hysterical deafness and insensibility of the skin of the external ear, and an interesting series showing the relation of complete and incomplete hemi-deafness in cases of hemi-anesthesia of the body.

As the iris contracts under strong light the muscles of the hammer of the ear react by accommodation to adjust the tympanic membrane in receiving an intense sound. Following this simile, by testing with tuning forks, central and peripheral auditory scotoma of the tympanum may be found in hysteria and in idiots. Paracusia, also, may be explained often by errors of tension and accommodation as the result of stiffening in the tympanum.

In the chapter on Hyperacusia we find the particular research work done by Dr. Marie. Hyperacusia is not greater acuity of the sense organ, but a disproportionate cerebral reaction to sound like the phenomenon of photophobia. Different forms, such as hearing sounds closer than they are, louder than they are, of a wrong character, reduplications, etc., are described. Auditory hallucinations, the voices heard in manias, those heard by mystics and by musicians reciting the music they are to compose are next taken up. The new views on the forms of aphasia and its reclassification are also treated in full. His general conclusions are that imperfect audition is more to be looked for in insufficiency of the association centers than in peripheral defects; that among defectives, the training of voluntary attention, at the same time making appeal by other sense routes, may greatly improve hearing, and secondarily, the mental status; and that apparent hyperesthesias of hearing are in reality states of irritable feebleness.

A large part of the data given treats of the peculiar condition known as colored audition. Individual cases are described and series of investigations tabulated on

the seeing or hearing of different colors on hearing certain words or letters. The colors always seen on hearing names of abstract qualities, the days of week and months, for different musical -instruments, for perfumes, etc. are taken from the statements of well-known literary and other prominent men. Colored audition is found in from twelve to thiry per cent. of normal children, disappearing with age, and this condition has given rise to four possible explanations as to its etiology,—the embryonic, anatomic, physiological and psychological or association, the latter being most plausible.

ROBERT KINGMAN.

LE SPIRITISME DANS SES RAPPORTS AVEC LA FOLIE. Essai de Psychologie Normale et Pathologique. Par le DR. MARCEL VIOLLET. Paris, Bloud & Cie., 1908. 120 pp., 12mo. Price: Paper, francs 1.50 net.

In this second of the Raymond Meunier series, Dr. Viollet treats of spiritism in its relation to mental deficiency and disease. First are sketched the phenomena of levitation, tappings, materializations, etc., as presented to the public by spiritists and the description of a typical seance is quoted from Flammarion's "Unknown Natural Forces." An admirable analysis of the characteristics of the audience follows from the credulous neurasthenic to the impartial scientific observer; including those also of pronounced religious tendencies who do not, now-a-days, find sufficiently satisfying mysteries in the churches. A chapter is devoted to the doctrine of spiritism with its theory of seven spirits in the body; the three chief of which are the body itself, which goes back to the earth, the soul, which ascends to the heavens and the peri-spirit, which at death wanders about the astral world. It is the peri-spirit only over which the mediums claim to have power, calling it back to interrogate its memories of the earthly body.

An hallucination may be defined as a sensation without an object, and thus spirit phenomena may be termed sensations with an object of unknown nature, origin and essence. The cause of spirit hallucinations is automatization of a center (visual or auditory), which then externalizes its activity. Thus mediums under "control" have isolated one or two centers which functionate alone and they write or talk too fast to think, *i. e.*, automatically, a condition often met also in dements. As delusions have point of departure in a false idea, and the individual believes that he sees the basis of his delusion and believes that others see it, but deny it, so it may be also with spiritism. Logically speaking, one could not consider spiritism a delusion, without also considering by extension all religions and philosophies which border upon it, as delusions also. At least, however, it may be stated that spiritism contains elements analogous to those entering into the constitution of delusions.

A classification of spirit manias is made as follows: 1. External Mediumopathies—found among the predisposed and due to spirit doctrine *per se;* including those of feeble intelligence, neurasthenics and degenerates. 2. Internal Mediumopathies—found among those who would have been subject to other manias, but have accidentally adopted the spirit form. In the latter, as Mediumomanias, we may find dementia præcox in its four regular forms, toxæmias, internal and external, general paralysis, manic depressive insanity, senility and the pre-senile melancholy. A minute and interesting description of all these forms in general and of typical examples follows; the latter includes an historical list of famous assassins.

The conclusion contains a pertinent warning to the predisposed to beware of spiritism and seances. Also a warning to participants against conscious and unconscious frauds and absurdities. The danger to the audience is imitation,—attempting to become mediums and thus spreading automatization. The danger from spirit manifestations is that of hallucinations; and from the spirit doctrine itself, that of mania. A bibliography is appended.

ROBERT KINGMAN.

LES PRÉJUGES SUR LA FOLIE. Par la PRINCESSE LUBOMIRSKA. Avec une Préface de M. le DR. JULES VOISIN. Paris, Bloud & Cie., 1908. xv, 87 pp., 12mo. Price: Paper, francs 1.50 net.

This monograph by the Princess Lubomirska on the misconceptions about insanity is the fourth of the Raymond Meunier series. It is dedicated by the author to her teacher, Dr. A. Marie, and contains a preface by Dr. J. Voisin, hoping that a lay opinion may be of value in correcting the prejudices of the public toward this affliction. First, as to the supernatural origin of insanity. This idea is traced through early mythological, Roman and early Christian, down to our present epoch, with a description of the Roman regulations for the insane, the theories of the early fathers of medicine and the relation of insanity to the Christ theory of divine punishment for earthly evil. The epidemics of insanity in early ages were probably due to intermarriage; to isolation of villages, and to a universally spread fear of such things as leprosy, poisonings, pest, invasions and the fear of divine terror collectively felt. Only in the 17th century were those troubles classed with other forms of disease. Second, The external appearance of the insane. Discipline and hygienic industry in place of irons, torture and execution have reduced noises, cries and furious ravings to a minimum in our modern asylums. Third, The contagiousness of insanity. Contagion in its general aspects is first discussed and brought down to its modern status of always postulating a microbe. We may have insanity in the course of infectious disease, but there is no known microbe acting to specifically cause any insanity. Hereditary and other predisposing causes may act, and a weak intellect may fall under the spell of the hallucinations of a powerful mind. Neuropathics also by imitation and auto-suggestion may give rise to apparent epidemics. Fourth, The incurability of insanity. The advice in this chapter may be taken to heart by laity and profession alike, both of whom are apt to see little further than the diagnosis in these disorders. Early classifications confused transitory states with incurable conditions, and so perpetuated a confusion hardly yet recovered from. A table of curable, incurable and intermittent insanities is quoted in full from Dr. A. Marie and followed by a most valuable reference description of the minute physical, mental and moral signs of the beginnings of convalescence in nearly all recognized forms of insanity and psychoses. A special consideration follows of the various forms of relapses, the latter being partially responsible for the idea of incurability. Unavoidable relapses are to be found in the course of the evolution of chronic maladies; avoidable relapses are brought on by subjecting patient to the original cause of the trouble again. Fifth, The danger of Insanity. Press reports of insane crimes and its tendency to call all criminals insane play a great part here. A discussion of what forms the danger takes in various insanities and at what period of their course it may be expected is given; such as the sudden destruction in manias; the planned crimes, in troubles of slow onset; and suicide and killing of loved ones in melancholy, to save them from misery. Alcohol is stated to cause the most danger for the public and family and laws to commit such cases to working asylums for long periods are advised.

ROBERT KINGMAN.

LES HALLUCINATIONS TÉLÉPATHIQUES. Par N. VASCHILDE. Paris, Bloud & Cie., 1908. x, 97 pp., 12mo. Price: Paper, francs 1.50 net.

This is the first number of an attractively bound series in paper: The Library of Experimental Psychology and Metaphysics, under the direction of Raymond Meunier. Six volumes have been issued and a number of others are under way, all intended to fall into three general groups, as follows: First, Historical, treating of the precursors of this line of investigation; Second, The general questions of psychology, and Third, The special problems of psychology and metaphysics. Worth

noting is the definition given of metaphysics, namely: A generic term for phenomena upon which the psychological sciences have not yet furnished definite conclusions.

The matter in this monograph was taken by Meunier with little alteration from the papers and notes of Vaschilde after his death. The opening chapter suggests Metchnikov's idea of all lines of human thought leading to the blank wall of death and man's endeavor to form a belief in something beyond. And as the miracle of one century becomes the triviality of the next, we are justified in at least discussing the following problems: The reappearance of the dead; photography of these appearances, and the traversing of space by the thoughts of the living. The Societies for Psychological Research have established to their own satisfaction that the mind of one can act upon the mind of another without word or sign; that persons in crisis or near death appear to others, and that apparitions are the action of a supra-sensible mind on another. Podmore, Gurney and Meyers have even invoked the mathematics of probability, in the same manner that the chances in roulette have been calculated, to uphold these beliefs. Vaschilde proceeds to discuss and dissect these methods, as well as their accepting written testimony of unknown persons in these matters, likewise administering a rap at Camille Flammarion, "the sentimentalist who reasons well," but who overlook errors because of enthusiasm for the mysterious. Vaschilde insists on knowing the vagaries and idiosyncrasies of subjects of investigation in order to make proper allowances, and even questions whether the best endowed and trained investigators can always distinguish between a true and a false hallucination subjectively.

In a record of personal investigation upon thirty-two subjects known to the author as to the apparition of friends or relatives when in danger or near death, coincidences and discrepancies of time, kind of apparition (visual, auditory, tactile, etc.), with various other facts are tabulated *in extenso*. Suffice it to say that in seventy-eight honestly believed hallucinations in one subject. seventy-six errors and two apparent coincidences were found. Of the two latter, one appeared three hours before and the other fifteen hours after the accident. The explanation of apparently true apparitions is to be sought in a "Psychic Parallelism" established between mother and child, lovers and friends; while especially do we here need to study that still unexplored phenomenon "us."

An admirable discussion is given upon deceptions of memory, the psychic state, and self-deception conscious and unconscious. And it is established that in order to receive or even believe in such hallucinations there is necessary a large stock of past experiences, emotions, hearsays of early life and infancy, and that these are drawn upon when in a dying state, in profound emotion, in a psychic condition or special mental state.

ROBERT KINGMAN.

A TEXT-BOOK OF DISEASES OF WOMEN. By CHARLES B. PENROSE, M.D., Ph.D. Sixth Edition, Revised. Philadelphia and London. W. B. Saunders Co., 1908. 550 pp., 8vo. Price: Cloth, $3.75 net; Half Morocco, $5.25 net.

While no one doubts Dr. Penrose's qualifications as a specialist nor his reputation as an author of gynecological treatises, yet this last edition of his text-book suffers in comparison with late editions of other authors on the same subject. Noticeable lack of mention is shown of newer operations for cystocele, rectocele, retroversion and autoflexion; while it seems hardly commendable to advise, as he does, the use of the "through and through suture" for closure of the abdominal incision, inasmuch as most surgeons emphasize the value of the layer method as a preventive of post-operative ventral hernia. The illustrations, which are mainly line drawings and well-executed plates, offer a sharp contrast to the profuse photographic plates in other books, which so faithfully portray a pathological condition, or a specimen, or steps of an operation. A gynecological text-book of the twentieth century to be accepted as a standard authority must present the newest ideas, both in theory and operative procedures. This one does not.

CLARENCE R. HYDE.

THE PRACTICAL MEDICINE SERIES. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Vol. I, General Medicine. Edited by FRANK BILLINGS, M.S., M.D., and J. H. SALISBURY, A.M., M.D. Series 1908. Chicago, The Year Book Publishers, 1908. 408 pp, 12vo. Cloth, $1.50 net.

The year's progress in general medicine is taken adequate account of in this volume of the Practical Medicine Series. Much important literature is abstracted pertaining to diseases of the respiratory, circulatory, and blood-making organs and of the blood, blood vessels, ductless glands, and kidneys. Metabolic and general infectious diseases also furnish a number of articles.

Out of such a mass of material one is at a loss to select data of special interest. We shall attempt it with diffidence.

Croftan is opposed to the surgical treatment of Bright's by decapsulation or splitting.

Soules writes enthusiastically of the alleged curative virtues of chimaphila in the treatment of diabetes. In one case of eight years' standing the sugar disappeared in twenty-three days.

The blood-pressure apparatus of Bing is described. It gives a slightly higher pressure (10 m. m.) than the Riva-Rocci, and is believed to be more reliable.

The article on intratracheal injections recalls to our minds that this useful method was, in 1853—the time of its introduction by Dr. Green, of New York—frowned upon by the New York Academy of Medicine as offering great difficulties in technic and many possible dangers for the patient. This affords a good example of ultra-conservatism, viewed from the vantage ground of to-day.

The articles on tuberculosis interest us greatly and we shall confine the balance of our comments to this theme.

The death-rate has risen in Ireland from 240 per 100,000 in 1864 to 290 per 100,000 in 1904. In England it has fallen from 330 per 100,000 in 1864 to 170 per 100,000 in 1903.

O. H. Brown estimates that 95 per cent. of individuals have been subject to infection with tuberculosis and that it will cause the death of one-tenth of the population now living. From 10 to 25 per cent. of the persons affected with tuberculosis have an apparent family predisposition to the disease.

Dr. Elizabeth Fraser recommends as an absolutely accurate test for suspected cases, whose index falls within the normal limits (0.8 to 1.2), the injection of 1-1000 mg. of T R, which causes a negative phase in tuberculosis but none in the healthy individual.

Regarding tuberculin, used as a diagnostic agent, even a sclerosed or calcified focus *may* occasion a reaction. (Roepke.) A distinction must be made between patients who are anatomically, or potentially, tuberculous, and those who are actually, or clinically, tuberculous. It is not correct to ask more of the test than it can give. It gives no certain information as to the localization, age, extent or gravity of a lesion. Moreover, 10 per cent. of tuberculous individuals will give no reaction, even under increasing doses. The initial dose recommended is .2 milligram.

M. Solis-Cohen has found tubercule bacilli in the feces of tuberculous patients who were not expectorating. So-called closed tuberculosis may not be closed at all. The bacilli may be found even in the absence of clinical symptoms or physical signs. Here is certainly an important aid in the study of cases of early tuberculosis.

Of 2,002 consumptives, studied in Norway by Holst, Nicolaysen and Ustvedt for four years, 1,094 were dead, 908 still living, and of these 67.4 per cent were able to work. Muttin estimates that 50 per cent. of patients sent to sanatoria in all stages get well.

Koch says a cure is possible by means of tuberculin, but the permanency of such cure is *sub judice* at present.

Regarding drugs, G. F. Butler lauds arsenic as equal if not superior to any other remedy. Török has obtained good results with sanosin. Schmauss thinks the drug treatment has been unduly neglected and that drugs of the creosote group, the hypophosphites, tonics, fats and oils exert a favorable influence.

Hirschfeld suggests the substitution of the term bed sweats for the ancient designation night sweats, since the consumptive sweats when he sleeps, whether at night or during the day. Why not refine the term utterly, then, and say sleeping sweats, since a patient may sleep without necessarily being in bed.

The book is illustrated wherever necessary, is indexed, and has but few typographic errors. The third line from the bottom of page 88 should be the second line from the top of page 89. A. C. J.

THE MEDICAL AND SURGICAL KNOWLEDGE OF WILLIAM SHAKESPERE. With Explanatory Notes. By JOHN W. WAINWRIGHT, M.D., N. Y. Published by the author. 1907. 78 pp., 8vo. Cloth, $2.50 net.

This is a charming piece of literature and a pretty piece of book making. It is, indeed, an *edition de luxe*. It is one of the Author's Edition, limited to two hundred registered and numbered, autograph copies. The author has compiled the most important and interesting medical references to be found in the writings of Shakespere and added, when necessary for elucidation his own comments. It is systematically divided into several sections dealing with medicine, surgery, nervous and mental diseases, obstetrics, therapeutics, anatomy, physiology, hygiene, ethics, and medical jurisprudence.

Shakespere displays so wide a learning that lawyers insist that he must have studied law; the clergy aver that he studied theology; and with equal justice we may claim that he was a student of medicine. None but one who recognized goiter would have written:

"There were mountaineers, dew-lapped like bulls,
Whose throats had hanging at them wallets of flesh."

When he says, "I have read the cause of its effects in Galen," we perceive his familiarity with the literature of medicine. He also alludes to Paracelsus.

Here is the obstetrical knowledge:

"Thou know'st the first time we smell the air,
We wawl and cry."

Knowledge of the circulation is displayed in the lines:

"You are my true and honorable wife;
As dear to me as the ruddy drops
That visit my sad heart."

Also—

"Send it through the rivers of your blood
Even to the court, the heart."

Also—

"Holds such an enmity with blood of men
That swift as quicksilver it courses through
The natural gates and alleys of the body."

This knowledge of the circulation antedates Harvey's demonstrations and publications. The play of Hamlet, from which this is taken, was first printed in 1603. Harvey began to deliver the Lumlein lectures at the College of Physicians in 1616. It was in these lectures that he first demonstrated the circulation of the blood. The first lecture was given on Tuesday, April 6, 1606. On the following Tuesday, Shakespere died. Harvey did not publish his "De Motu Cordis et Sanguinis" until 1621.

"But I consider,
By medicine life may be prolonged, yet death
Will seize the doctor too."

J. P. W.

A MANUAL OF DISEASES OF THE NOSE AND THROAT. By CORNELIUS GODFREY COAKLEY, A.M., M.D. *Fourth Edition, Revised and Enlarged.* New York and Philadelphia, Lea & Febiger, 1908. Colored front, 664 pp., 6 col. pl., 12mo. Price: Cloth, $2.75 net.

The aim of the author is stated in the preface—to provide a compact manual answering the need of both student and practitioner. Certain criticisms which would be made in reviewing a book of greater pretensions are therefore forfended. For instance, the description of certain operations is so deficient in detail that one would seriously err were he to undertake them with no greater knowledge than that conveyed by a work of this character. Such delinquencies might be defended on the ground that only certain principles were therein laid down to enable students to pass an examination, or whereby one who never expected to perform the operation might become posted on the general principles involved. This manual must supply a "need," else they would not be sold in the quantities indicated in the issuing of a fourth edition.

We note with pleasure that the author has rewritten the chapter on diseases of the accessory sinuses. In a former review of this work the writer criticised this portion as obscure and inaccurate. On the whole the book is commendable in conciseness and choice of matter. We should say that this quality—the excellent judgment shown by the author in his choice of the matter incorporated and the matter omitted—has more than any other one factor, won for his book the success accorded it. WILLIAM C. BRAISLIN.

THE PRINCIPLES AND PRACTICE OF GYNECOLOGY. For Students and Practitioners. By E. C. DUDLEY, A.M., M.D. *Fifth Edition, Revised and Enlarged.* Philadelphia and New York, Lea & Febiger, 1908. 806 pp., 8vo.

Dr. Dudley has followed the same plan as in the fourth edition, which made that volume so valuable to the student and the ordinary practitioner—namely, the arrangement of the disorders of the female genito-urinary organs and adjacent tissues as a related whole in the order of their etiological and pathological sequence, instead of grouping all of the various disorders of each tissue or organ separately.

Thus he has placed under one head, Infections, Inflammations and allied disorders affecting Urethra, Vulva, Vagina, Uterus and Appendages, together with their medical and surgical treatment; under another head, Tumors, Tubal Pregnancy, Malformations, etc.; under another, Traumatisms and their repair, and so on.

This arrangement not only gives a clearer insight into the processes of diseases, but also enables one to arrive more quickly at an intelligent diagnosis, treatment and prognosis of the particular patient coming under his care and observation.

The volume is profusely illustrated, many of the older cuts being discarded and forty new ones added. Those representing surgical procedures, together with the explanatory reading matter, are especially clear in their instruction as to the manner in which the operation should be done, and here and there a cut is introduced to illustrate by comparison a faulty method and the bad result that would be obtained if that method were followed. Treatment other than surgical is handled no less ably by the author, and of the volume as a whole, it is not too much to say that no better gynecologic work has been published.

FREDERIC J. SHOOP, M.D.

THE PRACTITIONER'S VISITING LIST, 1909. Thirty Patients per Week. Philadelphia and New York, Lea & Febiger, 1908. 192 pp., 16mo. Flexible leather, $1.25 net.

A handy visiting list for the general practitioner to which is prefixed thirty-two pages of useful information in the nature of Table of Doses, Therapeutic Reminders, etc.

APPLIED SURGICAL ANATOMY. Regionally presented for the use of Students and Practitioners of Medicine, by GEORGE WOOLSEY, A.P., M.D., Professor of Anatomy and Clinical Surgery in the Cornell University Medical College, Surgeon to Bellevue Hospital, Associate Surgeon to the Presbyterian Hospital, Fellow of the American Surgical Association and of the New York Academy of Medicine. Second Edition, enlarged and thoroughly revised, with 200 illustrations, including 59 plates, mostly colored. Lea & Febiger, New York and Philadelphia, 1908.

It is a pleasure to again review this admirable work which in its second edition has been enlarged by about eighty pages, and its illustrations increased by seventy-five engravings.

The author's experience as teacher and clinician specially qualifies him to present this important subject in a lucid and scholarly manner.

His aim throughout has been to present the practical side of anatomy; to translate anatomical facts into their clinical values and thus stimulate the student's interest by emphasizing the basic value of a working knowledge of anatomy in the practice of scientific medicine and surgery.

The method which the author uses in presenting this subject is one which every teacher of experience endorses—the correlation of the facts and their clinical values; for it is a pedagogical axiom that the fact that can be utilized is the fact that will survive.

The notable changes in this edition are in the sections on Cerebral Localization, Craniocerebral Topography, the Abdominal and Pelvic Viscera, and the Spinal Cord, which have either been rewritten or largely amplified.

The illustrations are for the most part reproduced from the admirable works of Joessel, Tillaux and Testut. The remaining illustrations are largely diagnostic and well adapted for elucidating the text.

The book is an excellent one and will prove of practical value to students and practitioners.

WILLIAM FRANCIS CAMPBELL.

A MANUAL OF CLINICAL DIAGNOSIS. By JAMES CAMPBELL TODD, Ph.B., M.D. Philadelphia and London. W. B. Sanders Co., 1908. 319 pp., 12mo. Flexible leather, $2.00 net.

Todd's Manual "aims to present a clear and concise statement of the more important laboratory methods which have clinical value, and a brief guide to interpretation of results."

The book is eminently practical and is not designed to be used by the highly skilled. It is a practitioner's book.

Technical simplicity and the saving of time are kept constant account of, though completeness does not suffer much thereby. The illustrations, of which there are many, are excellent.

After an introduction on the use of the microscope there are chapters on sputum, urine, blood, stomach contents, and feces. Animal parasites are also considered and the last chapter deals with miscellaneous examinations, all important data being presented. There is a section on opsonins and one on the *spirochæte pallida.*

The value of the opsonic index in measuring resisting power or as an aid to diagnosis and guide to treatment is declared to be still *sub judice.*

The appendix details necessary apparatus, reagents and stains; also weights and measures, with equivalents, and a temperature table is given. There is a good index.

Our examination of the book has convinced us that the author has fully realized his aims, as stated in the first paragraph of this review. A. C. J.

RELIGION AND MEDICINE. The Moral Control of Nervous Disorders. by ELWOOD WORCESTER, D.D., Ph.D.. SAMUEL MCCOMB, M.A., D.D., and ISADOR H. CORIAT, M.D. New York, Moffat. Yard & Co., 1908. vii, 427 pp., 12mo. Cloth, $1.50 net.

This is the official book of the Emmanuel movement, and in it there is an attempt to explain to the public the principles that underlie the work of those engaged in that movement. There is also an attempt to explain that the Emmanuel movement is not an imitation of Christian Science. On both points the effort to explain has failed, for the principles, as given in this book, are confused to a degree that demands more explanation, and the admiration for Christian Science is not disguised by the different authors. The different churches, especially in New England, are being depleted by the healing cults, and here we are shown how the lost sheep may be brought back into the fold.

The scheme is somewhat as follows: An explanation is given of the subconscious mind, that seems to have included everything said about it by psychologists, who favor the idea that it is purer and more free from evil than the conscious mind, and that it is the source of holy impulses. In doing this they have ignored the opinion of the other psychologists who look upon the subconscious mind as stupid, indecent, and brutal. There are still others, probably the majority of psychologists, who look upon the so-called subconscious mind as marginal consciousness, and would explain all phenomena by the well-known laws of psychology and physiology. The view taken by the authors of this book is the one most suitable to their purpose, and the second step is to assert that all functional nervous diseases are diseases of the subconscious mind, and as the subconscious mind is very susceptible to suggestion, it follows that all functional neuroses are to be cured by suggestion, hypnotic or otherwise. Naturally the direction in which suggestion is made, is towards religion and morality, and there are separate chapters on Faith. Prayer, and Christ. It will perhaps be better to let doctors of divinity discuss and explain the confusion in these chapters on religion. We always knew that "God was good to the Irish" and that some at least of the Scots belonged to the elect; but it is surely a new thing in religion to be told that there is a special doorway open for neurasthenics and those suffering from hysteria. It did not require any special insight into human affairs to foretell that the authors of Religion and Medicine would not long confine themselves to the treatment of functional neuroses, and hence it is no surprise to read (exactly where one would expect to read) in Mr. Bok's *Ladies' Home Journal* that they are treating arterio-sclerosis, goitre, kidney affections, tumor. locomotor ataxia and *"unclassified."* Will it be a success? Without doubt it will be a great success. Properly and judiciously advertised, it will read like Castoria to mansions among the millionaires. It will undoubtedly lead to the State legislatures for protection and encouragement just as osteopathy did. It may, and probably will, bring many of the lost sheep back to the fold and refill the churches. Like all other fads it contains just enough truth to make it popular among certain classes. It matters not that the power of moral influences has been discussed and explained and made use if in our oldest text-books, Watson, Tanner and others. Now with a new name "Psychotherapy" it goes forth as an entirely new thing..

An English lady who had reduced her health very seriously by following the directions in a book called "Health Through Starvation," while admitting that she had gone too far, met the doctor's arguments by saying, "But, doctor, it is *so* plausible, it is *so* logical, and *look* at the names in it, Clergymen and Doctors and Statesmen." We may repeat this in regard to Religion and Medicine. "it is *so* plausible, it is *so* logical, and *look at* the names in it, Clergymen, and Doctors, and Psychologists, and Philosophers!!!"

PETER SCOTT.

MANUAL OF OPERATIVE SURGERY. By H. J. WARING, M.S., M.B., B.Sc., F.R.C.S. Third Edition. London, Oxford University Press, 1909. Price, $3.75.

This book gives the surgeon and student a good practical description of the operations of surgery. It takes up the various operations and under each gives the indications for its performance, the selection of instruments, the technic of operation, and the after treatment. It also gives the general principles of surgery together with asepsis and anesthesia.

In describing vaginal hysterectomy and supra vaginal amputation of the cervix, the author, as in the first edition, still advises making the incision into the anterior fornix before incising the posterior fornix. Otherwise the book has been thoroughly revised. Many new pictures have been added. It is a practical book, and this edition is immensely superior to the previous editions.

A SYSTEM OF OPERATIVE SURGERY. By Various Authors. Edited by F. F. BURGHARD, M.S., F.R.C.S. In four volumes. Vol. I. London, Oxford University Press, 1909. $40 per set; $10 per volume.

This is the first volume of this system of operative surgery which is to be written by twenty-five of the foremost surgeons of Great Britain. The editor is well known for his work in connection with other publications, especially Cheyne and Burghard's Manual of Surgical Treatment. By having a work such as this written by a large number of representative surgeons and the whole publication edited and supervised by so competent a surgeon and author as Mr. Burghard, an authoritative publication is bound to be secured.

This first volume deals with the principles and technic of wound treatment by C. B. Lockwood, Surgeon to St. Bartholomew's Hospital; methods of local analgesia, by Capt. J. W. H. Houghton, of the Royal Army Medical Corps; amputations, operations upon arteries, veins, lymphatics, nerves, muscles, tendons, tendon sheaths, bursal, and operations for non-tuberculous affections of bones and joints, by Mr. Burghard; and plastic surgery, by T. P. Legg, Surgeon to the Royal Free Hospital.

This book is practical, the illustrations are excellent, and it displays all of the evidence of careful preparation. The illustrations not only have the merit of showing what they are intended to show, but they are surgically correct and artistic. We believe that this work will be of much service and highly prized by the surgeons.

FIVE HUNDRED SURGICAL SUGGESTIONS—PRACTICAL BREVITIES IN DIAGNOSIS AND TREATMENT. By WALTER M. BRICKNER, B.S., M.D., and ELI MOSCHCOWITZ, A.B., M.D. *Second Series.* New York, U. S. A. Surgery Publishing Co., 1907. 108 pp., 12mo. Price: Cloth, 50 cents.

This small volume consist of 500 short paragraphs on various surgical subjects. A few examples will give an idea of the quality of the book: "In determining whether or not to operate after injuries to the head, a surgical judgment of the case is usually better than one based strictly on the application of neurological rules."

"At the onset of an attack of acute appendicitis the pain is usually referred to the gastric region."

"Patients will appreciate the use of black bandages for the scalp, where they are comparatively inconspicuous, and for the hands, where they do not soil."

Many of the "suggestions" seem sufficiently obvious, a few are obscure. A number of useful "wrinkles" are to be found scattered through the book.

## DEATHS.

JOSEPH H. CHITTENDEN. M.D., of Binghamton, N. Y., died April 14, 1909.

ALBERT GROVES ELLENWOOD, M.D., of Attica, N. Y., died March 26, 1909.

CYRUS FULTON, M.D., of Lyons, N. Y., died March 22, 1909.

## RESOLUTION ON DEATH OF DR. WEY.

At a regular meeting of the Board of Health, held in and for the city of Elmira, April 13, the following resolutions were passed upon the death of Dr. Wey:

WHEREAS, This Board has learned with profound regret of the death of Hamilton Dox Wey, the Health Officer of the city of Elmira, N. Y., at Callo, Peru, on the 17th day of March, 1909; it is

*Resolved,* That the following memorial to the deceased be entered in the permanent minutes of this Board:

Hamilton Dox Wey was born at Wilkes-Barre, Pa., on the 29th day of July, 1854. He secured his preliminary education at the public schools and Academy at the city of Elmira and at St. Paul's School, Concord, N. H., and his professional education at the College of Physicians and Surgeons of New York. Upon being admitted to the practice of medicine he located in Elmira, where he practiced continuously until the time of his death.

Dr. Wey served several terms as Health Officer of the city of Elmira, N. Y., and in that capacity performed great and enduring services for the public health of the city. As Health Officer, he established an efficient system of laboratory aids in diagnosis of disease. He was largely instrumental in the rebuilding of the Detention Hospital of the city and contributed largely to the work of preparing the Sanitary Code of the city of Elmira. He was honored by his profession in the State of New York by being elected to the Presidency of the Medical Society of the State of New York, in which capacity he served with great distinction. In this office Dr. Wey was a successor of his father, thus possessing the unique distinction of being the only son who succeeded his father in this office. Dr. Wey served two terms as President of the Elmira Academy of Medicine and one term as President of the Chemung County Medical Society, and for many years was a censor of both organizations. He was regarded as an authority on many subjects pertaining to his profession and contributed works and papers to the literature of medicine, surgery and criminology, which are of great force and value. He was the Medical Officer of the New York State Reformatory for twenty years and instituted the system of physical culture now in force at that institution. He was a close student of infant criminology and was regarded as an authority on that subject.

Dr. Wey early attained a position in the front rank of his profession, which he occupied until the time of his death. His knowledge of his profession was thorough, his skill was great and he kept pace with all discoveries appertaining to medicine. His experience was wide and comprehensive and he was admirably equipped for the performance of the arduous and exacting duties of a physician. He had the highest regard for the best ethics of his profession and held firmly at all times to its ennobling traditions. His fidelity to his patients was strikng and he never failed to respond to the call of those who needed his services. In recent years when stricken by severe physical infirmities he responded to the call of the sick at great personal sacrifice, and at such times exhibited the greatest courage and fortitude. One of the chief characteristics of Dr. Wey was his firmness and devotion to duty. No matter how distasteful the task, if he regarded it as a duty, it was done. It might truly be said of him, "In him there was no changing or shadow of turning." Dr. Wey was a man possessed of great personal dignity. His manner at times was austere, but to those admitted to the intimacy of his friendship he was a most delightful companion. The passing of Dr. Wey is a distinct loss to his profession and to the city of Elmira; it is further

*Resolved,* That a copy of this memorial be published in all the papers of the city of Elmira, N. Y., and a copy transmitted to the family of the deceased.

# NEW YORK STATE JOURNAL OF MEDICINE

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ALGERNON THOMAS BRISTOW, M.D., Editor
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## EDITORIAL DEPARTMENT

### EHRLICH'S SIDE CHAIN THEORY.

PROBABLY the greatest discoveries in medical science during the latter part of the century just past, and belonging to the very greatest of the epoch-making discoveries in all medical history, are those of Prof. Paul Ehrlich, of Germany, of the now famous Side-Chain Theory; and of Eli Metschnikoff of the Pasteur Institute in France, of the equally famous phenomenon of Phagocytosis. These taken together, with the more recent Opsonin Theory of A. E. Wright, of England, form the basis of our present knowledge of the nature of immunity to infectious diseases. The concepts of these investigators are, in a certain sense, developments from the older doctrines, on the one hand of the humoral pathologists (Ehrlich), and on the other of the solidists, or cellular pathologists (Metschnikoff, Wright).

As an interesting picture of the intense eagerness of these great men in their work, this story may be told of Ehrlich when he visited Wright in London.

They lunched together at a restaurant, and Ehrlich consumed most of the time writing graphic formulæ of his side-chain theory upon some cards he picked up on the lunch counter. When the bill was rendered, he was surprised to find several shillings charged up for the cards; and, on investigation, discovered that they were excellent picture postals of places of interest in England.

Ehrlich's side-chain theory predicates, that the somatic cells of our bodies contain groups of molecules with unbonded or free ends—"receptors"—capable of becoming bonded and attached to extracellular molecular groups, and also capable of becoming detached from the cells, under certain conditions. The extracellular molecules are of various kinds and derived from various sources—food, bacterial products, etc., and differ in their effects upon the intracellular molecular groups, or side-chains. Some nourish the cells, some stimulate or depress them, while others poison them. In the application of his theory to the problem of immunity, Ehrlich assumes three varieties of side-chains, receptors or intracellular molecular groups, as follows:

1. Those of the first order, which lock to a molecule of toxine, and by over-production make anti-toxines, which neutralize toxic molecules.

2. Those of the second order, which may lock to toxic molecules and cause them to precipitate, thus constituting precipitines; or lock to bacteria and cause them to cohere, thus forming agglutinines.

3. Those of the third order which, when locked to certain receptors of bacteria, or foreign cells, destroy by dissolving them.

The chemistry of these processes is complicated and not wholly understood; but they are known to constitute a part of the mechanism of defense of living tissues against toxines, and parasites.

A brief description of what is really supposed to occur in the course of cell activity in this ef-

fort to combat the evil influences of parasites and their toxines may be made as follows, taking the three molecular groups in their order:

1. *Anti-Toxic Molecular Groups.*—The best and widest known reaction in this first order of receptors is that originally described by von Behring of immunization to diphtheria. Injection into living tissues of minute quantities of the toxine of Loeffler's bacillus diphtheriæ, and subsequent injection at regular intervals of slowly increasing doses of the same toxine, causes the production in the cells of the body of a specific side-chain, or receptor of the first order, which has the power to lock to and neutralize, or render inoccuous, a certain quantity of the diphtheria toxine. According to the law of over-production, as time goes on these receptors far exceed in number the molecular groups of toxine, and are shed from the cells in a manner analogous to the shedding of the plumes of a dandelion after it has ripened, and circulate, suspended in the blood and lymph (Humoral pathology). These free specific receptors thus contained in the blood serum constitute the antitoxine of the market.

2. *Precipitine and Agglutinine Groups.*—In this second order of side-chains, certain specific intracellular molecular groups respond to other specific extracellular molecular groups, either emanating from or remaining in the substance of the invading parasites, and, by their locking or combining properties, cause either precipitation of the free molecular groups, or agglutination of the parasites themselves. The actual physical phenomena are, first, in the case of a precipitine, the throwing down of a fine deposit in a test tube containing in solution free molecular groups from the specific parasite, to which has been added serum from the blood of the animal invaded by this parasite; second, in the case of agglutination, certain intracellular molecular groups responding to molecular influence from specific parasites, cause these parasites to adhere to each other in clumps, very much as do red blood corpuscles in a drop of blood, under the microscope. From a practical viewpoint, this group has proven very important; for upon the phenomena here involved depend certain reactions of clinical diagnostic value; *e. g.*, detection of traces of human blood in forensic medicine, the Widal reaction in typhoid fever.

3. *Bacteriolysines, Cytolysines.*—This third order of side-chains or intracellular molecular groups has formed the basis of an enormous amount of the highest grade of scientific investigation, and involves phenomena of a more elaborate nature than the mere shedding of side-chains capable of locking to and rendering inert toxic molecules from a pathogenic micro-organism under the influence of such organism in the tissues of the host. Here, it would seem to the writer is displayed the consummate genius of the discoverer of the side-chain theory; and here, also, do we find results which crown forever the works of such men as Fodor, Buchner, Pfeiffer, Bordet, and Ehrlich in a splendid and untiring effort to unravel the mysteries of immunity to disease. The power possessed by a living being of destroying, by dissolving, bacterial or animal cells, seems to depend upon the presence in the circulating fluids of the living being, of at least two molecular groups, each having specific origin and properties, and both being essential to cell destruction. If living cholera vibrios be sown in minute quantity into the peritoneal cavity of a rabbit or guinea pig, and if, after the lapse of a certain period, serum be withdrawn from the peritoneal cavity of the animal thus treated, the cholera organisms will be seen to be splitting up into fine granules (Pfeiffer's phenomenon). If the red blood cells of a rabbit be injected in small quantity into the peritoneal cavity of a guinea pig, they will, after a time, disappear. What seems more remarkable is the fact that, in the course of such experiments the animal thus treated acquires increasing power to destroy these foreign bacteria and cells, and in this way becomes immunized. The fundamental principle involved must be regarded as identical with that obtaining in the production of receptors of the first order, *i. e.*, over-production of molecular groups, which, while more complex than those of the first order, are, nevertheless, similarly endowed with specific activity. In brief, the phenomena presented by Ehrlich's third group may be best described by considering what takes place in the process of hemolysis. The rabbit's red blood cells in the circulation of the guinea pig, excite over-production of a molecular group, having two distinct properties; first, the power to lock to a receptor of the red blood corpuscles of

the rabbit; second, the power to lock to a molecular group, which seems to be normally present in the blood serum of most (if not all) animals. This molecular group has been denominated alexine (Buchner) complement, because of its relation to the molecular group from the guinea pig's red cell which cannot destroy the rabbit's cell without being locked to the complement. The origin of complement is not yet absolutely certain, although, since the master-work of Buchner, the white blood corpuscles, and principally the polymorphonuclear-neutrophiles are supposed to furnish it. The complement is itself complex, containing at least two important groups of atoms; first, those which possess the power to lock the group from the guinea pig cells; second, those which possess the power to so sensitize this group when locked to it, as to render it destructive to the rabbit's red blood cells when both are locked to its specific receptor. In other words, a specific receptor (3d order) from the guinea pig's cell—called "amboceptor" — or "immune body," locks to a molecular group called complement and normally in blood serum, and the two thus combined, when locked to the receptor of the rabbit's cell, will dissolve this cell. This phenomenon is called hemolysis, and typifies all simiar actions on foreign cells in general and bacteria. The sensitizing power of the complement seems to depend upon a group of atoms in its molecular complex, having the nature of an enzyme, and called a zymotoxine. This atomic group is thermolabile, for, as Bordet first showed, when complement is heated for a half hour at 56 degrees c., it loses its power to sensitize the amboceptor, but regains it upon the addition of fresh normal serum.

The solid, or cellular pathology of immunity has been brought into prominence by the celebrated discovery of Eli Metschnikoff, of what he has denominated phagocytosis. This phenomenon consists of the action of the white corpuscles of the blood principally, possibly other cells of the body—connective tissue corpuscles, endothelial cells, etc., in consuming and digesting bacteria and other parasites. These phagocytes are chemotactic to the parasites; that is, they respond to chemical influence exerted by the parasites—an influence produced, according to Metschnikoff by substances elaborated by the parasites and called by him "stimulines," and supposed by him to furnish the active principle in passive immunity. Not all parasites are capable of exciting chemotaxis, a fact which is supposed to account for the absence of lencocytosis in such diseases as typhoid. Metschnikoff's work has helped to place our knowledge of inflammation upon a scientific basis.

The last of this group of known phenomena in the process of immunization has been promulgated by A. E. Wright, who discovered the remarkable fact, that emulsions of dead bacteria excite tissue reactions which, in many instances, greatly augment their power to antagonize and conquer invading parasites. His teaching is, that the presence of dead bacteria in living tissues causes the production of a molecular group which acts to sensitize the living bacteria of the same species infecting the tissues, in such manner as to increase chemotaxis, and, therefore, phagocytosis. This substance he denominated "opsonine;" and he further devised a method whereby an index of the opsonic action could be formulated. This consists in the very simple but somewhat difficult technical operation of comparing the phagocytic power of the white corpuscles of a healthy person taken as a normal standard, with that of an infected individual before, and after vaccination with the emulsion of dead bacteria. White cells from normal blood are mixed with a known dilution of living bacteria, *e. g.,* the staphylococcus pyogenes aurens, and after a certain interval of time, at a temperature of 37.5 degrees C., a smear preparation is properly stained, and the number of staphylococci incorporated in the phagocytes is averaged. This forms the normal opsonic index to the staphylococcus. The same operation is then repeated with the blood of an individual infected with say a furuncle—before and after vaccination. It commonly obtains that after the vaccination, phagocytosis is shown, by taking the opsonic index, to be markedly increased. Aside from its scientific value, this method of vaccination has proven of great clinical value in many varieties of infection.

This very brief sketch of the more important phenomena of immunity, leads to the following conclusions: First, no single phenomenon, but a number of phenomena are concerned in protecting the body tissues from parasites and their toxines. Second, immunity must be classified under two great heads: 1, *Natural;* 2, *Acquired,* and acquired immunity may be further

subdivided into active and passive. In natural immunity, the individual is already protected against parasitic invasion, as, *c. g.*, in the natural immunity of the white rat to anthrax.

Of acquired immunity there are two kinds: (a) active; (b) passive. Active immunity results from the reactionary processes called forth by the presence in the tissues of living parasites. Passive immunity results from the injection into the affected individual's tissues of a serum, or vaccine, or both, or the use of some chemical known to possess specific neutralizing powers, such as atoxyl in trypanosomiasis. Third, that the present tendency of scientific opinion is towards the belief, that the processes of immunity consist in a combination of the phenomena comprehended in the doctrines of the humoral and cellular pathologists.

J. M. VAN COTT.

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## THE TREPONEMA PALLIDUM AND SYPHILIS.

TO the zealous scientific spirit of Schaudinn we owe the discovery of the specific inciting agent of syphilis—the Treponema pallidum. This discovery, modestly proclaimed, furnished a new point of orientation in the study of luetic etiology and pathology, and has further served to place specific therapy upon a more rational basis.

The Treponema pallidum (formerly the Spirochaeta pallida) is probably a protozoan. It may be briefly described as a motile spirillum 4 to 14 microns long, about 0.25 microns wide, and having sharp convolutions. The number of its convolutions, the degree of their angularity, the slenderness and refraction of the cell body and its slight affinity for the usual laboratory stains constitute a complex of definite diagnostic characters.

The presence of this microörganism is easily demonstrable in the untreated lesions of both the primary and secondary stages, and to a certain degree—depending upon the mode of examination employed—in the gummata of the tertiary stage. In all of these lesions it appears to be present in greater abundance at the juncture of the sound with the necrotic tissue. The serum from such a locus, when examined microscopically in the fresh state by means of the recently developed appliances for the production of dark-ground illumination, usually exhibits the Treponema in sufficient numbers to render a diagnosis immediately practicable. When this method is unavailable a drop of the serum may be spread on a glass slide as in making a thin blood film, and when properly fixed and stained (preferably with the Giemsa solution according to a recently modified procedure), the Treponema may be demonstrated with an accuracy rendering its diagnosis a matter of comparative ease.

In some of its biological characters it is relative to the non-pathogenic spirilla of the mouth (Spirochaeta dentium, Spirochaeta buccalis) the spirochetes of balanitis, and to the spirochæta refringens of chancroidal lesions, yet in the manifestations of its pathogenicity it is unique. The lesions of the primary and secondary stages of syphilis are richer in Treponemata than are the less active manifestations of the tertiary stage, yet the presence of this spirillum in all luetic lesions affords proof of their infectivity. Toward this infection man apparently possesses no natural immunity, the only means of protection being the sound and unbroken epidermis. Let material from a syphilitc lesion come in contact with a break in the skin of mucous membrane and, unless immediately prophylactic measures are applied, infection inevitably follows. Contrary to the older theories the infection does not remain temporarily localized. While a period of about twenty-one days elapses before the initial exhibition of the infection at the point of inoculation, yet during this period the Treponema pervades the body tissues and a general systemic infection results. By the demonstration of these spirilla in the primary lesion an immediate diagnosis is possible, whereas prior to the establishment of the identity of the infecting organism the appearance of the secondary eruption was awaited in order to confirm an uncertain diagnosis. Recent experiences seems to show that treatment when begun immediately upon the finding of the Treponema in the primary lesion tends to abort the more serious ultimate manifestations of the disease.

The facts pointing to the Treponema as the specific agent in a syphilitic infection are its almost constantly observed presence in the specific lesions of man, its presence in the lesions of experimental syphilis in apes and rabbits, and its absence from all lesions of a non-syphilitic na-

ture. The further proofs demanded by the conditions of Koch's law are lacking since all attempts to cultivate this spirillum upon artificial media have met with no success.

The Treponema, when once it establishes its infection in the human body, either through a process of true secretion or through the disintegration of its protoplasm, produces a toxine or antigen. This substance stimulates the body tissues to a production of a specific immune body or amboceptor. Wassermann was the first to invent a method of demonstrating the presence of this anti-body in the blood serum or spinal fluid of syphilitic individuals and to apply it in a diagnostic way. This method yields a high percentage of positive results in cases of a previous luetic infection.

The technic involved, however, requires somewhat elaborate laboratory facilities for its execution. Noguchi has recently modified the original method of Wassermann in a way, which it is hoped, will bring this valuable diagnostic aid into more general use.

To the work of Schaudinn and his subsequent collaborators we are indebted, therefore, for a ready means of diagnosis of suspended primary lesions and for a more definite knowledge of the physiologic and pathologic changes in the human body provoked by the Treponema, while Wassermann, Noguchi and others have devised and developed a method which places within our reach a possible means of determining a denied or hitherto unsuspected syphilitic infection.

BENJAMIN WHITE.

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## NOGUCHI'S MODIFICATION OF THE WASSERMANN REACTION.

TWO years ago a few laboratory workers in Europe were discussing the significance of the complement fixation reaction which Wassermann and his co-workers in Germany and Detre in Hungary had almost simultaneously announced as a means of serum diagnosis for syphilis. After much laboratory study the reaction was brought into the realm of clinically available tests and began to arouse the interest of clinicians everywhere. Gradually the test has been simplified in its practical details until now it is within the reach of every physician who is equipped to make blood-counts, haemoglobin estimations and the Widal test.

The original Wassermann method, and indeed even most of its modifications, require the resources of a laboratory in which small animals can be kept to make it available. This defect excludes it from regular clinical application. But the most recent improvement, that made by Noguchi,* removes the last obstacle to its successful clinical use.

Noguchi's method consists in the employment of an antihuman haemolytic system instead of an antisheep's system. This modification removes the necessity for employing foreign blood corpuscles and enables the patient's own corpuscles to be used as haemolytic indicator. Moreover, the patient's serum can be used without previous inactivation by heat. The quantity of the patient's serum required for the test is a few drops from a capillary pipette which pipette can be made just before using it so that its sterility is assured and there is no need of collecting a large quantity of blood. The reagents consisting of antigen, amboceptor and complement are prepared in the form of reagent paper slips. The advantages of the Noguchi system do not end here for the system is more sensitive than those of the original Wassermann method and other modifications.

The test when carefully applied gives few or no failures or doubtful reactions. In cases of secondary syphilis and definite metasyphilitic affections the percentage of positive reactions approaches one hundred. As treatment progresses and the symptoms of the secondary and tertiary stages of the disease abate, the number and degree of positive reactions tend to fall off or diminish, to reappear with the cessation of treatment and relapse of the symptoms. Hence the method offers not only an aid to early diagnosis and positive diagnosis in obscure cases, but also a measure of effective treatemnt.

It is to be hoped that in the near future the reagent papers will be placed on the market by some of the reliable firms preparing biological products for the profession. The reagents should be put up with the other simple apparatus necessary for the test and offered at a reasonable price.

H. NOGUCHI.

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* *Jour. of Exper. Med.*, 1909, xi, 392.
*Munch. med. Woch.*, 1909, lvi, 494.
*Presse médicale*, 1909, xvii, 226.

## Original Articles

# BLOOD TRANSFUSION AS A THERAPEUTIC MEASURE.*

By WILLIAM FRANCIS CAMPBELL, A.B., M.D.
BROOKLYN-NEW YORK.

IF history repeats itself, the history of medicine forms no exception to this rule; accordingly we note to-day a revival of interest in a therapeutic measure which has been dormant for over two hundred years. Transfusion of blood from one individual to another had its origin in the belief that rejuvenation of the aged could be accomplished by transfusing into their vessels the blood of the young.

Just when the method was first advocated or used is not exactly known, but in the seventeenth century its practice was extensive. At this time the blood of the lower animals, especially that of the lamb, was employed as a therapeutic agent for various purposes, such as inducing change of temperament, treating skin diseases, sepsis, strengthening the weak, rejuvenating the aged, and replacing the blood lost by hemorrhage.

The varying successes at first, and the failures due to recklessness later, put a stop to these procedures, for, in 1675, the Parliament of Paris found it necessary to prohibit by edict the practice of transfusion.

No further attention seems to have been given the subject until 1815 when it was brought to notice by Blindell, and in 1828 again practically utilized by the brilliant Dieffenbach. These fragmentary attempts, however, failed to establish the transfusion of blood upon a clinical basis, and it remained for von Ziemssen in the early 90's of the last century to prove its value as a therapeutic measure. This observer seems to be the first to have used the method of direct transference of undefibrinated blood from one human being to another. His method consisted in obtaining a syringefull of blood from the median basilic vein of the donor, and immediately injecting the same into a suitable vein of the recipient.

Though von Ziemssen was successful in his efforts and much experimental data was presented in favor of transfusion, its clinical use did not become popular. This unpopularity was undoubtedly due to the difficulties which the clumsiness of the procedure involved, for its perfect execution required the aid of three assistants kept constantly alert; and further, to the irregularity of the results in the hands of the unskilled, insufficiency of the amount of blood injected, and to the formation of thrombi.

Thus it happens that for about a dozen years we find little progress in the clinical application of transfusion. Thanks to the work of Carrel whose method of end to end anastomosis of blood vessels minimizes the above-mentioned difficulties, transfusion of blood is again coming into prominence as a valuable therapeutic measure. At the head of its present day advocates is Crile, of Cleveland, who by using a special canula to effect an anastomosis instead of the Carrel suture has obtained noteworthy results both clinically and experimentally.

In conducting direct transfusion the author has employed exclusively the method devised by Crile modified in a few details which in no way affect the principle, but merely facilitate the technic.

In performing direct transfusion the operator's object is to form an anastomosis between the vessels of two individuals; on the one hand the patient who receives the blood and henceforth designated as the "recipient," and on the other the person who gives the blood to be known as the "donor." In the selection of a donor three points should be kept in mind—first, preference for the nearest blood relation, since the nearer the blood relation the less danger of hemolysis. Second, a young, vigorous adult, if possible. Third, a thin subject. Fat subjects have as a rule small arteries, a fact that has more than once embarrassed the operator who expected to find an artery proportionate to the weight of the subject.

The donor having been procured, the field of operation being properly prepared, *i. e.,* the donor's wrist, and the recipient's arm at bend of elbow; the two subjects lie on tables facing in opposite directions and so placed that the wrist of the donor will, when in position, come in contact with the recipient's arm at the bend of the elbow. After the injection of ½ per cent. solution of cocaine along the course of the incision, the donor's artery is exposed by making a two-inch incision over the course of the radial artery at the wrist, and the artery dissected from its surrounding tissue and lifted from its bed so that at least an inch and a half of the artery may be available for subsequent easy manipulation in making the anastomosis and in bridging over the space between the two arms when the junction between the two circulations is effected.

No ligature or clamp is applied to the artery at this stage; it is simply dissected out of its bed for the purpose of observing, *first,* its caliber (which varies in different subjects) and thus enabling the operator to choose the proper size anastomosis canula. *Second,* to note the presence or absence of an anomalous radial. In two of the author's cases a double radial was present; in the first of these one of the divisions of the artery was of sufficient caliber to be available, in the second neither division could be utilized. After exposing and investigating the donor's radial artery a warm, wet saline compress is placed upon the wound and the operator's attention directed to the recipient's vein at the bend of the elbow where the junction of the two circulations is to be effected. Any of the

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veins forming the venous M at the elbow may be selected, preferably the median basilic or the median cephalic, which average a caliber well suited for the technic of this procedure. With a preliminary injection of cocaine over the line of incision, the vein is exposed for about one and a half inches, a ligature applied at its distal extremity, and divided close to the ligature. To the free end of the vein is now to be attached Crile's anastomosis canula, and it is due to this ingenious device that we are enabled for the first time to effect an anastomosis between two vessels without interrupting the continuity of the intima, and this is all important, for while without this device an anastomosis might be effected between two vessels, yet it is not certain that it would be an anastomosis through which blood would flow, for in an anastomosis where the continuity of the intima is interrupted there obtains clotting of the blood and blocking of the current.

Crile's method permits an anastomosis between vessels without a break in the intima, and hence an anastomosis through which the blood will flow without clotting.

The details of the transfusion are as follows:

The exposed vein is drawn through the eye of the canula far enough to permit a cuff of the vein to be reflected over the outside of the canula and tied in position with fine silk (Figs. I and II).



This procedure not only lines the inside of the canula with intima but the outside as well. The canula having been thus attached to the vein, the donor's radial artery is now clamped with a Crile clamp (which closes off the circulation without injuring the coats of the vessel) and a ligature applied at its distal extremity (Fig. Ib.). The artery is divided close to the ligature, and after the wrist of the donor has been placed in position close to the elbow of the recipient, the end of the artery is seized with two fine self-locking clamps and drawn over the canula (already fixed to the vein) and made secure by a ligature of fine silk (Fig. III). The Crile clamp which has

guarded the circulation in the radial is now removed and the pulsations from the radial will be seen in the vein of the recipient. During these manipulations it is well to keep a stream of warm saline playing over the field of operation.

In the hands of a facile operator the completion of the anastomosis requires about twenty minutes. The operation is not difficult, but it is tedious, requires patience and dexterity, owing to the small size of the structures which are manipulated, and the proportionately smaller and more delicate instruments which are required. Ordinary clamps are in the way. Mosquito clamps, jeweler's thumb forceps and a self-locking clamp used by the author are recommended, together with the Crile clamp for closing off the circulation (Fig. IV).

The question of the amount of blood transferred must be decided by the circumstances of the case. As a matter of fact it is impossible to tell exactly how much blood is transferred in any particular transfusion, for the rate and volume of flow which determine the quantity vary considerably in different individuals, and in the same individual during the time of transfusion.

The amount transfused can be approximately estimated as follows: The severed artery of the donor is made to send its stream of blood into a cylinder graduated to cc.; the quantity ejected per minute noted, and the amount so obtained multiplied by the time occupied by the transfusion. Thus if the donor's artery ejects 10 cc. per minute, in half an hour it will eject 300 cc.

*What are the indications for the use of direct blood transfusion?*

To understand the aims of blood transfusion it is necessary to keep in mind three facts—first, that blood is a liquid tissue containing numerous chemical elements in most complex combinations; second, that it is the vehicle of life, in that it both nourishes and cleanses the tissues; third, that it lies in channels and cavities specially adapted for it as for no other fluid; again, the heart, the vessels and the vaso motor centers are reciprocally effected by the amount and state of the blood.

Hence for the proper maintenance of life, loss of blood can be perfectly compensated for only by the replacement of its exact equivalent, either as a result of extra activity on the part of the blood-forming organs, or by the introduction of a similar blood. In extensive hemorrhage with a starving vaso motor center, which threatens a fatal fall of blood pressure, not only fluid is needed to replace the lost blood, but food to stimulate the waning vaso motor center. Can any other solution take the place of blood in these extreme conditions? Recent clinical and experimental evidence point to the contrary. Note the results obtained by Crile and Dolley in their transfusion experiments:

"In our researches every degree of hemorrhage was treated. Most of the cases were first treated by other methods. After these had wholly failed, transfusion was done.

"Animals were bled to a presumably fatal degree, without exception they recovered. Even when the animal was bled until the respiration ceased and no pulse waves reached the carotid artery, and after apparent death, *i. e.*, when the animal appeared to be dead, but the heart on inspection still showed a rhythmic contraction of the auricle, in every such instance the animal was resuscitated."

In the chronic hemorrhages which endanger life by their persistence, transfusion of blood is a rational and therapeutic measure. In these cases the transfused blood not only supplies new nourishment and oxygen carriers, but stimulates the blood forming organs of the recipient to better activity, a fact borne out by the observation that in transfused patients, an increase in hemoglobin is noted a few days after the operation.

Furthermore, direct transfusion increases the coagulability of the recipient's blood. Chronic hemorrhages from the stomach and intestine have been checked by this method, and Blood-good urges that direct transfusion be tried in typhoid hemorrhage and obstructive jaundice with slow coagulation time.

Direct transfusion has a future in those acute toxic states such as ptomaine and coal gas poisoning, eclampsia, uremia, etc. Note the recent experiments of Crile with dogs poisoned with coal gas and then bled and transfused with the blood of healthy dogs. The results demonstrate conclusively that no better agent for resuscitation from such a condition is obtainable.

However attractive the field appears with its manifold suggestions and speculations, the most brilliant results of direct transfusion are observed in the treatment and prevention of shock. The favorable results are due not merely to the increased blood pressure, but the increased blood pressure is maintained for a longer period when *blood* is used. Note the case of Mrs. L., age 40, suffering from an infected knee joint which involved the leg and thigh. I learned that four weeks previous to the first time I saw her she was anesthetized and the infected areas freely incised. The operation lasted fifty minutes, but only two ounces of ether was used. As a result she suffered from profound shock and only rallied after the critical condition had lasted for nearly a week. With this history I examined the patient and determined that the only effective operative relief could be obtained in amputation of the extremity at the middle third of the thigh. Her hemoglobin estimate at this time was 35 per cent., a point far below the minimum of safety. To operate under these circumstances seemed only to invite a fatal result. Surely here was a case to test the merits of the new procedure. A vigorous donor having been selected, direct transfusion was made. After the transfusion had continued for thirty minutes and was still in progress, the patient was anesthetized and the thigh amputated. The transfusion was discontinued only after the amputation had been completed. The patient recovered from the operation without a symptom of shock, and the hemoglobin estimate rose from 35 to 55 per cent.

Again, as illustrative of the value of blood transfusion in tiding over a critical and threatening condition, note the case of L. B., a boy of 12 years of age, who was run over by a delivery wagon, the wheel passing over the lower border of the costal cartilages on the right side. The patient was brought to the hospital in a condition of profound shock and seen by the writer two hours after the injury, presenting symptoms of acute hemorrhage. The radial pulse was 160 and almost imperceptible. Diagnosis, ruptured

liver. To anesthetize and open the abdomen seemed as fatal as to leave the condition untreated, and the case seemed a typical one for direct transfusion. A robust male of 35 years was secured as donor and direct transfusion established for one hour and twenty minutes. About twenty minutes after anastomosis the pulse perceptibly improved in volume and steadiness, and thirty minutes after anastomosis the pulse rate was 140 and of good volume. It was now decided to explore the abdomen while the transfusion still continued. Under chloroform anesthesia the abdomen was opened and the liver found ruptured with a large quantity of blood in the peritoneal cavity. The liver wound was packed with iodoform gauze and the abdominal cavity cleansed. The packing being apparently effective in stopping the hemorrhage, the abdominal incision was partially closed. Patient's condition at this time, one hour and twenty minutes after the transfusion began, was excellent. Pulse 120, volume good. During the night the hemorrhage from the liver recurred and the patient died.

To test the value of direct transfusion in as extreme a case of hemorrhage as possible we bled a dog weighing 6.4 kilo. until the blood ceased to come, respiration was suspended and the heart had apparently stopped beating, the procedure lasting 18 minutes. When satisfied that no more blood could be obtained even by firm kneading upon the abdomen, the bleeding vessel was clamped and direct transfusion begun from a dog weighing 6.8 kilo. by anastomosing the left femoral artery to the left external jugular vein. In about thirty seconds a pulse was obtained in the femoral artery of the recipient and in a minute's time respiration was re-established after having been absent for 2½ minutes. The transfusion was continued until the donor had all but expired, the procedure lasting thirty minutes. Though sick for two days following the transfusion, the recipient is now as happy and contented an animal as can be desired.

Two very desirable effects are obtained by the transfusion of blood, and such effects can be obtained by no other media. They are increase in specific gravity and increase in the solid constituents of the blood. If the expression could be used, "better tone" would be a good term in which to describe the blood thus modified. The increased specific gravity and viscosity help to hold the newly introduced blood inside the vessels and the result is, that pressure is raised and maintained for considerable time. An increase in the numerical elements of the blood of the recipient is certainly to be expected. It occurs, but as is the case with the hemoglobin, the increase is not proportional to the amount introduced.

In one of my transfusion operations, the donor being a robust female of 24, the recipient a woman of 40, with a red cell count of 3,000,000 —the increase in the erythrocytes of the recipient's blood following a transfusion of one hour and four minutes was 304,000. In another transfusion on this same patient, the donor in this case being a very robust man of 40, there was a gain of 500,000 red cells following 58 minutes of vessel anastomosis.

In still another case, the donor being a robust man, the recipient a patient with carcinoma of the rectum, gained 200,000 red. cells after a transfusion lasting 25 minutes. One patient who received four transfusions in two week's time, lasting respectively 35, 30, 30, 35 minutes each, showed a gain of 300,000 after the first transfusion, 200,000 after the following two, and 400,000 after the last.

A characteristic influence of transfusion of blood is an increased urea output. This has been found to be true both clinically and in animal experimentation. In one of my transfusions the urea output was increased 80 grains in 24 hours and persisted for two days. After another transfusion lasting 35 minutes the increase was 50 grains, which lasted for three days.

Like all therapeutic measures direct transfusion of blood has its objections and limitations. In fact, many who have seen the good results of saline infusion, decry against the reinstitution of a method which seems to give but an ordinary amount of benefit for so formidable a procedure.

One of the greatest objections to direct transfusion of blood is the hemolysis which follows the employment of even *isotonic* blood. However, we can to-day foretell its occurrence and thus obviate a dire complication.

Another objection, and one that theoretically ought to be almost a forbidding factor unless certain rules are followed, is that of isoagglutination. In other words the corpuscles of some persons can be agglutinated by the serum of others. The terrible effects of such an occurrence in transfusion can be readily imagined. Hektœn remarks that it is often seen in opsonic work. But if it occurs outside of the body, it apparently does not occur if blood of one individual be transfused into the vessels of another. At least there is no known report of such a happening. Still, where the opportunities are favorable, Hektœn's suggestion to select a donor whose serum will not agglutinate the corpuscles of the recipient, might very well be kept in mind.

In the primary anemias and in infectious diseases, transfusion offers but a transient relief, if indeed any at all. However, it appears to me that this field is too young as yet wherefrom to draw conclusions. Here and there excellent results, though of short duration, have followed the use of blood or serum in pernicious anemia and in leukemia. In infectious diseases the blood of a person already immune to that particular disease, injected into the vessels of one suffering from the same, might establish immunity in the recipient.

It is to be deplored that the blood of animals cannot, with safety, be introduced into the vessels of man. Thrombosis and hemolysis are the two leading prohibiting factors. However, there is no doubt that science will overcome even these obstacles. Here and there successful transfusions from animals to man have been made. Thus Jean Baptiste Denis in the seventeenth century transfused the blood of lambs into the veins of human beings. At his time almost all tranfusions were thus conducted, though he seems to have been the most fortunate in regard to results. As late as 1894 De Dominicis, of Naples, reported at the Eleventh International Medical Congress, successful transfusions from 27 dogs on 19 human beings. The highest dose that he gave was 120 cc. Still the dangers of such a procedure are not to be lightly regarded. Noteworthy in this connection is the finding of Hayem and also of Darenburg, that if serum be heated to 132.8 F. and introduced into the vessels of animals other than the species from which the serum was obtained, there will result no hemolysis, thrombosis or degeneration of the blood of the recipient. We may be in hopes therefore, that heterogenous blood will in time also be made available.

In view of the fact that we are continually aiming toward better therapeutic measures, the value of the direct transfusion of blood becomes a matter of careful consideration. Is *blood* a better substance in the treatment of the conditions which require a filling of the heart and vessels, than other substances which may be dissolved and transfused into the circulatory system? Does direct blood transfusion represent any progress in the treatment of hemorrhages and their sequelæ? Can no other than such a formidable procedure as *direct transfusion* be employed to counteract the conditions indicated in the early part of this paper? In other words, is the game worth the candle? In reply to all these questions and speaking from personal experience, it appears to me that blood is the only material which best meets all the indications for transfusion. Judging from the number of substances that have been advocated and employed it is easily seen that blood cannot be satisfactorily substituted.

Apart from (drugs) substances employed as remedial agents for certain specific diseases, the following are some of the chemicals which either alone or in combination have, at one time or another, been used to replace shed or toxic blood:

Beef peptone, milk, sodium saccharate, sodium bicarbonate, sodium sulphate, sodium carbonate, sodium phosphate, potassium sulphate and sodium chloride.

Owing to the excellent results obtained by a .7 per cent. saline solution in the treatment of acute hemorrhage the honors at present seem to be divided between it and blood. Perhaps because of the easy accessibility and comparative harmlessness of saline infusion, the balance is in favor of it rather than blood. Let us see if such premises are correct. In other words which shall it be in acute hemorrhage, saline or blood? The following facts are pertinent and essential in reaching a rational conclusion.

Normally the body lives on blood and not on saline solution. It must be remembered that *blood only* can carry oxygen to the tissues, and if properly introduced into the body will peform that function just as well in the new host. Under no conditions can saline solution accomplish the same result. While warm normal saline solution will raise the blood pressure in a weakened circulatory system, its effect is but moderate and transient. Direct transfusion of blood on the other hand is followed by a marked and persistent increase of blood pressure. Saline cannot at any time increase the number of red cells and obviously gives nothing that can nourish the system. A starving man may be temporarily appeased by a drink of water, but he can be satisfactorily sustained only by a piece of meat.

Again, the so-called "harmlessness" of saline solution is misleading and incorrect; for if saline be introduced into the vessels beyond a certain amount it will not remain in the blood vessels, it will transude through the vessel walls and water-log the tissues, and many patients who have been at first transiently stimulated by the administration of saline have subsequently been literally drowned by its excessive use.

Remark what Crile and Dolley have to say in regard to the comparison between the use of blood and other media in transfusion.

"The administration of the various kinds of artificial sera, such as normal saline, Locke's or Ringer's solution, have the disadvantage that beyond a certain amount they will not remain in the blood vessels. In excessive dosage these solutions accumulate in the gastro-intestinal tract, the lungs, spleen, liver and other parts of the body, constituting a menace to life."

In experimenting with the effects of saline solution, I bled two dogs to the extent of one-fifteenth of their body weight and transfused them with almost a similar quantity of warm normal saline. Both died; one in eight hours' time and another within the course of a few minutes.

The autopsy on these two animals showed that their viscera were literally swamped with fluid. This condition was especially marked in the walls of the stomach, which in the case of the last animal were thickened to the extent of one centimeter. The reaction of the inside lining of these stomachs tested near the pylorus was alkaline, the reverse of the normal state. The kidneys, spleen and liver of both animals were markedly cyanotic and odematous.

I recall the case of a female 35 years of age with a sarcoma of the head of the humerus and a hemoglobin estimate of 55 per cent., on whom I did an interscapulo-thoracic amputation. The

loss of blood was considerable and at the close of the operation a quart of warm saline solution was transfused into the median basilic vein. Two hours later the patient died with well-marked œdema of the lungs. No autopsy was permitted, so that the condition of the rest of the viscera could not be determined.

Here was a case in which saline was clearly contraindicated. An acute anemia superimposed upon a chronic anemia—a condition in which the vessel walls were easily permeated by the foreign fluid, and the means which were used for her resuscitation was the means by which she was drowned. The delicate adjustment between the heart and vessels, the vaso-motor centers and the blood must be ever kept in mind; a normal equilibrium is essential to normal function. Destroy the balance and a "vicious circle" is established of far-reaching import. Direct blood transfusion aims to readjust the broken balance by replacing the lost tissue with an exact equivalent.

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## CERTAIN PHASES OF ACUTE ANEMIA.*

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The principal purpose of this paper is to call especial attention to a subject that is at once the most ancient and the most recent of problems—a subject that is capable of great development, that is in need of further investigation, and that is the method by which death so frequently comes—death not alone from loss of nourishment, but from the infection made possible by the lowered resistence as an anemia sequence.

In the metazoa the cells, being nourished by means of a circulation, are subject to the hazards and the vicissitudes of impaired or interrupted food supply. Excepting sudden chemical or thermal destruction, the majority of the various tissues and organs of the body ultimately perish from anemia. It is quite likely that if the blood supply and the environment continued normal many parts, at least, of the body would, like the protozoa, continue to live indefinitely. The life of most of the cells composing the body is certainly longer than the life of the body as a whole.

Dr. Dolley and I have, for several years, been engaged in an investigation into certain phases of anemia, published elsewhere in some detail. In the near future I hope to publish more definite data regarding the resistance of the various individual tissues and organs to anemia.

That part of the vast domain of anemia that has a surgical bearing we may designate surgical anemia. Time will permit no more than setting forth certain summaries and making practical observations. We may, I believe, make the following general summary:

Tissues and organs endure anemia, whether partial or complete, inversely to their phylogeny. That is, the higher the function and the greater the differentiation, and the more recent its appearance in the evolution of species, the more susceptible is it to anemia. The skin and the connective tissue making up the framework of the body endure anemia better than the various organs they support. The kidney is far more susceptible to anemia than a ligament. Again, the parenchyma, or functionating part of the kidney certainly is more susceptible to anemia than its connective tissue framework. It is not unlikely that, as Stewart and Pike have pointed out, even the various functions of the cells are to different degrees affected by anemia. Of the body as a whole, the weakest link of the vital chain is the central nervous system. Here, too, the law of phylogeny apparently holds. The fundamental centers, as the circulatory and the respiratory, which have existed since the beginning of the vertebrates, is far more resistant to anemia than that part of the brain which is phylogenically of later origin and represents the higher differentiation.

Supporting this general law is the every day clinical observation that the highest intellectual centers are earliest lost to acute anemia. Since the development of the technique of resuscitation we have been enabled, by varying the time, to resuscitate either all or a part of the central nervous system. Thus, the entire animal, excepting its intellect and its psychic function has been resuscitated, the animal remaining an idiot—a decerebrate. One such animal, blind, deaf, without sense of smell or taste, without intellect, recovered all its functions at the end of a month. The recovery was gradual. The respiratory center may endure anemia up to 45 minutes, the vaso-motor somewhat less, while the higher cortical centers, in the dog at least, endure a total anemia but little beyond six or seven minutes. It must be remembered that, as Hill has said, a mere dribble of blood may hold the spark of life. Vessels well filled with stagnant blood apparently give a little more nutrition than empty vessels. In the researches of Dr. Dolley and myself the histologic findings by Dr. Dolley corroborated those of Mott and Marianesco. In both partial and complete anemia there are definite histologic changes throughout the central nervous system.

Anemia, partial or complete, then has a definite pathologic physiology and histology. Our studies of other tissues and organs of the body show changes even more definite, but for the present will not be discussed.

With the foregoing as our premises, what are some of the practical considerations that may be deduced? First, there is, I believe, but slight if any knowledge or appreciation of the rapid and fateful degeneration that anemia may produce. In practical work attention is centered upon the general circulation. True enough the circulation is the crucial point, but if we bear in

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mind the especial susceptibility of the central nervous system we will still better orienteer the treatment. Who has not noted the tardy convalescence when deep hemorrhage complicated the operation, or when shock or collapse almost overcame the circulation?

In attempts at resuscitation in the human I have seen a complete confirmation of the experimental work on anemia. Since understanding better the full importance of anemia I have, when at all possible, not permitted the circulation to become so seriously impaired. The classic treatment of position, elastic bandaging to the costal border, and the use of saline to a physiologic limit is early given. Just as soon as these measures seem inadequate, and without waiting until a desperate turn is encountered, transfusion of blood is done. This would be equally true in medical or obstetrical hemorrhages. Delay until the synapses are broken, until degeneration occur, will, I dare say, be some day regarded as a serious mistake. In suspended animation from drowning, suffocation, or anesthetic accidents, it is obvious that the extraordinary susceptibility of the central nervous system demands quick action. Incidentally, it is extremely difficult to explain the claimed interval of suspended animation with successful resuscitation, especially in drowning. In complete asphyxia the circulation rarely continues more than seven minutes. Add to this the length of time the cerebrum can endure anemia and we have approximately 14 minutes as a rather extreme limit from the time of complete asphyxia to the limits of recoverable anemia. There will, of course, be individual exceptions.

Turning from general circulatory conditions affecting the brain to local ones, we are able to see more clearly the indication for certain operations and the reason for certain failures.

In general pathologic intracranial tension, or in a purely local pressure the diagnosis and the relief measures must be prompt. The group of cases which best illustrates our point is that of intracranial tension from hemorrhage, particularly cases in which there is no gross lesion of the brain, no depressed fracture, no complicating infection, and in otherwise healthy, young subjects, I have observed a number of such. The history is that of a head injury. There may be no external evidence of fracture. The X-ray may or may not disclose a linear fracture. Red cells may be found in the spinal fluid. The patient is at first dazed, then the intellect clears, later there is headache, some dullness followed by stupor, rising blood pressure, slowing of pulse rate, and, finally, unconsciousness follows. There may be only inconsequential changes for many hours or even days, but there comes a time when the high blood pressure, the slowed pulse rate, the regular rhythm, alternate with rapid pulse, irregular rhythm, and falling blood pressure. Soon after, death.

The circulation here is, for a time at least, contending with itself. The vaso-motor center is making a fundamental effort to prevent cerebral anemia, which, if complete, for say seven minutes or a little more, means death of the cortex. When the hemorrhage is arterial, a curious physiologic circle is established, as follows: The hemorrhage causes an increased intracranial tension threatening death by anemia, in response to the anemia the vaso-motor center increases the blood pressure, which in turn tends to increase the hemorrhage. Increase of hemorrhage causes an increase in the already pathologic tension, which stimulates still more the vaso-motor center.

It is quite obvious that the only chance for spontaneous breaking of this vicious circle with survival of the patient is by clotting or a timely operation. In this truly tragic encounter the law of physics inevitably masters the law of physiology. The physiologic law here placed in the following dilemma: if the blood pressure is not raised high enough to overcome the obstruction to the circulation in the cerebral vessels, then death from cerebral anemia must follow; if it is raised high enough to force the blood through the cerebral arteries and there is no obstructing clot, more hemorrhage will follow. The physical law having no limits and the physiologic but little power a fatal anemia must follow unless saved by early clotting or by timely surgery. In these cases what a fortuitous attitude is waiting for development! I have operated upon these cases early and late. I have opened the skull under local anesthesia and turned out a large mass of clot. The result I could well foretell. The pulse rate increased, the pathologic blood pressure fell, the respiration improved but the cortex was dead. Undoubtedly, long before the incision was made the part of the brain whose function constitutes the individual, the citizen, was dead, and the operation was in reality performed upon a decerebrate. The only value in discussing these tragedies of neglect is to emphasize our duty toward such patients in their curable stage. These cases should be most carefully orienteered. The technique is simple enough. The anesthetic should be, if possible, local; if not, then nitrous oxide or partial ether should be the choice. The blood pressure should be supported by every possible means. If the case is critical, anemia has largely anesthetized the patient. It may in some cases be well to operate in the head down posture. It goes without saying that lumbar puncture carries an increased hazard in pathologic tension. I have wondered whether it was possible that the paralysis reported to have followed some of the operations for intracranial excision of the gasserian ganglion reported by Krause were not due to the firm pressure over a long time of the retractor, producing a complete local anemia. Since appreciating the serious risks of cerebral pressure, I have exercised every care in intracranial operations to allow no continuous pressure upon the same point of the brain for longer than five minutes. Of the many fundamen-

tal studies upon the brain which have a practical bearing but few are more important than that of Cannon upon the edema of the brain following injury. Clinical experience fits in precisely with the experimental. With our ability to diagnosticate increased intracranial tension, and the simple technique for decompression at hand, the damaging anemia resulting should not frequently occur. The anemia sequence of edema should be as rare as the anemia sequence of a slow subdural hemorrhage. In like manner in infections, in abscesses the anemia factor must be as closely watched as the disease itself. It is not the province of this paper to discuss either the diagnosis or the technique of craniotomy.

In complete anemia of the extremities due to injury of the main arterial trunks, or to embolism or thrombosis we have the added resources of Carrel's technique for vessel anastomosis. I have in 32 instances made fluid tight anastomosis between arteries and veins in the human in the technique of transfusion. I found it possible to unite a radial artery to a much larger vein and vice versa. In one instance I united the atheromatous radial of a 56 year old father to the basilic vein of his 16 month old child.

In the course of a cancer case of extraordinary interest, in which the shoulder and the axillary artery were involved, I was confronted with the alternative of performing a palpably incomplete operation or excising a piece of the axillary artery. The latter was unhesitatingly done, and the ends of the artery immediately united by suture. I was gratified to find that the suture of a larger vessel was much easier than the suture of the smaller and thinner walled vessels in the course of transfusion. There was not even a drop of leakage and the circulation was at once established. The recovery was not apparently hindered by the arterial resection.

In the course of the excision of a very large sarcoma of the kidney in a child, through an abdominal incision, I found the invasion so close at the pedicle that the renal vein was cut off flush with the vena cava and the opening closed without the slightest difficulty by suture. It is rather probable, on the evidence of the work of Carrel and Guthrie, that vessel substitution may become feasible. The practicability has not yet been completely established. We can at least be assured that in certain traumatic cases vessel continuity can be re-established and limbs saved.

There are many phases of acute anemia with surgical relation upon which I should like to dwell, but time forbids. I am sure that in the future we shall not permit our patients to sail so close to the rocks of anemia, that the treatment of acute anemia will be predicated upon a more accurate knowledge of the resistance of the various tissues and organs to anemia, and that our patients will be treated according to the particular indications of each case rather than upon a general formula.

## THE TREATMENT OF CEREBRO-SPINAL MENINGITIS BY THE SERUM OF FLEXNER AND JOBLING. WITH A REPORT OF 523 CASES.*

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THE details concerning the production and mode of action of the serum have been several times published by Flexner and Jobling, and it will suffice for our present purpose merely to call to mind a few of the most important points. The serum is obtained from horses which have been immunized by injections derived from many strains of the meningococcus. Between four and five months are required before the serum of a horse is strong enough for use. Thus far the serum has been distributed from the Rockefeller Institute, accompanied by some general suggestions as to its use; the only conditions made being that full reports of cases treated should be returned, and that the diagnosis of cerebro-spinal meningitis should be confirmed by bacteriological examination.

The serum acts chiefly upon the meningococci, diminishing their viability and increasing their capacity for phagocytosis. By its effect upon the micro-organisms it arrests the infiammatory process. To accomplish this result the serum must be injected in considerable quantity; it must be brought directly into contact with these organisms, and in a certain degree of concentration. This enables one to understand why it is practically without effect when given subcutaneously or intravenously, also to appreciate the advantage of withdrawing by puncture as much cerebro-spinal fluid as possible before the injections are made, and finally, the necessity for full doses early before important lesions have occurred.

While, then, essentially a bacteriolytic serum, it must possess some antitoxic value as well; for in no other way can be explained the striking rapidity with which the subjective symptoms often improve after injection.

*Method of Use*—In any case suspected to be one of cerebro-spinal meningitis, lumbar puncture should be made at the earliest possible moment. If the fluid withdrawn is purulent or even cloudy, to save time the serum should be injected at once without waiting for the result of an examination of the fluid. While it is quite true that in a small proportion of cases the disease will be found to be due to other organisms than the meningococcus, no harm is done, but, of course, no benefit is to be expected. The injection should not be repeated unless the case is proven to be one of cerebro-spinal meningitis.

In making the puncture only the Quincke needle (trocar and cannula) is to be used, as the

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ordinary exploring needle is too small, too slender and may be broken. It is desirable to withdraw all the fluid that will come away readily, and this is facilitated by raising the body to the semi-erect position and flexing the head upon the chest. It is surprising how much fluid can be removed, often as much as three ounces without causing unpleasant symptoms. The withdrawal of a large amount of infected cerebro-spinal fluid is in itself beneficial. The number of living organisms is greatly reduced and toxins are also removed. Besides, this facilitates the introduction of a large quantity of the serum. In very sensitive patients, particularly if they are older children, local anæsthesia is advisable, and in some, especially refractory children, it may be necessary to administer a few whiffs of chloroform; otherwise the movement of the body during the puncture greatly increases the difficulties of entering the spinal canal and more often causes slight hemorrhage. The mixture of the fluid with blood may obscure its nature.

After the spinal canal has been emptied, the serum, which has previously been warmed to the body temperature, is injected through the puncture needle without withdrawing the latter from the spinal canal. This should be done very slowly, the procedure occupying several minutes. The entrance of the serum is facilitated by elevating the hips and lowering the head. Usually the syringe is used for introducing the serum, but a funnel may be employed. It need hardly be said that the entire operation of puncture and injection should be carried out with the strictest asceptic precautions.

While it is desirable to withdraw considerable fluid it is not absolutely necessary that as much be removed as the amount of serum to be injected. Late in the disease it is often necessary to inject much more, but this should always be done with caution watching the effect of increasing the tension very carefully. The serum may even be injected after a dry puncture, always, of course, being sure that the needle is in the spinal canal. The technique of puncture and injection, while in no sense a difficult matter, requires, for the best results, considerable experience. Unless details are carefully attended to results cannot be depended upon. One without experience may find it difficult to enter the spinal canal and might even inject fluid into the cellular tissue, of course, without result. Dry punctures are sometimes due to the fact that the needle is too small, and in late cases sometimes to the presence of adhesions at the base of the brain, which obstruct the passage of fluid from the ventricles to the sub-arachnoid space. Under these circumstances Cushing and Sladen have proposed the injection into the ventricles of the brain which may be resorted to in extreme cases. When the fluid is too thick to be easily withdrawn through the needle, and only a few drops of purulent fluid can be obtained, Robb has successfully irrigated the spinal canal with a sterile saline solution and afterwards injected the serum.

*Dosage*—As the serum has not yet been standardized the dose is measured by cubic centimeters, not by units. The amount to be administered has not yet been definitely settled and a much larger experience will be required before it can be. Since the object of the serum is to arrest the disease by acting upon the bacteria which are causing it, it follows that considerable quantities should be introduced at one time if it is to be effective. When the serum was first used physicians were timid regarding it and only from 5 to 10 cc. were given, many of the cases receiving but a single dose. With larger experience this seems entirely inadequate and it is now believed that the initial dose for any case should not be less than 30 cc.; and that in cases in which a larger amount of fluid can be removed, particularly in older patients, and in very severe cases, as much as 45 or 50 cc. may be advantageously given. The very small doses used at first are doubtless responsible for many of the failures reported, exactly as was the case with diphtheria antitoxin.

Opinion has also undergone a change regarding the repetition of the dose. Instead of waiting to see whether improvement follows the first dose and giving the second dose after two or three days it has been found best to give a full daily dose for three or four days to make the destruction of the bacteria certain. In very severe cases, such as those of the fulminating type, the repetition of the dose at shorter intervals than twenty-four hours may be necessary. A number of doses given quite near together are much more effective than the same quantity of serum distributed over a longer period.

The indications for repeating the dose are afforded not only by the symptoms, but by the changes which take place in the cerebro-spinal fluid. The daily dose should be given until the fluid becomes absolutely clear. A further use of the serum, even though some temperature may still be present, is not always needed. One may wait and watch the symptoms.

*Effect of the Serum Upon the Cerebro-spinal Fluid*—This is apparent even in the naked eye. Often after twenty-four hours, and nearly always after two days, the cloudiness of the fluid becomes much less and by the third day it may be as clear as normal cerebro-spinal fluid. Microscopical examination shows a rapid and great reduction in the number of pus cells and meningococci. The organisms outside the cells go first, later those within the cell bodies. Sometimes after one and generally after two injections the organisms will not grow at all.

With these marked evidences of the local action of the serum we are quite prepared for the effect of the injections upon the clinical symptoms. These are often manifested within twelve

hours and in twenty-four hours may be very marked. The temperature often falls four or five degrees and may not rise again.

The nervous symptoms, delirium, stupor, hyperæsthesia, may rapidly improve and consciousness return. At the same time the general condition as shown by pulse, respiration and prostration is decidedly better. The last to disappear are usually the rigidity of the neck and the extremities. An examination of the blood shows a marked fall in the number of leucocytes and everything points to a rapid subsidence of the inflammatory process.

*Results of the Serum Treatment*—Dr. Flexner has kindly furnished me with the figures giving results of the cases thus far treated. The sources of these reports have been from many widely scattered epidemics or centers of infection. The great epidemic of New York was at an end, and only a moderate number of sporadic cases have been treated there. But the disease has prevailed in other places, notably, Boston, Baltimore, Washington, Philadelphia, Cleveland and Chicago, and in Great Britain at Belfast and Edinburgh. The advantages of such a test for a method of treatment are evident. The disease is known to vary much in its severity in different places and at different seasons where it prevails. The data collected possess, therefore, much greater value than if all the cases had been drawn from a single city or from one epidemic. It is, I think, reasonable to assume that the cases treated represent the disease in its average severity.

The value of the serum treatment may be determined by a consideration of three points:

(1) The mortality of the cases treated.

(2) The duration of the disease in the cases which recover.

(3) The frequency of complications and sequelæ, or the completeness of recovery.

The general death rate from epidemic cerebro-spinal meningitis is pretty well known. In different places and at different times it has varied from 50 to 80 per cent. In the great epidemic of New York city of 1904-05 the mortality was about 70 per cent. Of 2,755 cases tabulated by the Health Department in 1905, it was 73.5 per cent. I know of no epidemic of any considerable size where more than half the cases have recovered.

The figures furnished me by Dr. Flexner give the results in 523 cases returned up to January 1, 1909. Of this number, 368 terminated in recovery and 155 in death, a mortality of 29.6 per cent. No case has been included in this report in which the clinical diagnosis was not confirmed by an examination of the cerebro-spinal fluid. The only cases excluded are those (about 20 in number) in which the patients were practically moribund at the time of the first injection and died in a few hours after it was made. All cases injected late are included even though some of them had reached the chronic stage at the time and were in the third or fourth month of the disease.

TABLE I.

RESULT BY AGES.

| Ages. | No. Cases. | Recovered. | Died. | Mortality. |
|---|---|---|---|---|
| 0-2 yrs | 59 | 34 | 25 | 42.4% |
| 2-5 yrs | 88 | 63 | 25 | 28.4% |
| 5-10 yrs | 104 | 88 | 16 | 15.4% |
| 10-15 yrs | 70 | 54 | 16 | 22.9% |
| Total, 0-15 yrs | 321 | 239 | 82 | 25.5% |
| 15-20 yrs | 79 | 54 | 25 | 31.7% |
| 20 yrs. or over | 123 | 75 | 48 | 39.0% |
| Total, 15 yrs. and over | 202 | 129 | 73 | 36.1% |
| Total, all ages | 523 | 368 | 155 | 29.6% |

I desire to call especial attention to the cases treated in the first two years of life. These are 59 in number, with a mortality of 42.4 per cent. One child only one month old recovered. On the other hand, the deaths include a case which was first injected in the fourth month of the disease. Let me contrast the results with the serum with my own hospital experience in chldren of the same age treated without it. This includes 61 cases under two years, with 55 deaths, a mortality of 90 per cent.

The cases under fifteen years old were 321, a mortality of 25.5 per cent; those over fifteen years old were 202 with a mortality of 36.1 per cent.

More accurately indicating the effects of the serum are the figures in Table II,* where are given the results of the same series of cases grouped according to the time of receiving the first injection.

As would be anticipated, the early injections gave the best results, but there is not so great a difference between the three groups as one would expect. If we consider separately the figures for the first fifteen years, however, this is clearly brought out. This gives a mortality of 12.7 per cent. for 110 cases injected during the first three days; of 23.3 per cent. for 120 cases injected from the fourth to the seventh day; and 44 per cent. for 91 cases injected after the seventh day. In patients over fifteen years of age higher mortality in cases injected early is one of the discrepancies inherent in small statistics. It is here explained by the fact that this group includes a large number of single cases by different physicians, sometimes with imperfect technique and often very inadequate dosage. The figures given are of the cases exactly as they have been reported, but these statistics are not to be taken as an indication of what may be expected from the use of the serum under more favorable conditions.

* For table see end of article.

The usual course of cerebro-spinal meningitis when recovery takes place is also well known. A very small proportion of cases, sometimes designated as "abortive," terminate abruptly. By far the greater number of patients who get well do so after a protracted period of fever and active nervous symptoms which gradually subside.

In the cases tabulated by the New York Health Department in 1905 to which reference has already been made, the duration of the disease is given in 350 patients who recovered. In only 3 per cent. was it one week or less; in 50 per cent. it was five weeks or longer. One case came under my observation in the person of a girl nine years old who recovered completely after acute febrile symptoms which lasted eighty-three days, and another child of two years recovered after one hundred and eleven days of continuous fever. In 220 cases treated by serum it is possible to give very approximately the duration of active symptoms, fever, etc., after the first injection. The average period was eleven days.

One of the most striking commentaries upon the duration of the disease is that of Robb, of Belfast, where an extensive epidemic prevailed a little over a year ago, who states that since the serum had been introduced the protracted chronic cases which previously filled his wards had practically disappeared.

An attempt has also been made to determine from the histories the mode of termination in the cases ending in recovery. In 270 cases in which the reports give information upon this point the disease ended abruptly, or by crisis, in 69, or 25 per cent.; gradually, or by lysis, in 201, or 75 per cent.

*Relapses,* or a recrudescence of the disease after it was apparently under control, have occurred in about 5 per cent. of the cases. Very few of these, however, proved fatal. When the serum treatment was energetically resumed the disease usually yielded as promptly as in the primary attacks. The cause of this fresh lighting up of symptoms seems to be that not all the meningococci have been killed or rendered incapable of further mischief by the serum. The few remaining may rapidly increase in the favorable conditions present in the cerebro-spinal fluid when they might fail to grow outside the body. There are certain conditions which may make it impossible for the serum introduced to affect all the bacteria, such, for example, as a thick exudate which renders diffusion of the serum difficult, or the presence of adhesions between the membranes. All considerations point to the necessity of adequate doses, early, and near together. It is much like putting out a fire: the dash of a single bucketful at one time may extinguish it, while the same quantity used at four different times may accomplish little more than to lessen the spread of the conflagration.

Unfortunately the data given in the reports do not make it possible to state in percentages the frequency of complications and sequelæ in the serum cases. The general statement only can be made that they have been very infrequent, this chiefly no doubt by the shortening of the disease. When complications have occurred they have usually been in cases treated late and in many instances they were present before serum was given. In almost all others not fatal recovery has been complete.

There are certain limitations in the serum treatment. It is of no value in cases of meningitis not due to the meningococcus. No improvement is to be expected in late cases in which all acute symptoms have subsided and in which chronic hydrocephalus is present due to a basilar meningitis. While the serum is capable of arresting the inflammatory process it cannot remove lesions already present.

Although the number of cases treated is not yet large, the evidence herewith submitted must, I think, convince anyone who approached the subject with a candid mind that the course of cerebro-spinal meningitis and its termination are distinctly modified by the injection of the serum of Flexner and Jobling. In all places where it has been employed the results have been much the same, and those who have had most experience with its use have become enthusiastic advocates. With improvement in the quality of the serum and a better understanding as to how it should be used, particularly larger doses and more frequent administration in the early stage, we may confidently predict that the subsequent results will be far better than those here given.

TABLE II.

RESULTS ACCORDING TO TIME OF INJECTION.

| Time of Injection. | One to Three Days. | | | Four to Seven Days. | | | Later than Seven Days. | | |
|---|---|---|---|---|---|---|---|---|---|
| Ages. | No. Cases. | Deaths. | Mortality. | No. Cases. | Deaths. | Mortality. | No. Cases. | Deaths. | Mortality. |
| 0-2 yrs | 11 | 1 | 9.0% | 19 | 4 | 21.1% | 29 | 20 | 71.4% |
| 2-5 yrs | 22 | 5 | 22.8% | 40 | 13 | 32.5% | 26 | 7 | 27.0% |
| 5-10 yrs | 49 | 6 | 12.3% | 37 | 6 | 16.2% | 18 | 4 | 22.2% |
| 10-15 yrs | 28 | 2 | 7.2% | 24 | 5 | 20.8% | 18 | 9 | 50.0% |
| Total, 0-15 yrs | 110 | 14 | 12.7% | 120 | 28 | 23.3% | 91 | 40 | 44.0% |
| 15-20 yrs | 26 | 11 | 42.3% | 30 | 8 | 26.7% | 23 | 6 | 26.1% |
| 20 yrs. or over | 36 | 16 | 44.5% | 46 | 17 | 37.0% | 41 | 15 | 36.6% |
| Total, 15 yrs and over | 62 | 27 | 43.5% | 76 | 25 | 32.8% | 64 | 21 | 32.8% |
| Total, all ages | 172 | 41 | 23.9% | 196 | 53 | 27.4% | 155 | 61 | 39.3% |

# SOME CONGENITAL ABNORMALITIES OF CERVICAL OR SPINAL ORIGIN.*

By NATHAN JACOBSON, M.D.

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IT is not my purpose to discuss all of the congenital abnormalities of the neck or spine but only to refer to a few conditions presenting rather unusual manifestations. I wish to direct your attention first to the cysts of branchial origin. Ordinarily these are found near the center of the neck and some evidence of their presence is manifested soon after birth. Frequently the cysts have suppurated and ruptured and we have to deal simply with a fistulous tract connected with one of the clefts. Conditions present at birth ofttimes remain latent many years and then are awakened into activity.

CASE I. *Lateral branchial cyst occurring in adult life; complete removal.*

The patient, a young man, 22 years of age, unmarried, with a negative family history and who had had the ordinary diseases of childhood, consulted me June 18, 1908. About a year prior he had noticed a slight swelling on the left side of his neck, of the size of a quarter of a dollar, and which was free from pain and tenderness. No material change in its size had occured until three months previously when the swelling took on rapid growth. When I made my examination it was fully as large as an orange. It was freely movable, fluctuated, was located on the left side of the neck under the sterno-mastoid muscle and could be pushed from one side to the other. On the following day under somnoform—ether anæsthesia—I made an incision along the posterior border of the sternomastoid muscle and found that I could in the main readily separate the cyst. However, just as I was about to complete its removal it ruptured and gave vent to a purulent discharge. The sac was, however, entirely removed and the wound closed with interrupted silkwormgut sutures. A week later it had healed per primam and the patient was dismissed from the hospital. Dr. Steensland, professor of pathology at Syracuse University to whom the sac was referred for microscopic examination, reported that it was of branchial origin.

The unusual features of the case are that the first evidence of the presence of the cyst occurred when the patient was 21 years of age, and next its location at the side of the neck rather than near the median line.

Sultan[1], reviewing the work of the surgical clinic at Göttingen reports a series of 22 cases two of which were located, like the one just reported under the sternomastoid muscle. Singularly enough all of these were left sided. One affected a woman 38 years of age, who had the tumor many years. The second operation was performed upon a man 56 years of age in whom the tumor had been present fourteen years. In both instances, as in my own, the tumor was most easily reached by incision along the posterior border of the sternomastoid muscle.

Differing from these cases and perhaps of more uncertain origin is the case of a child 13 months old whom I saw at the Syracuse Hospital for Women and Children in September last in consultation with Dr. E. J. Wynkoop. The child presented a cystic tumor springing from the floor of the mouth, which Dr. Wynkoop subsequently removed by operation. Unfortunately, the specimen was not subjected to microscopic examination and I am therefore not able to definitely state its nature. However, it is known that true ranula is a very unusual occurrence at birth.

In the article referred to by Sultan the history of a similar case is recited. A child was operated upon when three months old but because of its cachectic condition the sac was only partly removed. It reached deeply into the neck. The same author reports the case of a child in whom there was a congenital obstruction of both Wharton's ducts. These appeared under the tongue as well distended tubes, rather than as characteristic cystic growths. After most careful study of this subject, he concludes that very few cases of ranula especially those encountered in early life are dependent upon obstruction of this duct, but are either of branchial origin and then are outgrowths of remnants of the tractus thyreoglossus or are dependent upon a pathologic process in the sublingual gland. It was Neumann[2] who demonstrated that many of the so-called ranulas are connected with the lingual duct which is one arm of the thyreoglossal.

Many of these cysts are slow of growth or remain quiescent until for some reason they become infected, when they take on size rapidly. The patient is then apt to indicate as the period of growth one coincident with the infection. Hutchinson in his Archives of Surgery[3] refers to a cystic tumor in the posterior triangle of the neck of several years duration which also had become infected. This he describes under the name of hydrocele of the neck. Upon incision it was found to consist of a series of thin walled cysts. Some contained a serous fluid and others were in a state of suppuration. He removed only a portion of the tumor, because in a similar case terminating fatally, on post-mortem examination the cyst was found to extend well into the cavity of the chest. Fearful that he might encounter a similar condition he contented himself with a partial removal.

Edington[4] reports a series of cysts occurring in the neck several of them being apparently cases of ranula. Some of these projected below the chin and others did not. All apparently were dependent upon "rests" of the thyreoglossal tract.

* Read before the Medical Society of the State of New York at Albany, N. Y., January 27, 1909.

I desire to emphasize the fact that cases of so-called congenital ranula deserve very careful study to determine their origin; and furthermore that few if any of them will be found resulting from obstruction of Wharton's duct while many will be traced to a branchial source.

To introduce the second section of this paper allow me to refer to the following case:

CASE II. *Aberrant thyroid tumor deeply placed under sternomastoid muscle. Recurrence.*

G. L. T., aged 64; married; night watchman. Father died of pulmonary tuberculosis; otherwise family history negative. Aside from typhoid fever in 1863 he had no acute sickness. He consulted me October 25, 1905, stating that five months previously he had noticed a swelling on the left side of his neck. During the preceding month the tumor had grown very rapidly. I found a large mass, of irregular outline beneath the anterior border of the sternomastoid muscle and extending from the angle of the jaw to within a short distance of the clavicle. A small and apparently normal thyroid gland was present. On the following day I removed through an incision parallel with the muscle a mixed tumor made up in part of solid structure and in part of cysts. It was very adherent. The neighboring veins were exceedingly large, the largest the size of a finger, was stretched across the tumor and would collapse and fill out with the respiratory movements. The tumor was separated with difficulty from the deep vessels of the neck and indeed because of its adherence a small portion fixed to the carotid sheath was allowed to remain. Rubber tissue drainage was introduced and at the end of two weeks the patient was able to leave the hospital. Dr. Steensland made the following report:

"Specimen is fresh and consists of six pieces of tissue comprising four large glands and adjacent tissue. The largest gland measures 2.8 by 2.4 by 1.8 c. m. Two of the others are nearly as large. The surface of this largest gland is nodular, some of the nodules being caused by small cysts with yellowish transparent contents others being of gland tissue. On section the cut surface shows very cellular structure soft and friable. A considerable amount of this soft tissue comes away on scraping slightly with the edge of the knife. Diagnosis: malignant adenoma of thyroid origin."

Two years later the patient returned to me and I found a recurrent mass in the posterior triangle of the neck. It was absolutely fixed and immoveable in the lower portion of the triangle. I prescribed an iodide of ammonium ointment to be applied locally and the potassium iodide to be taken internally. I did not see him again until December, 1908, when I found that the hard mass had been converted into a cyst and I withdrew with an aspirating syringe about 10 c. c. of dark fluid. This fluid was subjected to examination by Dr. Steensland without any new light being shed upon its character. On several occasions since I have seen the patient and apparently the mass is more moveable than it was and each time there has been a reaccumulation of fluid and I have aspirated it. Upon withdrawing the fluid a hard tumor is left behind, but as yet this has not become sufficiently moveable for me to attempt a second operation.

The occurrence of tumors of thyroid origin entirely removed from the thyroid gland and apparently disconnected from this structure has been recently noted. Schrager[5] has named them "lateral aberrant thyroid tumors." His very complete review of this subject was published more than two years ago. He collected all of the accessible cases from literature. To the fourteen cases found he added two from the clinic of Dr. John H. Murphy.

Cushway[6] in the current number of the *Annals of Surgery* reports an additional case. Evidently then these cases are not very numerous.

Schrager believes that the condition is much more common than one would assume from the limited number of published cases. Of the fourteen published during the last fifty years, in no instance was a correct diagnosis made before operation. In explaining the origin of aberrant thyroids it is assumed that at a time in embryonic life, when the first trace of the structure appears within the embryonic area, thyroid tissue becomes detached because of the development of the muscles of the neck or the branchial arches, and these detached portions subsequently become aberrant thyroids. It is also suggested that possibly they may originate from normal or supernumerary para-thyroids.

In our case the patient was a man 64 years of age. In several of the cases collected from literature by Schrager, the patients were quite as old. This again is a matter of interest, inasmuch as a condition which of necessity must have been congenital did not make itself manifest to any marked degree until an advanced age was reached. Nearly all of the cases present a history of slow growth and are without marked subjective symptoms. Usually they have undergone cystic degeneration if any great size has been attained. Rarely has there been any malignant change reported. The condition has occurred more frequently in women. It is assumed that removal of the tumor is always justified provided one can be sure that some normal thyroid tissue is present in the patient.

The third class of cases to which I desire to call your attention is a form of spina-bifida.

*Case III—Spina bifida in the upper dorsal region with beginning gangrene of the sac twenty-four hours after birth.*

On June 1, 1907, I was called by Dr. Slocum to the village of Camillus to see a child, one

day old. It was the third child born to the family; the first was 3½ years old and perfectly healthy. The second born 1½ years later had a congenital encephalocele associated with hydrocephalus. This child lived six months. Our patient presented a tumor having but a thin membranous covering. It was circular in form and had a diameter of three inches. It was evidently a meningocele. Within twenty-four hours after birth there was evident change in the sac. The beginning necrosis of the thin membranous covering made it imperative that something be promptly done. When I returned to operate on the following day, gangrene was very definite over an area two inches in diameter. Under chloroform anæsthesia a circular incision was made through the viable tissues and all of the necrotic area removed. There was quite a free discharge of cerebro-spinal fluid. The structures were loosened around the separated laminæ and flaps thus made were brought together and united with interrupted mattress sutures of kangaroo tendon. The gap was in the arches of the two upper dorsal vertebræ. The skin was fastened over the underlying suture line with interrupted silkwormgut sutures. The operation consumed about an hour. A great many vessels required ligation. Despite the loss of blood and the prolonged operation the child seemed to be in fair condition at the completion of the operation. There was a reactionary temperature of 103 which continued about two days and was associated with clonic spasms of both upper extremities. This persisted for a few days. Two weeks after operation I was informed by Dr. Slocum that the wound had entirely healed and that the patient's condition was satisfactory. I saw the child on the 26th of December, 1907, when she was about seven months old. She was bright, vigorous and as active as the average child of her age. A firm covering replaced the spina bifida. The child sat up unassisted, had complete control of her upper extremities, and showed no evidence of disturbance. She has now grown to be a healthy girl, is strong and apparently is in no wise impaired by her unfortunate congenital condition. The fact that in this family there had been a congenital deformity in another child is of interest. Our patient had no malformation of the extremities nor of any other part of the body.

In these cases with rapid necrosis of the tissue over the sac, where within a day or two a fatal septic process will be established, operative relief must obviously be prompt.

Moore[7] presented a resume of this subject to the American Surgical Association at the meeting in 1905. His paper was based upon all of the operated cases which he had been able to collect from literature, a total of 385. In the cases collected there was a mortality of 35 per cent. amongst those operated during the first few months of life, but in the group in whom the operation could be, and was deferred until after the fifth year, the death rate was but 4.7 per cent. In his summary he maintains that operations upon children of very tender age is scarcely worth while because it is accompanied by so large a mortality and does not arrest the progress of advancing cases. While we are not justified in drawing a conclusion from a single case, the result in the one here reported warrants the assertion that the rule suggested by Moore has its just exceptions. Indeed it raises the question whether the surgeon would be doing his full duty were he to allow a child under these conditions to die unoperated.

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## A CASE OF SCLERODERMA, WITH SPECIAL CONSIDERATION OF THE EOSINOPHILIA.*

By SAMUEL B. WARD, M.D., and ERASTUS CORNING, M.D.

ALBANY, N. Y.

The patient, Mr. W. E. S., resides in this city, is 26 years of age, single, a clerk by occupation, and was referred to the senior writer for consultation on July 23, 1908, by Dr. G. G. Lempe. At that time, he complained of stiffness, particularly of the hands and feet.

*Family History*—No history of insanity, epilepsy, hysteria, neurasthenia or any disease of the nervous system.

*Past History*—The patient has always been well and strong, and has never had any serious illness. Two years ago he had a slight attack of jaundice. He is a total abstainer from alcohol but uses tobacco in moderation. He denies venereal infection. His appetite is good, his bowels perfectly regular, he sleeps well and in fact feels perfectly well in every way except for his stiffness. For the past three or four winters he has done a great deal of bowling, using a sixteen pound ball, and thinks that this may have caused the stiffness. It appears, though, that the patient is right handed, bowls with his right

*Read before the Medical Society of the State of New York at Albany, N. Y., January 27, 1909.

hand, and that the stiffness first appeared on the left side.

*Present Illness*—In May, 1908, the patient first noticed a feeling of numbness on the front of his left wrist. This numbness was followed by stiffness and swelling of the fingers of the left hand. A month later the right hand became involved in the same manner, and by the latter part of June, he was unable to hold a pen in his right hand. He states that at times the swelling would go down for a few hours, but would then return. About the same time, his elbows began to get stiff. About June 1st his feet began to get tender, and he noted a stiffness of the toes. He is still able to wear the same sized shoe as formerly. He has never noticed any swelling of the face. He says that his legs are slightly swollen as far as the knee. His greatest difficulty at present is due to stiffness of the hips and knees, which is so marked after a night's rest, that it is often impossible for him to get up without assistance. He has never felt as though he had any fever, has had no pain, and does not think that he has lost any weight.

*Physical Examination*—Height, 5 ft. 5¼ ins.; Weight, 135 lbs.; Temperature, 99.80; Pulse, 90; Resp., 19.

*Functional Examination*—The patient rises from the sitting posture to the erect with difficulty. He says he feels as if his knees would break when he tries to get up. If he gets up slowly, and walks around a little, this feeling passes off. If he walks for any distance, the soles of his feet get hot and sore. His hands, feet, forearms and legs, perspire normally. As the patient walks about the office, during the course of the examination, there is no noticeable peculiarity in his gait. He states that in walking up stairs, "it seems to catch him under the knees." On walking in the morning, the motion of his arms is slightly restricted. He also notices occasionally a stiffness of the neck, but he has had this on occasions ever since childhood. He has no difficulty in opening the mouth wide, nor in closing the eyes. There is no dyspnœa, even on violent exertion. He does not present any evidence of cyanosis, nor has he himself ever noted any. His manner is quiet, and he displays no neurotic tendencies as far as may be made out.

*Heart*—The systolic blood pressure, as determined by Stanton's apparatus, is 125 mm. The size and position of the heart is normal. No murmur is heard in either the mitral, tricuspid or pulmonary areas. In the aortic area, there is a very faint blowing, systolic murmur, heard plainly in the second interspace, to the right of the sternum; also heard in the first interspace on both sides of and behind the sternum; in the right carotid and subclavian, and in the left carotid but not in the left subclavian.

*Lungs,* negative.

*Nervous System*—Patellar reflexes on both sides, slightly exaggerated. No ankle clonus. No Babinski. Plantar reflex present, but very sluggish. Pupils equal, midwide, react promptly to light and accommodation. Tactile, painful and thermic sensations, normal all over the body.

*Liver,* not enlarged.

*Spleen,* not palpable.

*Skin*—The skin of all the fingers of both hands, and of both aspects of both arms up to the elbow, is thick and brawny, so that it cannot be picked up or wrinkled in the usual manner. The same is true of the lower extremities up to the knee, but it is not as marked anteriorly as it is posteriorly. There is well marked, though not excessive edema, pitting on pressure, of both legs to the knee. There is no pigmentation of the skin anywhere, and in the affected parts, there is no evidence of any skin disease. Patient states that at times the skin of his hand is quite pale, but to-day the color is normal.

There are no telangiectases, nor is there any change in the quality or amount of the hair.

*General*—An X-ray plate of the hands, taken by Dr. Arthur F. Holding, showed no involvement of the bones.

No enlarged lymph glands can be made out at any point.

Patient states that his friends have not noted any change in his facial expression, nor is he himself conscious of any.

No hypochondriasis, melancholia or dizziness was demonstrable.

No history of exposure to cold, fright, shock, or injury, could be obtained. Byron Bramwell[1] draws attention to the fact that he has seen five cases of scleroderma, the patient in each instance being a mason by occupation. In his opinion the chilling of the hands by holding cold instruments, etc., is a factor in the production of the disease. In the present case, no such history can be obtained.

He has had no digestive disturbances.

The examination of the urine was negative.

*Subsequent History*—The patient has at no time been incapacitated from work. On August 24, 1908, the note is made that his gait is noticeably stiff. This grew more marked during the next month; it then cleared up slightly and has since remained awkward and stiff. By September the edema was beginning to decrease. In November, 1908, measurements of the affected parts, compared with similar measurements taken in July, 1908, showed a loss of from one-quarter inch to one inch and a quarter. Since then the patient appears to be passing into the atrophic stage, the legs in particular showing the loss of tissue. During the past nine months, he has lost fifteen and one-half pounds. On September 10, 1908, an examination showed that the sclerodermatous process had involved the legs as high as the hips. Zones of dilated venules

were noted across the lumbar depression, and across the lower part of the chest. In October the patient's appearance was compared with that of a photograph taken one month previous to the onset of the disease. The face is noticeably thinner, especially under the malar eminences, the expression is now heavier and more mask-like, and the palpebral fissure is narrowed. The masseter muscles felt hard to the touch but the patient complained of no difficulty in opening the mouth. In January, 1909, an examination disclosed the fact that the liver, normal in July, 1908, now extends in the mid clavicular line from the upper border of the fifth rib to one inch below the costal margin.

*Treatment*—The patient was given the double bromid of gold and arsenic from July 23d until November 20th. Since then he has been on the iodids. Neither form of treatment has seemed to have any direct effect on the process.

*Blood Examination*—The patient's blood was examined when he was first seen and three times a month thereafter. In estimating the haemoglobin percentage, Sahli's hemometer has been used. Wright's stain has been used for the differential count and five hundred cells have been counted each time. The table given below shows the result in detail, and the chart shows the salient points in graphic form.

*A. The Erythrocytes*—Although the subject of polycythemia as a clinical entity had been recognized previously, it was not until Osler, in 1903, published his reports, that the subject came into general notice. Since then the literature has accumulated rapidly. One of the latest articles on this subject is that of F. Parkes Weber.[2] In an extensive critical review he defines polycynthemia as a condition of the blood in which the number of the red corpuscles is decidedly above the average. Polycythemia may be relative or absolute. Relative polycythemia is due merely to a concentration of the blood, and is a temporary condition. Absolute polycythemia involves an actual increase of the total number of red corpuscles in the body. Absolute polycythemia may be subdivided into erythremia and erythrocytosis.

Weber holds that erythremia represents a primary condition, whereas erythrocytosis is a secondary condition analagous to leucocytosis, and represents a conservative vital reaction, an effort on the part of the organism to compensate for some difficulty in the oxygenation of the blood and tissues of the body. If this classification is accepted, under which heading does the present case fall? Is it a relative polycythemia, an erythremia, or an erythrocytosis?

Weber gives as the causes of relative polycythemia, choleraic diarrhœa and excessive sweating. No such loss of fluid is demonstrable in this case, erythremia, according to Weber, is a disease characterized by well marked persistent polycythemia, persistent increase in the viscosity and total volume of the blood, cyanosis and enlargement of the spleen. In addition, Osler[3] mentions headache, giddiness and constipation, as the more common symptoms. This patient presents neither cyanosis nor splenomegaly, nor does he complain of any of the other characteristic symptoms. It would seem, therefore, that the condition in this case is an erythrocytosis. Weber states that erythrocytosis may be secondary to the following conditions:

1. Residence in high altitudes.
2. Imperfect oxygenation of the blood and tissues in chronic cardiac and pulmonary disease.
3. Blood stasis, not of cardiac or pulmonary origin. (Extreme passive congestion in the portal system; thrombosis of the portal vein, etc.)
4. Toxic conditions.
5. Chronic infections, syphilis, tuberculosis, malaria, etc.
6. Local processes affecting the nutrition of the bone marrow, such as arterio-sclerosis and angina cruris.

Of the above factors, some are obviously not present in this case, and others have been ruled out by careful examination. It is not possible, however, to deny that one of them, some toxic condition, may be present.

*B. The Leucocytosis* may be considered as evidence of intoxication.

*Eosinophilia*—In the present case, the eosinophilia is evidently either an accidental finding, or an integral part of the disease. The first step therefore is to review the conditions in which an eosinophilia has been reported, and discover if possible whether or not any of these are present in this case.

*Occurrence of Eosinophilia*—Eosinophilia has been reported in the following conditions:

*Blood Diseases*—Myelogenous leukemia, pernicious anemia.

*Skin Diseases*—Pemphigus, prurigo, psoriasis, urticaria, pellegra, herpetiform dermatitis, herpes, eczema, lupus.

*Helminthiases*—Ankylostomiasis, oxyuris, ascaris, taenia mediocanellata, balantidium coli, trichiniasis, ecchinococcus, filariasis.

*Acute Infections*—Scarlet fever, camphor poisoning, carbon dioxid poisoning, gonorrhœa and prostatitis, malaria, acute articular rheumatism, pneumonia (post febrile period).

*Miscellaneous* — Bronchial asthma (paroxysm), leprosy after extirpation of, and in chronic tumors of, the spleen, malignant disease (small percentage of cases), myxoedema, osteomalacia, ovarian disease (non-malignant), during the absorption of hemorrhagic effusions.

On the assumption that the eosinophilia in this case might be an accidental finding, the above named conditions have been eliminated as far as possible.

The stained slides have never shown evidences of leukemia, pernicious anemia or malaria.

Repeated observations have failed to disclose the presence of any skin disease.

Clinically the patient gives no evidence of infection with intestinal parasites other than the eosinophilia. He has never had either constipation or diarrhœa and his stools are normal in appearance. The stools have been examined on three occasions, once by Dr. S. B. Wolbach, of the Bender Hygienic Laboratory. At no time have ova been found. Repeated examinations of the urine have resulted negatively.

Fresh preparations of blood were examined for filariæ but none were found.

The patient did not react to tuberculin (Moro). Through the kindness of Dr. C. B. Hawn, a blood culture was made but was reported sterile.

So far, then, attempts to account for the eosinophilia on this basis have failed.

In the course of a review of the more immediately available literature bearing on scleroderma, but two references to the occurrence of eosinophilia in this disease have been found. Dr. F. X. Dercum[4] says, "Oro found an increase in the eosinophile cells. This was not observed in the cases studied by Heller. Franke, again, noted a small increase in the eosinophile cells." The other reference occurs in the case of scleroderma, with autopsy, reported by the senior writer,[5] in 1900. Two examinations of the blood were made in this case, one five months, the other two months, before death. On each occasion, a well marked eosinophilia was present, as well as a moderate leucocytosis, and, contrary to the findings in the present case, a slight anemia.

1. Origin of the eosinophile cell.

Stschastnye, quoted by Foster,[6] believes that the eosinophile cell is a product of hemolysis. His theory is, that the fragments of the disintegrated erythrocytes are gathered in by the phagocytic action of the mesenchyma cells and worked over so as to form the true eosinophile. He believes that this process takes place in the bone marrow, lymph nodes, spleen and lung, because the largest accumulation of erythrocytes occur in these situations. Foster's observations, in his opinion, do not corroborate this view, as in studying the tissues from cases of anthrax, where hemolysis was evident, no eosinophiles were found.

Cabot[7] states that, "It is generally agreed that in healthy adults, all the granular cells, including the polymorphonuclear neutrophiles, eosinophiles, and mast cells, with their mononuclear ancestral forms, come from the bone marrow."

2. Structure of the eosinophile cell.

The eosinophile cell differs from the polymorphonuclear neutrophile in several particulars. Its average diameter is greater by about two microns. The granules contained in the cell substance are fewer, larger, and have a marked affinity for acid dyes, especially eosin. They are also highly refractive. Like the finely granular polymorph, the eosinophile cell is possessed of ameboid movement, but unlike it, does not possess any phagocytic power.[8] The nucleus, though polymorphous, stains less intensely than the neutrophile, and has a much looser structure. The whole cell is loosely constructed, and shows a marked tendency to disintegrate. Simon, quoted by Foster,[6] believes that the eosinophile is a glandular structure, in which a secretory product is elaborated. He has shown by differential staining that the majority of the eosinophilic granules are little vesicles, composed of a deeper staining outer wall, and lighter staining contents, which latter he believes to be the specific secretory product.

Sherrington, quoted by Halliburton,[9] has shown that the eosinophilic granules gave microchemically, the reaction for phosphorus, and that the cell as a whole, contained but two proteids which were obtainable in any appreciable quantity; one of these was a cell globulin, and the other, a nucleo-proteid, which latter contains a high percentage of phosphorus (1.6%). Hemoglobin was present in small quantities.

Two forms of eosinophile may be described. The first form is larger than the polymorphonuclear neutrophile, has a polymorphous nucleus, the granules are large and separated, and stain intensely. The second form is smaller than the neutrophile, has a round or oval nucleus, excentrically placed, and the granules are smaller, more compactly arranged, and do not stain so brightly. This latter form is regarded by Cabot as an ancestral form, and according to him, is only seen in the circulating blood when the demands of the system have exhausted the supply of polymorphonuclear eosinophiles, which represent the ultimate development stage of maturity of the eosinophile.

3. *Function of the Eosinophile, and of Eosinophilia*—The theory has been advanced by Hardy and Kauthack, quoted by Copeman[8], as well as by Simon, that the eosinophile cell has certain functions of secretory nature, and that the substance secreted is possessed of a germicidal power. The work of Longcope and Donhauser,[10] in their investigation of the enzymes contained in the polymorphonuclear neutrophile, and the more recent work of Hiss and Zinsser[11] with leucocytic extracts, is suggestive in this connection.

We have also the opinions of many who believe that eosinophilia is related to toxic processes. For instance, in myelogenous leukemia, one of the constant features is an eosinophilia (absolute). Von Leube[12] holds the opinion that "leukemia is due to a specific poison * * * which affects chiefly the process of generation

of the white corpuscles, so that their number is increased and their morphotic relation is pathologically altered." Cabot differs from this view.

Welsh and Barling[13] in reporting the blood picture in twenty consecutive, unselected cases of ecchinococcus disease, found an eosinophilia in 75 per cent. of the cases. Their conclusion in regard to this point was, that in all cases where a recent rupture of the cysts had occurred, some degree of eosinophilia was present. Brieger, quoted by Osler[14], has separated highly toxic material from the fluid of ecchinococcus cysts.

Adami[15] also speaks of the fact that "The cyst contents of taenia ecchinococcus, and other ecchinococci, have been found toxic, setting up in the lower animals, when injected, peritonitis and urticaria. Disturbances of a similar order have been noted to follow the rupture of ecchinococcus cysts in man."

Ward, quoted by Adami,[15] has observed that there is an increase and decrease of eosinophiles in the peripheral blood, coincident with the appearance and disappearance of the filaria bancrofti in the superficial capillaries.

Opie,[16] in experimental trichinosis in the guinea pig, demonstrated that the increase of eosinophiles dates from the beginning migration of the embryos and that the eosinophilia reaches its maximum when the majority of the embryos are in process of transmission from the intestinal mucosa to the muscular system. A little later, Adami[15] speaks as follows: "We possess, however, what is the clearest evidence of the toxic action of the metazoan parasites, from another quarter. I refer to the eosinophilia, or increase in the number of eosinophile leucocytes in the blood, which characterizes the presence of almost every vermiform parasite. That eosinophilia cannot be explained, save on the assumption that there diffuses from the parasite into the tissues, and so into the blood, some substance which, conveyed to the bone marrow, and other seats of origin of the eosinophile cells, there stimulates the proliferation and increased production of these cells.

Just as these investigators hold the opinion that the presence of eosinophiles in excess in the circulating blood, is in the nature of a response to a toxic stimulus, so we have additional data relating to their presence in the body tissues, as a response to the same, or similar stimuli.

Sabrazes, quoted by Adami[15], has noted the accumulation of eosinophiles in the neighborhood of hydatid cysts. Todd, quoted by the same author, has noted that at the site of attachment of ankylostomes to the mucosa of the small intestine, a marked accumulation of eosinophiles is to be detected. Councilman, Mallory, and Pearce[17], in an exhaustive study of diphtheria, found that in the thymus gland, eosinophiles were numerous, especially in the neighborhood of the Hassel bodies, that they were large and uninuclear, were never included in other cells, nor did they contain inclusions. More recently, Foster[6] has studied the eosinophiles in the tissues of forty-two cases, including in his series, tuberculosis, anthrax, measles, meningitis, dermatitis, exfoliative, etc. As a result of his observations, he concludes that the toxins of the diphtheria and of the tubercle bacillus, exert a positive chemotactic action on the eosinophile cell, but that this stimulus is a selective one, and is not possessed by all bacterial toxins. He also finds that the eosinophile is phagocytic for the Klebs Loeffler bacillus, and believes that the eosinophile elaborates either sensitizing substances, or antibodies. Eosinophiles in excess have been reported in the tissues from cases of appendicitis, salpingitis, etc. Experimentally, Foster[6] found them in large numbers in the exudate at the site of inoculation with diphtheria toxin in the guinea pig. Opie[16] introduced B. pyocyaneus, B. mucosus capsulatus, and B anthracis into the peritoneal cavity of the guinea pig, and says, "Eosinophile leucocytes have a part in the inflammatory reaction which follows the entrance of bacteria into the body. They are attracted from the blood to the site of inoculation, and from the bone marrow into the blood."

It will be noted that on certain points investigators differ. For instance, in the question of the phagocytic property of eosinophiles, Ward's opinion, referred to above, is that they do not possess any such power. Foster, in his experiments with the inoculation of diphtheria toxin, found that in the earlier exudates (one or two hours), the eosinophiles of the second class (small cells, with small, excentric, round or oval nuclei; the "ancestor cell" of Cabot?), were decidedly phagocytic, the one hour exudate showing 25 per cent. of phagocytes, and the two hour showing 20 per cent. In the twenty-four hour exudate, after phagocytosis had ceased, the eosinophiles of the second class were replaced by those of the first class (large cells with only polymorphous nuclei). Opie, on the other hand, takes a middle ground, and while admitting the possibility, says that they are "rarely, if ever" phagocytic. It must be remembered, however, that these investigators were all working with different organisms, and it may be proven ultimately, that the eosinophile is only phagocytic toward certain organisms, or under certain conditions.

*Diagnostic and Prognostic Significance of Eosinophiles*—Naturally, eosinophilia was at first considered of paramount importance as a diagnostic feature. But, as the list of pathological conditions in which eosinophilia was present, became larger, and as it became evident that it was present not only in some of the helminthiases, but in all of them, the attention of observers was attracted toward investigations of its prognostic significance. The results, thus far, are not satisfactory. Swan and Karsner[18] state as a result of their observations in 31 cases of pul-

monary tuberculosis, 26 of them fatal, that the eosinophiles tend to disappear from the circulating blood as the progress of the disease brings the fatal termination nearer, and that as the patient improves under treatment, and as the disease shows a tendency to become arrested, the eosinophile cells reappear in the circulating blood. Other investigators, working with tuberculosis, have not arrived at similar conclusions. Emerson[19] in discussing the blood picture in pernicious anemia, in one communication makes this statement, "If these cells (the eosinophiles), are rising, the case is improving, and if they are decreasing, the opposite is true." Six months later, in a second communication[20] on the same subject, he modifies his position by stating that the behavior of the eosinophile cell may be taken as an index of marrow activity, that an increase in the number of eosinophiles accompanies a blood crisis, that "towards the end, their high number may be proof of energetic but unsuccessful attempts of the marrow to replenish the blood," and finally sums up by saiyng, "While a rise of the eosinophile cells may mean increased marrow activity, it certainly does not always mean that the prognosis is good." Welsh and Barling, in their study of eosinophilia in hydatid disease, previously referred to, state that in this condition the number of eosinophiles varies greatly from time to time in the same case, but can offer no explanation of this variation. They failed to establish any relation between the degree of eosinophilia and the age, sex or temperature of the patient, duration of the disease, presence or absence of rash, site of cyst, or condition of the cyst contents. They were equally unable to establish a parallelism between the degree of eosinophilia and the degree of basophilia. They did note, however, that after operation, the number of eosinophiles fell, this fall to be succeeded later by a post-operative rise which might equal, or even exceed, the initial eosinophilia. Foster, whose study of autopsy material has already been referred to, was unable to establish any post-mortem connection between the degree of eosinophilia in the tissues, and the age, duration of the disease, temperature during the course of the disease, or complications. He considers that the nature of the disease has an important bearing, as he found eosinophiles in all cases studied of diphtheria and tuberculosis, but failed to find them in cases of scarlatina, cerebro-spinal meningitis, rubella, anthrax and typhus, unless complicated by diphtheria or tuberculosis.

*Summary*—1st. The seat of origin of the eosinophile cell is, in all probability, the bone marrow.

2d. The eosinophile cell is loosely constructed, shows a marked tendency to disintegrate, contains a high percentage of phosphorus, and, according to Simon, is a glandular structure capable of elaborating a specific secretory product.

3d. The consensus of opinion is that the presence of an excess of eosinophiles in the circulating blood, is in the nature of a response to some toxic stimulus; in particular, the toxins of intestinal parasites.

4th. It is fair to assume that an eosinophilia may be taken as an index of marrow activity. But whether this indicates the degree of stimulation (toxemia) or of individual resistance, is as yet undertermined.

5th. It is obvious that the evidence is not sufficient to warrant the positive statement that an eosinophilia is an integral part of the disease known as scleroderma. But if we take the facts already adduced to show the relationship that exists between eosinophilia and toxic agents, and apply them to the consideration of the case now under observation, it may be permissible to suggest that we have first, a disease of unknown etiology, which, in this case, at least, is accompanied by an eosinophilia, an erythrocytosis, a leucocytosis, an occasional rise in temperature, and an enlargement of the liver, all of which may be interpreted as evidence of a reaction to some stimulus, probably of a toxic nature. If we admit this much, it may then well be, that in scleroderma we have to do less with a disease than with a symptom, and that the sclerodermatous changes in the skin join with the other symptoms just enumerated, in pointing to the existence of a toxin, the nature of which is at present unknown, and the source of which is at present unreeognized.

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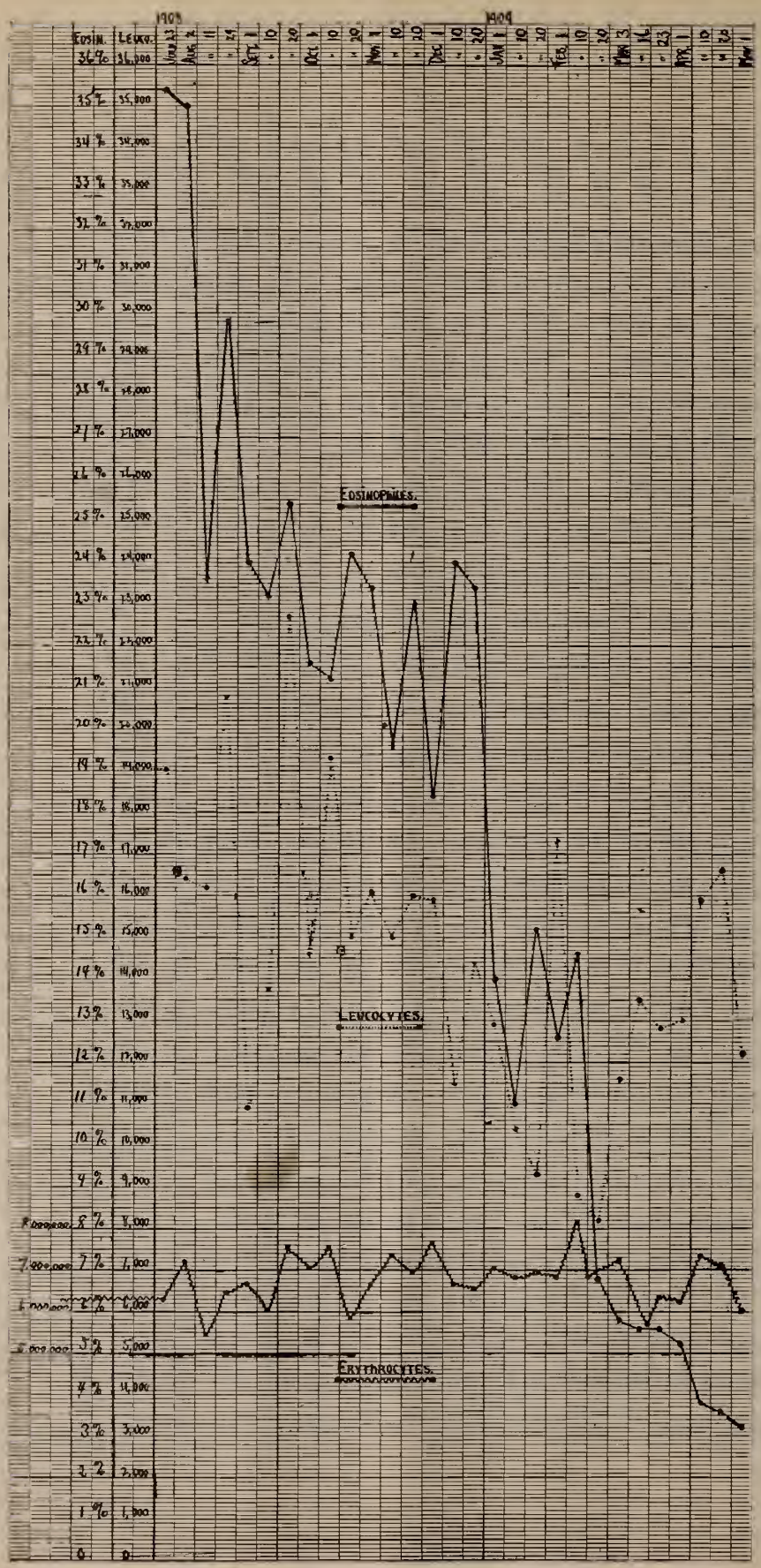
| DATE. | Erythrocytes. | Leucocytes. | Hemoglobin. | Color Index | Polynuclear Neutrophiles | Large Lymphocytes | Small Lymphocytes | Large Mononuclear | Basophiles | Eosinophiles | Absolute Eosinophilia |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1908 | | | | | | | | | | | |
| July-23 | 6,300,000. | 19,000 | 100 | 0.79+ | 45.6 | 9.2 | 7.2 | 2.0 | 0.6 | 35.4 | 6,726 |
| Aug. 2 | 7,200,000. | 16,400 | 90 | 0.62+ | 34.0 | 18.0 | 12.0 | 0.6 | 0.4 | 35.0 | 5,740 |
| " 11 | 5,450,000 | 16,200 | 100+ | | 49.6 | 10.4 | 14.8 | 0.8 | 0.8 | 23.6 | 3,823 |
| " 24 | 6,490,000. | 20,800 | 100+ | | 49.0 | 12.4 | 6.0 | 2.2 | 0.6 | 29.8 | 6,198 |
| Sept. 1 | 6,690,000. | 10,900 | 100+ | | 52.0 | 8.0 | 15.6 | 0.4 | 0.0 | 24.0 | 2,616 |
| " 10 | 6,020,000. | 13,740 | 100+ | | 57.6 | 8.0 | 8.0 | 3.0 | 0.2 | 23.2. | 3,178 |
| " 20 | 7,535,000. | 22,700 | 100+ | | 48.0 | 13.6 | 10.2 | 2.6 | 0.2 | 25.4 | 5,765 |
| Oct. 1 | 7,080,000. | 14,600. | 100 | 0.71+ | 45.6 | 16.6 | 13.6 | 1.4 | 1.2 | 21.6 | 3,153 |
| " 10 | 7,565,000. | 19,320. | 90 | 0.83+ | 48.9 | 17.0 | 11.0 | 1.2 | 0.7 | 21.2 | 4,091 |
| " 20 | 5,810,000. | 15,000 | 88 | 0.75+ | 49.0 | 14.8 | 11.4 | 0.2 | 0.4 | 24.2 | 3,630 |
| Nov. 1 | 6,670,000. | 16,100. | 90 | 0.67+ | 56.4 | 7.6 | 9.0 | 3.0 | 0.6 | 23.4 | 3,767 |
| " 10 | 7,370,000. | 15,000. | 97 | 0.66+ | 52.6 | 15.0 | 9.6 | 2.6 | 0.6 | 19.6 | 2,940 |
| " 20 | 6,955,000. | 16,000 | 100 | 0.72+ | 48.6 | 13.2 | 12.0 | 2.4 | 0.8 | 23.0 | 3,680 |
| Dec. 1 | 7,650,000. | 15,900 | 100 | 0.65+ | 53.4 | 13.0 | 13.2 | 0.4 | 1.6 | 18.4 | 2,925 |
| " 10 | 6,660,000. | 11,500. | 94 | 0.71+ | 59.4 | 5.4 | 9.0. | 1.0 | 1.2 | 24.0 | 2,760 |
| " 20 | 6,555,000. | 14,400. | 105 | 0.80+ | 50.8 | 13.6 | 9.4. | 2.6 | 0.2 | 23.4 | 3,369 |
| 1909 | | | | | | | | | | | |
| Jan 1 | 7,075,000. | 12,920 | 110 | 0.91+ | 57.4 | 16.8 | 9.8. | 0.8 | 1.2. | 14.0 | 1,806 |
| " 12 | 6,820,000. | 10,400 | 99 | 0.72+ | 55.2 | 20.8 | 10.6. | 1.4 | 1.0 | 11.0 | 1,144 |
| " 20 | 6,920,000. | 9,300 | 98 | 0.70 | 63.4 | 8.2 | 9.8. | 2.0 | 1.4 | 15.2 | 1,413 |
| Feb. 1 | 6,845,000. | 17,300 | 94 | 0.69+ | 63.6 | 14.0 | 8.4. | 0.4 | 1.0 | 12.6 | 2,179 |
| " 10 | 8,165,000. | 8,800 | 106 | 0.65+ | 61.0 | 15.2 | 7.0. | 0.4 | 1.8 | 14.6 | 1,284 |
| " 20 | 6,810,000. | 8,200 | 105 | 0.77+ | 56.2 | 18.0 | 16.2. | 1.4 | 1.4 | 6.8 | 557 |
| Mar. 3 | 7,285,000. | 11,600 | 109 | 0.75+ | 63.2 | 14.6 | 15.8 | 0.2 | 0.4 | 5.8 | 672 |
| " 16 | 5,640,000. | 13,500 | 101 | 0.90+ | 62.8 | 15.4 | 13.0 | 2.4 | 0.8 | 5.6 | 756 |
| " 23 | 6,385,000. | 12,850. | 113 | 0.89+ | 58.6 | 12.4 | 22.6 | 0.2 | 0.6 | 5.6 | 716 |
| Apr. 1 | 6,215,000. | 13,000 | 105 | 0.84+ | 64.2 | 14.6 | 12.0 | 3.6 | 0.4 | 5.2 | 676 |
| " 10 | 7,340,000. | 15,900 | 100 | 0.68+ | 63.4 | 16.2 | 12.0 | 4.0 | 0.6 | 3.8 | 604 |
| " 20 | 7,145,000. | 16,600. | 108 | 0.76+ | 56.6 | 17.4 | 21.0 | 0.6 | 0.8 | 3.6 | 597 |
| May 1 | 6,055,000. | 12,200 | 98 | 0.81+ | 58.8 | 23.0. | 12.2 | 2.0 | 0.8 | 3.2 | 390 |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ERYTHROCYTES.

# BATHS AND EXERCISES IN THE TREATMENT OF ABNORMAL TENSION OF THE HEART AND BLOOD VESSELS.*

By LOUIS FAUGÉRES BISHOP, A.M., M.D.

Clinical Professor of Heart and Circulatory Diseases, Fordham University School of Medicine, New York City; Physician to the Lincoln Hospital.

ABNORMAL tension in the heart and blood vessels needs definition. By that we mean an increase or diminution of the normal continuous partial contraction of the muscular coat of the heart and blood vessels. This increase or diminution may be general and uniform or partial and irregular. There may be and often is increase in one part of the cardio-vascular system and diminution in another part. These alterations of tone may or may not be accompanied by symptoms.

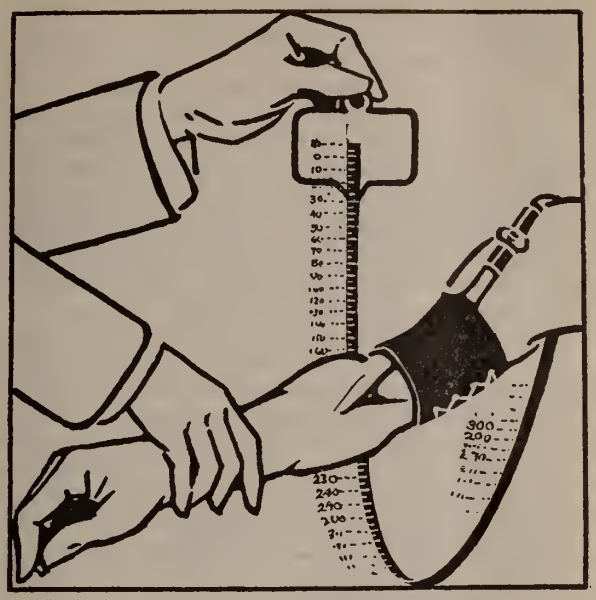
The tone of the muscular coat of the blood vessels is measured by the habitual degree of contraction of the vessels. This is in turn inferred by the facts observed by the direct evidence of an examination of the vessels themselves, by symptoms, and from so-called blood pressure measurements.

The tone of the heart muscle is likewise determined by direct examination, by symptoms and by an analysis of the findings of instruments to determine the condition of the activities of the circulatory organs in general.

The process of feeling the pulse is too important a procedure to be discussed in a brief paper, nor can we enter into the subject of auscultation and percussion. The measurement of the quantity known in recent clinical medicine as blood pressure is of much importance. In the laboratory we mean the pressure of blood as measured by connecting the blood current to a pressure gauge. In clinical work we mean the force required to obstruct the pulse wave in the arteries, when applied in the form of elastic pressure.

In recent practice the band compressing the brachial artery has come into general use. The elastic pressure is applied and measured in various ways. For my own use I have devised an instrument consisting of the usual arm band, but I make pressure by fluid falling from a height through a tube from a flexible rubber bag. I measure and apply the pressure at the same time by regulating the height of the bag, and I read the pressure at the level of the brachial artery and the middle of the arm band from numbers placed on the tube. About four inches from the cuff there is inserted in the tube a sphygmoscope of my own design consisting of a floating body and a magnifying lense. By its use diastolic pressure can be measured better than with any other instrument. In the cut it is seen resting on the shoulder of the patient.

Last year I showed the society an instrument



THE AUTHOR'S SPHYGMOSCOPE.

on this principle in which water was used, but now I am substituting a solution of cadmium borotungstate. By using this solution that is much heavier than water I can obtain sufficient elevation without the use of a string and pully. I carry this instrument in my pocket, and make a practice of measuring the blood pressure as often as I feel the pulse.

Hypertonicity of the blood vessels and loss of tone of the heart muscle is found in a large number of cases of broken compensation in valvular disease. The same thing is found when toxic substances circulate in the blood, and while damaging the heart muscle at the same time cause a demand for high blood pressure to bring about elimination through the kidneys. Loss of tone in the heart muscle also follows as a terminal result of degeneration of the blood vessels and hypertrophy of the heart.

Let us trace a few typical cases of disordered vascular tone. A patient suffers from vascular disease causing a demand for a large amount of work on the part of the heart. This in turn leads to hypertrophy of the heart, and if everything goes well, the patient has no symptoms. However, if anything interferes with nutrition, or if the heart is strained by any great exertion, there results a loss of tone in the heart muscle leading to dilatation. This leads to a tendency to loss of pessure in the blood vessels, and that in turn to a contraction of the vessels in an attempt on the part of nature to make up a sufficient pressure. So there comes about a condition of loss of tone in the heart and an overtone in the blood vessels.

Next let us consider what happens in a toxic case. There may exist for a long time a condition of fermentation in the intestines causing absorption into the blood of those substances that are typified by indican. After a time the

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heart muscle becomes involved, and perhaps the muscles of the blood vessels also. Then there results a loss of tone in both heart and blood vessels, and we find the patient suffering from dilatation of the heart with a soft systolic murmur, with a low blood pressure reading, and many disagreeable symptoms that go with poor circulation, but later in such a case there may develop degeneration of the blood vessels with a tendency to spasm, and the kidneys are apt to suffer. Indeed, one of the earliest symptoms of such a case is albumen in the urine.

Now, let us trace a case of nervous origin. This occurs in persons carrying a great strain from anxiety and mental overwork. The mental tension results in an exaggeration of the natural tone of the blood vessels. This in turn leads to hypertrophy of the heart, and degeneration of the blood vessels. If any of the causes of loss of tone in the heart muscle exist there may be cardiac dilatation. The ultimate termination of such a case, if the heart escapes, is apoplexy or fatal kidney disease.

It is in correction of these conditions of abnormal tone that the Nauheim-Schott treatment is worthy of study. This treatment consists of a system of baths and resistance exercises. The baths are ordinarily strong solutions of brine with calcium chloride, and other minor ingredients. Less often they contain noticeable quantities of carbolic acid gas, and occasionally they are used as they come directly from the spring, with a large quantity of gas in them. The patient is immersed in this form of bath from 5 to 15 minutes, and is then rubbed dry with hot towels, and is instructed to rest quietly for a time. The whole procedure is very simple, though the effects are striking.

The Schott movements constitute a form of gymnastics in which a series of motions on the part of the patient designed to bring into play all the muscles of the body are gently restored by an operator, so that the tonus of the muscles is voluntarily increased without the existence of anything corresponding to ordinary exercise. The Nauheim-Schott treatment involves a good many other things beside the baths and exercise. It involves diet, rest, out-of-door life, change, travel, and divertion. My own impression is that the exercises are more specific than the baths, though no one element is the essential one.

The treatment is carried on in Germany with a beautiful elaboration of detail. The baths are built and controlled by the state, and the town of Nauheim is carefully governed in the interests of those who come for treatment. The baths and exercise act, as I believe, through their influence upon the tonicity of the blood vessels. The result is a lowering of a general overtone of the heart and blood vessels, the elevation of the harmful undertone of the heart and blood vessels, or the restoration of the tone to the heart, and the relaxation of the overtone of the blood vessels when there is a lack of balance between these two parts of the circulatory system.

In America the principles are successfully applied by many heart specialists, who have grasped the essential principles of the treatment.

During a month spent at Nauheim, through the courtesy of the local profession, I was enabled to study numerous cases, but the time will not permit a description of them in detail. I took my blood-pressure apparatus with me into the baths, and I am ready to affirm that I have seen low tension elevated, high tension relieved, balance restored, as an apparent direct result of the treatment. I have seen the same thing accomplished in America when the essentials of the treatment were carried out.

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## SCARLATINA.*

By HENRY A. FAIRBAIRN, A.M., M.D.

BROOKLYN, N. Y.

WHEN one is called upon to define scarlatina he encounters great difficulty. This is due to the fact, of course, that, as yet, we have failed to discover the etiological factor and are compelled to rely entirely on the clinical picture. We are well aware now of the errors reliance on clinical pictures led to in the case of typhoid fever and diphtheria before the main characteristics of these diseases had been discovered. The typical clinical pictures of these diseases were diagnostic. We may say the same of scarlatina; but, unfortunately, the variations from this type are numerous and multiform. There is no symptom upon which we can rest a positive diagnosis. This fact has acted as a deterrent to the prosecution of one failing to report the disease, for the very reason that it was impossible positively to define the condition. Neither the abruptness of access, nor the temperature range, nor the rash, nor the desquamation, nor any other manifestation could be produced as differentiating it from certain others of far less serious nature. The phenomena taken as a whole from onset to termination can alone make up the evidence necessary to establish the diagnosis. For surely no one would rest a positive diagnosis upon the eruption alone if he had had opportunity to observe its occurrence with other toxins as its base. This occurrence is not infrequent. Chronic nephritis at times presents a rose rash that for a period cannot be distinguished from scarlatina. Similar manifestations are the accompaniment of septic surgical and puerperal cases and when these hyperemic conditions of the skin persist for a length of time desquamation will occur, or, in other words, it offers no criterion for the pre-existence of scarlatina.

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Some years since this phenomena of erythema scarlatinaformo, followed by a marked desquamation, appeared in several ward surgical cases in a large hospital during my term of service and caused much annoyance to staff and officers on account of hasty observations by a medical official. The diagnosis of toxic erythema was finally agreed upon and confirmed by subsequent history.

An obstetrician of some distinction, practising in New York city, was threatened with a suit for a large sum on the ground that he had brought scarlatina to his patient during her confinement. The case never came to trial, the plaintiff, no doubt, realizing the difficulty, if not impossibility, of proof. No secondary case occurred. As there were septic symptoms the case was in all probability erythema. I was very much interested, at that time, in aiding the doctor in the preparation of his defense. We were very confident of a victory, as the burden of proof rested upon the plaintiff and we saw that it was a well nigh impossible task. The abandonment of the case was a great relief, however.

We have all read of the benefit certain practitioners have obtained from the use of antidiphtheric serum in cases of scarlatina. We are disposed to doubt the diagnosis, bearing in mind the not infrequent occurrence in diphtheria of a rash very similar to that of scarlatina. It is all very well to discourse on the uniform erythematous redness of this rash as contrasted with the peculiar punctuated form of that of scarlatina. But the uniform redness of skin, and tonsillar exudate, combined with rapid pulse and high temperature mark the onset of both diseases occasionally. The use of the antidiphtheritic serum in such cases I have seen of marked benefit and although in a number I have been unable to find the Kleb-Loffler bacillus I am confident they were caused by such infection. The effect of the serum was more positively diagnostic than any other phenomenon presented.

That scarlatina, in its irregular forms, is difficult and at times impossible to diagnose, the clinician will acknowledge. It may begin with entire absence of symptoms of invasion such as temperature and gastric disturbance. We may find but slight redness of pharynx and fauces and tongue. The typical rash is a pin point eruption with a scarlet flush appearing within twenty-four hours; but it may resemble ordinary erythema or blush due to fever, or may be macular and of most any or no color at all. It may be delayed until the eighth or eleventh day and instead of generally and rapidly diffusing over the whole body it may occur in patches and require two or three days to cover the surface. Again, there are cases where there is no rash discoverable. In view of these facts one must admit that there is no disease of wider variation in every symptom and must recognize the necessity for long-continued and careful observation in cases of illness of the mildest form, especially when occurring in the young. In this way alone is it possible to successfully care for the painful and dangerous sequelæ which follow in the train of this and other diseases.

*Etiological Factors*—The search thus far for the specific cause of scarlatina has been as futile and unproductive as the investigation, along similar lines, in other well marked diseases. But the demonstration that the streptococcus pyogenes and the staphyococcus aureus or other pus producers are active agents in the train of this unknown scarlatinal virus has been of much service.

*Complications*—These cocci are the agents which produce many of the complications by infecting the tonsil, fauces, nasopharynx and structures of the eye and ear, and their treatment is on the same principle applied to similar affections under other conditions. The discharges are all carriers of contagion and call for strict antiseptic precautions. There is nothing peculiarly characteristic to be found in scarlatinal nephritis according to Councilman. It is due to the toxins of the virus. The same condition is found where other toxins are operative. Its treatment depends upon rest and excretion of the toxins.

It is remarkable that severe suppurative conditions can arise during the convalescence from this disease without any rise in temperature. In such cases the differential leucocyte count is of inestimable value. It should be employed as a routine measure.

*Important Factors in Treatment*—The care of the skin presents itself as the first and most manifest indication. Various antiseptic ointments have been recommended. But the amount of the antiseptic one is compelled to use when the whole surface of the body is covered becomes an important consideration. I have seen serious trouble result from absorption and therefore have long since confined myself to the use of plain vaselin properly sterilized by heat. This relieves the dermatitis, confines the scales and secondarily alleviates the general condition. If washed off by fomaldic soap the process of disinfection can be applied without fear of absorption. This treatment certainly limits the contagion, as I saw well illustrated in a country town on the Hudson. There prevailed there an epidemic of scarlet fever which refused to be blotted out. The health officer applied to me for suggestions as I was visiting in the district. Upon examination I found that the treatment of the skin had been neglected and the measure was adpoted by my advice. The disease was promptly eradicated. Milk diet with cereals has commended itself to the practitioner in this disease for two reasons. It is diuretic, easy to digest and from its fatty nature and sugar is well adapted to keep up the strength and at the same time it contains little sodium chloride. It is not rich in extractives and in potassium salts. By its

use we can diminish the toxicity which is resident in other food products such as meat extracts and soups.

The care of the skin, the diet and the cleansing of the upper air passages make up the important factors in treatment. The medical treatment is symptomatic.

*The Use of Antitoxins and Suggestions as to New Forms*—To the streptococcus is ascribed most of the complications of scarlet fever. The disease itself is not due to this agent. This is generally agreed. Whatever the agent, it, like the etiological factor in smallpox, invites the invasion of the streptococcus. This is the agent we are compelled to combat in complicated cases. It is not surprising, therefore, to find that antistreptococcic serums, of various kinds, have been freely used in this disease, and with varying results, due, no doubt, to the variability of the streptococcic influence as a factor. It has been claimed that by the use of these serums the course of the disease was shortened, the symptoms controlled and the death rate lowered. The procedure has not been adopted by the profession. The diagnosis, in the first place, is open to question. Again, the basis of the procedure is open to question, as we acknowledge we are dealing with a mixed infection. While the predominating feature of the bacteriology of the complications is the streptococcus there is another element at work, which begins the warfare. It is not disputed that the scales from the skin are factors in the propagation of this disease, yet when these scales are examined very few show streptococci. The poison of scarlet fever remains active in the desquamation for years, yet Weaver was unable to cultivate streptococci from this material preserved over ninety days. In the face of such facts it is not logical to ascribe the disease to the streptococcus. We would suggest to the pathologists that they utilize the scales to form an antitoxin, or a vaccine it may be.

Arthur Latham and H. Spitta and A. C. Inman have studied the administration of tuberculin and other vaccines by the mouth. They decided to try the effect of administering various vaccines by the mouth on the assumption that immunity against certain diseases was often due to absorption of the products of dead micro-organisms from the alimentary canal. They report that evidence, clinical and bacteriological, seem to show that satisfactory immunization could be produced in this way. Such work is suggestive.

As one attack of scarlet fever generally protects the individual against others it would seem that his blood might be employed as an antiscarlatina serum. The amount required for such purpose, in an individual case is small. It could frequently be obtained from parent or relative of the patient. Its use would be attended with little risk and would possibly be of great advantage. About fifty or sixty per cent. of the blood is serum. Its preparation for use would require but a few hours and not much sacrifice on the part of the donor.

Since the preparation of this paper I have found, in a review of the literature, that Von Leyden and Scholz have employed the serum of convalescents from scarlatina in the treatment of this disease. This was unknown to me. While Scholz did not obtain marked results, Von Leyden noted marked improvement in fifteen of his cases.

I would not recommend the use of convalescent serum, as observation has shown that it requires many months for the blood to regain its equilibrium after an attack of scarlet fever. It would appeal to me as a better procedure to use the serum of persons who have long recovered from the disease and demonstrated their immunity by repeated exposure to infection. It is known that reinfection occurs in convalescents more frequently than in those who have long recovered from the disease. Again, the convalescents are in no condition to part with any blood.

It is gratifying to find that the procedure has already been employed. Variola is another disease in which similar methods would seem indicated.

## GLANDULAR FEVER.*

By W. B. GARLOCK, M.D.
LITTLE FALLS, N. Y.

GLANDULAR fever is a term that was first used in 1889 by Dr. E. Pfeiffer, who applied it to a group of symptoms that has only occasionally been noted in literature by other writers. Few of the text books on children's diseases even allude to it, and none of them that I have consulted give a comprehensive description of it.

Dr. Thomas R. Boggs, in *Osler's Modern Medicine,* gives a good description of the disease, and the case I am about to report agrees very well with his description. Other writers have reported epidemics of a disease which they have called glandular fever, but some of them seem to have applied the term to simple adenitis of the neck due to infectious processes in the tonsilar and faucial regions in which the glandular enlargement and fever seemed out of proportion to the severity of the tonsilar or faucial symptoms, and it may be that this is correct, but my limited experience leads me to the conclusions that there is a more definite symptom group, with disturbances general and remote that do not correspond to a simple infection of this kind, but strongly suggest at least some particular infection if not a specific disease.

Digesting the literature on the subject we may ascribe glandular fever as a sporadic or epidemic infectious disease occurring in children of either sex and generally between the ages of two and ten, although it may occur in adults. The initial

* Read before the Medical Society of the State of New York at Albany, N. Y., January 26, 1909.

symptoms which in reported epidemics occur about six to ten days after exposure, consist of general malaise of the usual febrile type with slight local redness and irritation of the naso-pharyngeal and tonsilar regions. The fever tends to be remittent or intermittent, and is higher than usual for the given local conditions, it may range from 100 degrees to 105 degrees in some cases. This is followed in a day or two by swelling and tenderness of the lymphatic glands of the neck and especially of that group lying under the upper part of the sterno mastoid muscle, and oftener on the left side first and later on the right side. The submaxillary glands are less commonly affected, they do not seem to be so directly in the infected lymph current, as they drain the buccal and tonsilar regions, while those usually affected more directly drain the naso-pharyngeal region. This would indicate that the atrium of infection is generally in the latter region. The middle ear also tends to show redness in many cases, but not in all. This is probably simply an extension of the original local irritation. The affected glands swell up but generally remain discrete, but may mat into a diffuse mass. There is tenderness and stiffness of the neck, partly due to the tender glands and partly due to the fibrile myalgia affecting the whole body.

There is apt to be some dysphagia, but it is not so marked as in tonsilitis.

Sometimes other glands are affected, but there is usually no general glandular infection, though some mention the inguinal and axillary glands as being generally affected. The mesenteric and mediastinal glands are the ones most likely to be affected after those of the neck, although some mention the inguinal and axillary glands as being most liable to infecton after the cervical. The spleen is usually more or less enlarged and often becomes palpable and by weight displaced downward. The liver is sometimes enlarged and also pushed downward by the enlargement of the glands behind it. The spleen and liver are generally tender. When the mediastinal glands are affected there is apt to be cough, and when the abdominal glands are affected there is more or less abdominal tenderness, especially on deep pressure. There is almost no tendency to suppuration in any of the glands involved.

The febrile movement is generally of from two to ten days' duration and decidedly irregular with a pronounced accentuation of the daily curve, being sometimes intermittent. The glandular enlargements remain for several days to two or three weeks after the fever subsides, and the spleen and liver slowly go back to their normal place and size.

The general symptoms and disturbances are those incident to the febrile movement and seem to have no special features that require mention, except that the large daily range in temperature is very noticeable, and if the temperature stays normal for a part of the day the secondary effects of the fever, as emaciation, anemia, etc., do not seem to be as pronounced as when the fever is continuous. The nutritive processes seem to recover during the intermissions.

The digestive and nervous symptoms are only the general ones of a run of fever, except that tenderness on deep pressure over the abdomen is present when the abdominal lymphatic glands are affected.

A few cases have been submitted to laboratory tests but mostly with negative results. J. R. Clemens in the British Journal of Children's diseases for December, 1907, reports an epidemic of sixteen cases in a male orphan asylum, and these cases all showed a high opsonic index for staphylacoccus albus and the blood counts showed slight leucocytosis. Blood cultures were negative. While examining a fresh blood smear in my case, we saw a few actively motile bacteria, but they may easily have been accidental as the slide was prepared only for the malarial plasmodium which we did not find. One of the glands in one of Dr. Clemens' cases suppurated with purely streptococcal pus, which, however, was non-pathogenic to the rabbit. Strange to say none of the cases reported by Dr. Clemens showed enlargement of the liver or spleen. The boys all slept in the same dormitory and the epidemic promptly ceased after fumigation.

The disease is evidently infective, but whether of a general or specific nature I am unable to say. Some writers claim that the infection is by the way of the nasopharynx or tonsils. Others think it through intestinal sources. It may be that the usual infection is from the nose and throat as the cervical glands are generally the first ones to show the changes, but this may be because they are more apt to be discovered. It is also possible that the germs pass from the throat to the intestine and then into the system. The fact that some writers report the spleen as being nearly always enlarged, while in some reports it was not enlarged at all, and this being true of the liver and the inguinal and axillary glands, and of reported epidemics as well as individual cases leaves one in doubt whether different forms of infection have not been called glandular fever, and also whether the germ is a particular one or a group of related germs. It has even been suggested that the disease is a peculiar form of influenza. About all we can say is that it seems to be a germ having peculiar affinities for lymphatic glandular tissue, and that the extent of the diffusion through the system varies in different cases with the varying power of the earliest glands infected to destroy the infection, and probably also with the amount and virulence of the infecting agent, and also upon the resisting power of the host. The prognosis is almost always good, and I do not know of any post-mortem reports on the disease. Complications other than very rarely suppuration of the affected glands have not been reported, except in some cases a congested condition of the retina

has been observed. The middle ear has given no trouble in any case reported. Some cases have shown slight symptoms of acute nephritis. All of these conditions have been only temporary and no lingering sequelæ have remained. The exhaustion, emaciation, anemia, etc., following the disease seems to be only commensurate with the fever and the general disturbances of the system that make the symptom complex of the infection. The treatment is entirely symptomatic, varied according to the daily conditions, taking care of the nutrition, evacuation, etc., as in any fever having no specific indications.

*Report of Case*—Female, age four years, four months, American parentage, of normal size and development, of an active, nervous temperament, having suffered from none of the infectious diseases of childhood, very carefully reared, and as far as known having suffered no exposure to any infection, on the evening of November 14, 1908, showed only the slightest indisposition or changes in behavior, and examination revealed only a slight redness of the tonsilar and pharyngeal regions with temperature of 100 degrees. She said she felt entirely well. Appetite, bowels and general behavior remained for several days almost undisturbed, though the fever chart showed an ascending evening temperature until November 19th, when there was an evening rise to 104, which had fallen to normal the next morning, but reached 104 1-5 the following evening. From November 20th the morning temperature varied from 99 to 101 and the evening temperature from 103 to 105, until on the morning of November 26th it reached normal. From November 26th to December 1st the temperature varied between normal and 101, and after December 1st the daily range of temperature was from a little below normal to 100. gradually steadying down into the normal variation of a child of her age. The pulse corresponded in the main with the temperature showing wide variations, the highest being 144 with the record temperature of 105, but the detailed chart shows rather a changeable condition of the pulse. It was of corresponding tension and volume during the febrile movement. The highest respiration recorded was 38 during the highest temperature.

There were no chills at any time and only gentle perspiration spells while the temperature was remitting.

The tongue remained clean throughout and the bowels were constipated only toward the end of the disease and then only slightly.

The general feeling was excellent, it was only discipline that kept the child in bed, and her almost invariable answer was, "All right," when asked how she felt. Her appetite was fair and her general behavior showed that her answer expressed her feelings. She also slept well and was interested in her toys throughout the case.

The glands under the upper part of the left sterno mastoid began to enlarge about the third day and continued for two weeks after the fever subsided. They were somewhat tender and there was slight stiffness of the neck. The corresponding glands on the right side enlarged two or three days later and were smaller than the others. There was slight soreness on deep pressure over the abdomen after about one week and the liver and spleen became enlarged at about the same time. The spleen was two or three times the normal size, being palpable, tender and displaced downward. No other glands were enlarged. There were no signs indicating enlargement of the mediastinal glands.

The Widal test was negative on the eighth and twelfth days of the disease, and no malarial plasmodia were found on the eleventh day. On the twelfth day a differential count of the leucocytes was made by Dr. F. H. Church, of Utica, with the following report:

Red blood cells, 5,400,000.
White blood cells, 11,000.
Hæmoglobin, 80 per cent.
Differential, polymorphonuclears, 24 per cent.
Large naononuclears, 63 per cent.
Small naononuclears, 3 per cent.
Transitionals, 6 per cent.
Large lymphocytes, 1 per cent. plus.
Small lymphocytes, 1 per cent. minus.
Eosinophiles, 1 per cent. plus.
Indeterminate, 1 per cent. plus.
No nucleated red cells or any myelocytes found.
500 cells counted.

No blood culture was made as the child objected to more punctures. The relative lymphocytosis shown by the blood count is practically the only important finding, and standing alone might suggest some form of leucæmia, but the fever being an early instead of a late symptom and the enlargement of the lymphatic glands and the spleen only following the other signs of acute infection served to distinguish the case. The treatment was entirely symptomatic with the exception of the use of Fowler's solution in one or two minim doses, which was suggested by Dr. H. L. Elsner, who saw the case with me on the eleventh day, and who agreed with me that the case was one of glandular fever, especially after the differential blood count which was made the next day. An abdominal supporter was worn for several weeks to support the liver and spleen. In two or three weeks the child seemed to be entirely well. A younger brother has shown no signs of infection. The differential diagnosis has been shown in the above remarks, except for tuberculosis, which must be considered on general principles with possibly calmettes or the tuberculin test. The Widal test and blood cultures would almost certainly reveal a case of typhoid fever and the plasmodium should be found in malaria. One cannot help thinking that the term glandular fever has been applied to various conditions, but we hope that continued studies and reports will clarify the situation and show whether we shall find a crystal or only a sediment.

# OCULAR SIGNS OF CARDIO-VASCULAR DISEASE.*

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SO much is being written regarding cardio-vascular diseases, that perhaps reiteration of well recognized signs as evidenced in the eye may be of decided worth for better understanding and interpretation of these conditions. Internist, laboratory worker, and ophthalmologist are now working more closely together enabling us to have definite facts on which to base opinion.

With the ophthalmoscope we are able by careful study to determine early signs of angio-sclerotic changes,—the corkscrew appearance of certain arterial twigs especially those skirting the macula, the flattening of a vein in contact with an artery, and a peculiar congestion of the disc, also later changes such as lesions of the arterial wall, alternate contraction and dilatation of the veins, indentations of the veins by stiffened arteries, and still later hemorrhagic extravasations, perivasculities, and silver wire arteries.

Reber has recently called attention to two extra-retinal signs; first, sluggishness of pupilliary reaction; and, second, abnormal recession of the near point, sometimes of unequal degree in the two eyes.

De Schweinitz believes the ophthalmoscope equal in value, if not superior to any of the well-recognized methods of detection of high arterial tension and arterial sclerosis. Although no one goes so far as to say that in the absence of ophthalmoscopic changes there must be absence of arterial degeneration, still many claim that the presence of the former, local eye changes being excluded, make diagnosis positive.

Obscure symptoms of grave import to the patient are often unrecognized and if as a result of an ophthalmoscopic examination the signs just mentioned are found we are assisted in giving many years of life to our patients.

The cases I wish to report are arbitrarily divided into four groups: first, those in which the signs of increased arterial tension exist without hemorrhage; second, those in which hemorrhage is present without valvular heart lesion; third, those with definite valvular heart lesion; fourth, those of advanced arterial sclerosis, as evidenced by both cardiac hypertrophy and chronic interstitial nephritis.

Mr. A. G., age 61, is an example of the first group. Examined January 9, 1909. Said that while lying in bed December 23, 1908, his head seemed to "float." Two days later was so dizzy that he only reached home with considerable difficulty.

O. D. V.—20-30. Pupil active. Disc negative. Where arteries cross veins there is decided indentation of the latter. No extravasations.

O. S. V.—20-40. Same, except greater constriction and dilatation of veins. Pressure with syphgmomanometer 210 mm. After taking nitroglycerine for several days his pressure was on January 16th 160 mm., dizziness had entirely disappeared, although no change was evident in the fundus.

Second Group. Mrs. L. M., age 55. Presented the 19th of March, 1908, saying that for the past two weeks she had been unable to see well with the left eye; no pain or redness. Always subject to headache and extremely "nervous." Ankles swollen five years ago but not since, although she has always been a little short of breath.

O. D. V.—20-70. Disc completely blurred, except small area of the temporal border. Throughout entire fundus are large flame shaped retinal hemorrhages, veins and arteries greatly distended with extravasations along their walls. In macular region retina is edematous with some hemorrhage.

O. S. V.—20-100. The same picture intensified with three distinct colors of fresh, recent, and old hemorrhage. Extreme neuro-retinitis.

Kidneys negative, no dilatation of heart or murmurs, yet tension decidedly high with only moderate external signs of arterio-sclerosis.

I referred her to her physician who prescribed no medicine, saying she was only "nervous"—result, increasing blindness.

Mrs. M. S., age 50. Presented July 24, 1908, with history of things "fluttering" before her eyes for the past four days.

O. D. V.—20-40. Disc round, with slight pigmentation of the temporal border. Arteries give a decided silvery reflex and are very tortuous about the macula, where there is a faint trace of hemorrhage. Veins dilated above and below artery crossing. Venous pulse.

O. S. The same vascular condition with addition in the inferior nasal quadrant of a line of flame-shaped hemorrhage along the veins, extending into lighter area of degenerate blood and exudate. Vessels look friable.

Dr. James F. Rooney, to whom she was referred, reports as follows:

"Heart. Apex beat neither visible nor palpable. Heart area (by auscultatory scratch percussion) begins at the third right sterno-chrondral articulation extending thence by a line slightly convex to the right fifth sterno-chrondral articulation, thence to a point one inch outside the midclavicular line beneath the sixth rib, thence by a line slightly convex to the left to the second left chondro-costal articulation, thence to the point of commencement. Auscultatorily, at the apex the first sound in prolonged, distant, and slightly valvular in quality. And

* Read before the Medical Society of the State of New York at Albany, January 27, 1909.

even here the second sound is heard with great intensity. At the base the first sound is almost inaudible and the second aortic is very loud high pitched, and has almost a metallic quality. No murmurs. The second pulmonic is slightly accentuated.

"With the Janeway sphygmomanometer, the systolic pressure is 182 mm.; the diastolic 160 mm., and is equal in both arms.

"The blood smears show a normal picture, and the count is: Erythrocytes, 6,200,000; leucocytes, 8,600; hemoglobin, 105 per cent.

"The urine: 24 hours quantity, 68 ounces; pale straw color, sp. gr. 1,914. no albumin; no sugar; indican much increased. Urea, 1.2 per cent. A few hyaline casts."

November 25, 1908.

O. D.—S+.75+.50 ax. 120°=20-20.

O. S.—S+.75+.50 ax. 90°=20-20.

S+1.75 added=T. O. 25D.

Hemorrhages entirely absorbed, less venous distension. She has made a perfect recovery, feeling better than at any time in several years.

Mrs. M. P., age 50. Came because of difficulty in seeing distant objects. Has occipital and ocular pain and is extremely "nervous." "Two months ago had nervous prostration like a stroke."

O. D. V.—20-30. Disc slightly congested, a dull blush, many fine vessels. The veins where crossed by small arteries, show decided flattening with distension peripherally. A trace of hemorrhage extends from disc to macula.

O. S. Same.

Her physician, to whom she was referred, reports blood pressure of 285 mm. (Riva Rocci). She was a patient absolutely unconscious of her dangerous condition, as was her physician as well, and one who illustrates the value of ophthalmoscopic diagnosis.

Mrs. C. M., age 49. Was examined for glasses December 30, 1907, when the vision was perfect. At that time she was under Dr. Neuman's care for double aortic lesion with dilatation of the heart. Urine showed a few casts but no albumen. On October 1, 1908, she came complaining that for the past few days she had been unable to read. O. D. V.—20-20? O. S. V.—20-20?

O. D. five small yellow dots were seen in the macular region, with large yellow splash surrounded by faint flame-shaped hemorrhage. Veins tortuous, distended and arteries contracted.

O. S. veins fuller, at times broken. Areas of exudate similar to those in O. D. with faint hemorrhage and two large extravasations 1½ disc diameters to the temporal side of the nerve head.

Under rest, nitrites, diet, and general care she improved, but on January 22d, after severe pain in each eye, new hemorrhages appeared obscuring the macula.

Fourth group. The next case shows how the ocular signs were misunderstood and proper treatment delayed.

Mr. F. W. G., age 62. Seven years ago noticed that his feet got cold easily, three years ago was clumsy in walking, and a little later his ankles were swollen, the right more than the left. In August, 1907, on a hot day sat down, fell over his desk, lay unconscious a few minutes, and on recovering could not see from his left eye. Treated several months by a so-called oculist. In December, 1907, found right eye failing, and was unable to read because of a thin shadow that was ever present. Was given strychnine, but vision steadily failed.

At time of my first examination, September 8, 1908, O. D. V.—20-70; pupil 6.5 mm. Disc very pale, grayish blue, not outlined. Many flame-shaped hemorrhages in macular region, arteries small. Entire periphery shows irregular stellate, pigmented areas in the retina.

O. S. V.—20-70. Disc very pale, clearly outlined, veins slightly large, with some dilatation, arteries normal size. Many roundish yellow areas in deep retina and superficial choroid. No hemorrhages.

Dr. Erastus Corning, to whom he was referred, includes in his report: "No dyspnœa, no capillary pulsation, both legs edematous and pit on pressure to the knees. Heart; no thrill, dulness extends from upper border, third rib above to the anterior axillary line on the left, on the right 1.5 inches to right midsternal line, with apex beat in the 6th interspace 1.25 inches outside nipple line. A systolic murmur is heard with maximum intensity over the aortic area; nearly as loud in the mitral area. The murmur is not transmitted to the axilla or back. The aortic sounds are equal and accentuated.

Blood pressure 160 mm. (Stanton).

Urine, amber 1020, acid, distinct trace albumen, no sugar.

Microscopically a few hyaline casts, uric acid, calcium oxalate, leucocytes and epithelium."

With nitroglycerine, sodium iodid and regulated life he improved very rapidly, felt stronger and more nearly normal. Vision in the right eye 20-30. Tension 120 mm.

Three and one-half months after his first visit he died from uræmia. Had the eyes been rightly understood who can say how long this man's life might have been prolonged.

Mr. J. K., age 45. Came for glasses to stop feeling of dizziness and "crosseye" when looking closely at things.

O. D. V.—20-40. Disc indistinct because of eodema, veins interrupted and dilated, arteries narrowed, causing constriction of veins where they cross. Many areas of choroidal degeneration and retinal exudate, irregularly round and glistening yellow. Disc excavation filled with new connective tissue.

O. S. V.—20-30? Same.
O. D. S+2.00=20-XV S+1.25—To.25D
O. S. S+2.00—90 20-30

Dr. James F. Rooney reports in detail regarding his condition, including: "Heart. Apex beat not visible, and but slightly palpable. Slight inconstant epigastric pulsation. Auscultatory scratch percussion shows the heart area extending from the right sterno-chondral articulation on a line convex to the right to the junction of the right parasternal line and the 6th rib thence to a point on the sixth rib ½ inch outside the mid-clavicular line, thence by a line slightly convex to the left to the left costo-chondral articulation, to a point of commencement.

At apex the first sound is short and valvular in character, and preceding it there is a short harsh whiffling murmur, crescendo in pitch, which has a very limited area of propagation upward and toward the median line. Accompanying the first and after it there is a sharp blowing systolic murmur, which is transmitted to the left mid-axillary line. • At aortic cartilage a blowing systolic murmur transmitted in to the carotids and also the femorals. Both second sounds accentuated at both base and apex the aortic much more, however, than the pulmonic.

Urine. 74 ounces in twenty-four hours. Pale yellow; sp. gr. 1.012, acid without sugar, but containing 0.005 per cent. of protoid. Indican increased. Urea 1.1 per cent. Microscopically many hyaline and few granular casts, with an occasional red cell and many leucocytes.

Blood. Erythrocytes, 5,400,000; leucocytes, 6,500; hemoglobin, 100 per cent. Smears give normal picture.

Blood pressure, the same reading in both arms, systolic, 215 mm., diastolic, 140."

Mr. J. B., age 53, referred by Dr. Rooney because of history of fading vision. In these attacks there slowly spreads over his eyes a cloud which gradually disappears. Typhoid seven years ago, since which time has had temporal headache, when severe causing pain in the left ear.

O. D. V.—20-20? Pupil oval 4.5 x 6 mm. ax. 80. Net reacting to light. Anterior chamber normal. Tn. Disc almost round, complete shallow excavation above. Peripheral arteries show typical arterio-sclerotic tortuousness and contraction.

O. S. V.—20-20? Same.

Heart dullness extends from the junction of third right costal cartilage and sternum to a point ½ inch to right of right parasternal line at junction of the 6th rib. Thence transversely and downward to a point ½ inch to left of the left anterior axillary line at junction of 7th rib, upward in a line slightly convex to the left, to the second interspace at junction with sternum. Palpation; apex beat in 6th interspace in anterior axillary line, forcible and thrusting slight systolic thrill over the base and a soft blowing systolic murmur at apex transmitted over a circle having a radius of one inch; systolic-diastolic murmur at base; diastolic phase most intense in third right interspace within one inch of apex, systolic transmitted into carotids, subclavian and femorals. Abdominal aorta enlarged, palpable, pulsation distinct.

Blood pressure, 180 mm.

Urine. 28 ounces in 24 hours. High color. Sp. gr. 1032. no sugar; 1-5 of 1 per cent. albumen. Few red cells, and leucocytes, many hyaline and granular casts. Under nitroglycerine and nitrites he has so improved as to return to work.

Dr. Corning has determined the blood pressure in many cases that I had previously examined and in all these cases where the typical signs were present in the eye, tension was elevated, and in no case was tension elevated and eye found normal. These deductions are based on 80 examinations made independently. In my office the Stanton syphgmomanometer is used as a daily routine, and many other cases might be added to the already voluminous literature on the subject. Exact reading from this instrument is more convincing to the patient for he can then appreciate the actual presence of trouble and be guided thereby.

In conclusion may we not hope for greater co-operation on the part of our fellow practitioners, and for more careful consideration of the danger signs. You have heard how cases are allowed to drift along without help when they might be materially aided. The above reports demonstrate not only the value of ophthalmoscopic diagnosis in this class, but are convincing proof that feeling of physical well-being may not mean the absence of serious cardio-vascular trouble.

The series also show the importance of proper control and treatment after recognition, for certainly sight has been retained and life prolonged as a result.

## CLINICAL NOTES.

### REPORT OF A CASE OF TUBERCULAR SCLERITIS.

Colored man, 35 years old, applied for treatment at the New York Ophthalmic and Aural Institute, on April 11, 1909.

Family history—Father living and well. Mother died at 78 years. Five brothers and seven sisters are all in good health. No history of tuberculosis in the family.

Past history—Does not remember ever being ill previously. Patient is married, and has two healthy children. Wife has had no miscarriages. Present illness began six months ago. Onset gradually, with redness of right eye, accompanied with lachrymation and blepharospasm. Pain has been present for some time, and is most marked over the affected eye-ball. There is also radiation of the pain to the frontal and occipital regions. Atmos-

pheric changes intensify all the symptoms. Vision of right eye has gradually become impaired. Slight cough has been present for several weeks. There has been no hæmoptysis. Appetite is good; no night sweats, or loss in weight.

Physical examination—Well nourished and shows no evidence of any pathological condition.

Vision of left eye—20-30 hypermytropic.

Fundus left eye—Normal.

Right eye—Vision, counts fingers at two feet; tension, slightly increased; field, marked consentric contraction; anterior chamber, deep and clear; vitreous, cloudy, due to choroidal exudate; pupil, irregular; markings indistinct; diagnosis of above condition, irido-choroiditis. There are two nodular masses, one extending over three-fourths of the anterior ciliary region, the other about the size of a bean, situated on the lower and inner aspect of eye-ball; these masses involve the scleral tissue.

The patient received active anti-syphilitic and rheumatic treatment at various intervals, without any improvement in his eye condition.

The Wasserman reaction performed by the Noguchi system and done by Dr. Noguchi was negative.

The von Pirquet tubercular cutaneous reaction was markedly positive.

As to diagnosis we must consider syphyloma tuberculoma, rheumatism and syphilis has been excluded by no response to active anti-syphilitic treatment and the negative Noguchi and rheumatism, by no abatement in the condition by anti-rheumatic treatment.

It is probably a case of tuberculosis of the sclera, judged by its clinical appearance, and by the exclusion of other possible conditions. The patient has received to date two tuberculine injections. MARTIN COHEN, M.D.

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## A CASE OF SEVERE POISONING BY HOMATROPIN.*

POISONING by homatropin is of sufficiently rare occurrence to justify the publication of the following particulars of a case which I recently observed:

The patient—a young lady of 26—came to me some weeks ago, complaining of headache. Two years previously I had examined her eyes and had prescribed glasses for mixed astigmatism. My records showed that at her first examination she had had homatropin drops instilled without any ill effect being noted; consequently I had no hesitation in advising their use again. Curiously, however, the patient demurred a little about putting the drops in her eyes, because, she said, she was afraid that a mistake might be made in putting up the drug, and that she might suffer harm thereby. I assured her that if she went to a reliable druggist there would be very little fear of that, and she chose a pharmacist of reputation who had filled the prescription for her before. I ordered one drachm of a two per cent. solution of the hydrobromate of homatropin, two drops to be put in each eye every five minutes for half an hour, beginning one hour before the time of her appointment with me. About three-quarters of an hour before that time I was called to the telephone and informed by a friend of the patient, who was putting the drops in for her, that she had made two instillations and that the patient felt dizzy and faint. I told her that this would probably soon pass off, but advised that when she made the third instillation she should press the finger over the lachrymal sacs in order that none of the liquid might flow down into the nose. Twenty minutes later, I was again called to the telephone to learn that the young lady had collapsed, and that a physician residing in the building had been called to see her. This gentleman, Dr. J. L. Whiteman, has kindly furnished me with notes covering his observation and treatment of the case. He writes:

"I was called to see Miss L.—— about 10.30 o'clock, and found her in a highly nervous state, complaining of dizziness and fulness of the head, face much congested, skin hot and dry, pupils widely dilated, and mucous membrane of the mouth and throat so parched that swallowing was almost impossible; pulse 130 and weak, respirations rapid. The patient soon lapsed into unconsciousness." * * * Dr. Whiteman made a diagnosis of atropin poisoning, and gave strychnin, gr. 1-30, followed half an hour later by gr. 1-60. Tinct. Opii, M10, was administered as an antidote, and repeated later; also strong black coffee; cold compresses were applied to the head, and hot water bags to the feet. These measures were followed by an enema, and the patient's condition had improved considerably when the family physician, Dr. H. Seymour Houghton, arrived.

Dr. Houghton has reported to me as follows:

"I found the patient totally unconscious and restless. A nurse having arrived, the temperature was taken by rectum and found to be 100°, pulse 112, respirations 24; pupils dilated widely, face flushed a vivid red, mouth and throat parched. Later the pulse became weak and the circulation poor, the finger tips cyanotic. A high saline enema was given, and returned discolored. Gradually the symptoms became less alarming, the coma was succeeded by a busy, talkative, delirium, the circulation improved, although the extremities were still cold at 4 p. m. The next morning the patient was quite rational, but very much depressed and nauseated. Pupils widely dilated, urine less in quantity and dark (the patient was menstruating). Temperature 99°,

* Read before the Section on Ophthalmology of the New York Academy of Medicine, May 17, 1909.

pulse 76, respirations 20. From this time on the conditions gradually improved, although the patient continued to complain of extreme weakness and a faint feeling about the heart for several days; and the pupils remained dilated until the 29th—that is to say, one week after the instillation into the conjunctival sac of one-fifth of a grain of homatropin."

I saw the patient about 1.30 o'clock on the 22d, and found her as Dr. Houghton had described, but with rational intervals. I learned that she had spoken several times during the morning before the medicine was used, of her fear of some harmful effect from the drops. After the first two had been put in, she complained of tasting them, and remarked that were it not possible that she imagined it, she would certainly say that she felt queer.

It occurred to me, of course, that atropin might possibly have been substituted for homatropin by the druggist, but the Lederle laboratories analyzed the solution and found it exactly as represented.

Several cases exhibiting toxic effects from the use of homatropin for the purpose of paralyzing the accommodation have been published.

Ziem, of Dantzig, reported one in 1887.

F. E. Cheney, of Boston, reported in 1890 a most interesting case of "Hysterical mydriasis, paralysis of the accommodation and blindness following the use of homatropin hydrobromate." In this case the visual function was completely suppressed for days, but improvement followed the cure of a retroverted uterus accompanied by excessive menstrual flow.

G. M. Gould reported a case in 1893, in which there was great swelling of the eyelids, puffiness and discoloration of the cheeks, and erythema of various parts of the body for 24 hours after using homatropin.

H. M. Morton, of Minneapolis, reported two cases of "Homatropin idiosyncrasy" in 1894. In the first, there was staggering gait, partial collapse and hallucinations after one instillation in a young man. In the second, there was paralysis of the accommodation lasting three weeks.

Frank H. Edsall, of Pittsburgh, has reported three cases. The first resembled the case which I am reporting, in that homatropin had been used two years previously without bad effect. On the second occasion, however, there was delirium, hallucinations of sight and hearing, slight convulsions, dry throat, etc., and the patient was in bed for three days. The other two cases were much milder.

A. D. McConaghie, of Baltimore, reported two cases in 1899.

W. B. Marple has also reported two cases, in one of which the substitution of atropin was undoubted.

The general characteristics of homatropin have been described by a number of authorities. Edward Jackson, of Denver, writing in 1901, says in his account of the drug, "Impairment of the heart's action or symptoms of embarrassment of the circulation from the use of homatropin have never been noticed," and continues that complaint of the bitter taste is the only common extra-ocular symptom. While the last statement will doubtless be concurred in by all who have had any considerable experience with homatropin, I might point out that it is stated by H. C. Wood, in the last edition of his work on "Therapeutics," that the effect of this drug upon the circulation is undoubtedly due to its direct action upon the heart muscle or its constituent ganglia.

JOHN R. S. SHANNON, M.D.

# Medical Society of the State of New York.

## A CORRECTION.

On page 153, in the April number of the STATE JOURNAL OF MEDICINE, the name of Dr. John Horn was misprinted as Dr. John Howe. By Dr. Horn's request this correction is made.

## MEETING OF THE COUNCIL.

A regular meeting of the Council of the Medical Society of the State of New York was held at the Fort Orange Club, Albany, on May 8, 1909, at 8.45 P. M. Dr. C. G. Stockton, President, in the chair. Dr. Wisner R. Townsend, Secretary.

There were present Drs. C. G. Stockton, D. C. Moriarta, J. B. Harvie, Wisner R. Townsend, Alexander Lambert, L. H. Neuman, Frank Van Fleet, W. J. Nellis, E. H. Bartley, J. L. Archambault, G. D. Gregor and E. E. Snow.

Dr. Neuman, for the Committee on Scientific Work, reported progress. Report accepted.

Dr. Nellis, for the Committee on Arrangements, reported progress. Report accepted.

Dr. Snow moved, Dr. Bartley seconded that the annual meeting of 1910 continue for two days. Dr. Nellis amended that the meeting continue for three days. The amendment was carried and the original motion as amended then carried.

Dr. Gregor moved and Dr. Harvie seconded that the Committee on Arrangements make the necessary arrangements for the banquet to be held on Wednesday evening. Carried.

Dr. Lambert moved and Dr. Nellis seconded, that there be two sessions on Thursday. Carried.

Dr. Townsend moved and Dr. Neuman seconded, that there be no scientific session held on Tuesday evening. Carried.

Dr. Van Fleet reported for the Committee on Legislation that the bill permitting the State Society to change the time and place of meeting was passed by the Legislature and signed by the Governor and is now a law; that all bills relating to Anti-vivisection were defeated; that the bill on Expert Testimony was held up in the Senate Committee on Judiciary. Report accepted.

The resolutions on Ophthalmia Neonatorum, laid on the table at the last meeting, were taken up, and it was moved by Dr. Nellis, seconded by Dr. Lambert, that they be referred to the House of Delegates. Carried.

A communication from the Committee on Publication in regard to the question of infringement of a copyright of the State Society, was laid on the table.

On resolution, duly seconded, the following members of different committees were appointed by the Council:

Committee on Scientific Work, A. T. Bristow and H. L. Elsner.

Committee on Legislation, H. L. K. Shaw and E. Wende.

Committee on Public Health, S. W. S. Toms and E. Wende.

Committee on Arrangements, H. Bendell, A. G. Root, H. L. K. Shaw, H. C. Gordinier, W. C. Krauss, E. A. Vander Veer, and G. G. Lempe.

Moved by Dr. Townsend, seconded by Dr. Lambert, that on and after July 1, 1909, no member of the Medical Society of the State of New York shall receive the directory, the NEW YORK STATE JOURNAL OF MEDICINE, nor be entitled to malpractice defence until his county and state assessment has been paid.

Moved by Dr. Townsend, seconded by Dr. Lambert, that the Committee on Publication be requested to confer with the attorney in regard to any overdue accounts and take such steps as may be necessary to collect the same.

Amendment proposed by Dr. Van Fleet, that the Secretary be substituted for the Committee on Publication. Same duly seconded and carried.

Moved by Dr. Townsend, seconded by Dr. Lambert, that in order to encourage increase in membership for the year 1909, all members who are elected between November 1, 1909 and December 31, 1909, and who shall pay during that period their state assessment, may have the same credited to 1910, provided that they request it. All whose assessments are so credited shall be entitled to malpractice defence for 1909, but shall not be entitled to receive the Directory or the JOURNAL for 1909. State assessments so credited shall be immediately forwarded by the County Treasurers to the State Treasurer. Carried.

Moved by Dr. Gregor that this resolution be reconsidered. Carried. The date, November 1, 1909, was then, by amendment, changed to October 1, 1909, and the same carried. Original motion as amended carried.

Dr. Lambert, the Treasurer, reported that owing to the hearty co-operation of the County Societies the revenue of the Society has been put on a more even basis, as most County Societies have remitted their State dues during the early part of the year, which is a decided help to the office force and increases the bank balance, as the State deposits draw interest. Balance on May 8, 1909, was $8,089.04.

The resolution, passed at the last meeting, instructing the Committee on Publication in regard to data for the Directory, was reconsidered. Motion was then made that the motion of the last meeting stand, but that the Committee be requested to insert in the Directory for 1909, a list of the National Societies. Carried.

Minutes were then read and Dr. Snow called attention to the fact that there is a conflict between the resolution denying the Directory to those who were in arrears for dues and the resolution passed to encourage increase of membership, in that, in one it is stated that they should not receive the Directory, malpractice defence, etc., and in the other it is stated that they should receive malpractice defence. The Secretary was authorized to add to the minutes the statement that the general resolution applying to present members did not apply to the special resolution of those elected after October 1st.

Minutes were then approved and the meeting adjourned.

WISNER R. TOWNSEND,
*Secretary.*

## COUNTY SOCIETIES.

### MEDICAL SOCIETY OF THE COUNTY OF LIVINGSTON.

Quarterly meeting held at Craig Colony, Sonyea, May 4, 1909.

*Program.*

"Possible Case of General Paresis," S. H. Parker.

"Early Diagnosis of Tuberculosis," G. Kirby Collier.

"Sewage Disposal," J. F. Munson.

"Optic Atrophy Due to Hereditary Factors, with Presentation of a Case," William T. Shanahan.

"Presentation of Patients Showing Heart Lesions," William N. Trader.

"Pernicious Anemia, with Presentation of Case," George E. Rehberger.

"Anatomical Stigmata of Degeneration, with illustrative Cases," B. F. Andrews.

### SUFFOLK COUNTY MEDICAL SOCIETY.

Semi-annual meeting was held at the Central Islip State Hospital, April 29, 1909.

*Program.*

"Report of a Case of Gallstone with Ulceration into the Intestine," W. A. Hulse.

"Borderline Insanity," H. G. Gibson, Jr.

"Some Suggestions Concerning the Commitment of Patients," G. O'Hanlon.

"Presentation of Cases," C. M. Burdick and G. W. T. Mills.

"Discussion of the Pathology of Some Brain Lesions with Demonstrations," J. W. Moore.

### MEDICAL SOCIETY OF THE COUNTY OF ERIE.

Regular meeting was held on April 19, 1909.

BUSINESS SESSION.

Minutes of meeting of February 19, 1909, and also minutes of meetings of the Council of March 1st and April 5, 1909, were read and approved.

Dr. Lytle, Treasurer, reported that Dr. R. G. Strong had been reinstated.

Dr. Thomas H. McKee, Chairman of the Committee on Membership, reported favorably upon twelve members and they were duly elected.

Dr. Julius Ullman, Chairman of the Auditing Committee, reported that the Treasurer's books for the year 1908 were correct.

Dr. John H. Grant, Chairman of the Board of Censors, reported as follows:

March 19, 1909.

January 18.—Case against Lambert, practicing medicine without a license—personating another practitioner and having in his possession a fake certificate. Indicted by Grand Jury on three counts. Plead guilty in Supreme Court and sentenced to six months' imprisonment in Erie County Penitentiary. Since sent to asylum for Criminal Insane at Matteawan.

January 27.—F. G. O. Ehle, posing as the Ebenezer Medicine Co., was arrested for doing business without being registered in Erie County Clerk's Office, and for practicing medicine without a license. Found guilty of first offense in Police Court and fined $5. Being a cripple in his hands, the Acting Police Judge took sympathy on the fellow; said the evidence in the practice of medicine was not conclusive and discharged Ehle with a warning.

January 27.—One J. W. Merrow, posing as the Atlantic Clinic, upstairs, No. 7 East Swan Street, Buffalo, where he has set up elaborate offices under cover of one Dr. Richard Hawken, a graduate of Toronto, and endorsed by New York Regents, and Dr. Winters, Detroit College of Medicine, 1886, is now being investigated and to secure evidence towards having Hawken's and Winters' license in this State revoked, for deceit in covering up the illegal practice of medicine. Merrow's case is a bad one. His license to practice in Maine was revoked for being falsely procured; also in Ohio, where he served a term in the county prison for fraudulent use of the mails; and he was fined and ordered out of the State, at Syracuse, for practicing without authority. He claimed, in Maine, to be a graduate of a Medical College in Indianapolis, Indiana, long since defunct, and on inquiry by the Maine Board, the college building had been burned down and the records destroyed. Measures will be

soon taken to present this case to the Regents, as regards Drs. Hawken and Winters, and the use of the mails by Merrow.

Since writing the above, the Atlantic Clinic, including Merrow, Hawken and Winters, have like the Arabs in the night, silently stolen away. They have gone for new pastures among the Green hills of Vermont. I have just located them there.

February 6.—The case of one C. G. Edwards, posing as the "Nature's Creation Remedy Co.," at 316 Franklin Street, and now of 531 Brisbane Bldg., has been under observation. Your chairman caused a sickly looking young man (but really quite healthy), in company with a witness, to present himself to Edwards, and the young man was told by Edwards that he had "consumption," and that he could cure him in a short time.

"Nature's Creation" has been partially analyzed and may be said to consist of vegetable matters, such as Burdock root and other roots that grow by the wayside and iodide of potash.

March 20th, a warrant was sworn out for Edwards, and he was arraigned in the Police Court March 20th. Case adjourned to March 23d, on which date he was held to the Grand Jury under $500 bond. The case has been heard recently before the Grand Jury and its verdict awaited with some misgiving.

March 11.—Recently the so-called "Vacuum Company" has been under investigation by the Post Office authorities, through the efforts of members of the Board, and a fraud order against the concern was issued by the Post Office department; the wares advertised having been found wholly without efficacy in the cure of disease.

April 1.—Strange to say, a man has been practicing in Buffalo for twenty years without lawful registration—one William Bell of Cazenovia Street. He has a diploma, issued in 1889 by a Therapen-Electro College at Indianapolis, Ind. His case, at this writing, is before the Police Court. He has asked delay in the hope that the Regents may grant him an examination.

April 10.—One H. James Ince, who was convicted of performing abortions and sentenced, in October, 1907, to one year in the penitentiary, has applied to be restored to practice under the medical law, and a hearing was given before a committee of the State Board of Medical Examiners in this city, on April 10, 1909. Your Board of Censors was represented at the hearing, and they strongly opposed this man's restoration to practice in New York, on the ground that his crimes covered a number of years (seven in all), and his period of probation was too short to determine the sincerity of his reformation.

After the regular business of the Society had been disposed of, the President, Dr. Charles A. Wall, stated that, at a previous meeting, the Society had elected Dr. Henry Reed Hopkins an honorary life member, in recognition of his forty years' service as a member of the Board of Censors. The Society had likewise decided to make the presentation of this membership an event in its history. The following speakers spoke of some of Dr. Hopkins' many sided activities during his long professional career:

Doctors C. G. Stockton, William W. Potter, William C. Phelps, Edward Clark, DeLancy Rochester, P. W. van Peyma, and United States District Attorney John Lord O'Brian.

Vice-President Cohen was called to the chair, and after making a few appropriate remarks, Dr. Wall presented to Dr. Hopkins, on behalf of the Society, a beautiful silver loving cup, containing the following inscription:

"Henry Reed Hopkins, M.D., 1869-1909, from The Medical Society of the County of Erie. A Token of Their Respect and Esteem and of His Being Made an Honorary Member. In Commemoration of 40 Years' Service as a Member of the Board of Censors."

MR. PRESIDENT and Fellows: In my response to your kind utterances of this, to me, ever memorable evening, pardon me if there should appear a note of personality. You may, at least, depend upon my best efforts to keep the same from undue prominence.

However, when I remember the many nice things that you—Mr. President—and your several speakers have said, and recall my many failures and shortcomings concerning which you all have been most considerately silent, the provocation is distinctly in the drection not of an official response but rather of an appreciation, and that from a full heart.

I had the good fortune to have begun my medical education in 1865, near the middle of the century, and my medical fathers and teachers—Pratt, Winnie, Moore, Hadley, Lee, White and Rochester—were born near its beginning, so that from my teachers and from personal observations, I have some knowledge of the trend of the medical thought of the 19th century. It is not beneath the dignity of this occasion for me to remind you that the object, the trend of the medical thought of the 20th century is quite different from that of the 19th century. That the paramount theme of the 19th century was the consideration of the individual, the diagnosis of his disease, the treatment of that disease, for the money there was in it.

The treatment of consumption, of scarlet fever, of typhoid fever by the allopathic system, by the homeopathic system, or by the eclectic system, these with their innumerable varieties and variations were the theme of discussion and medical conversation. The direction of this was to the individual to cure him of his illness for money. On the other hand the medical orientation of the 20th century is not the individual, not even the family. but is the State—that the State may keep its individuals well, may prevent suffering, loss of time, and death, from the most frequent and the most deadly of all the diseases—the preventable diseases.

In the 19th century, we had diagnosis for treatment. In the 20th century, we have diagnosis for prevention.

This thought of the 20th century may, at first, seem to be like turning from the west to the east, but in fact it is but the logical and natural growth of the study of the diseases of the individual, the family, the town, the State.

This medical millenium of the 20th century, the supreme vindication of the medical profession when consumption, pneumonia, scarlet fever, diphtheria, typhoid fever and the other preventable diseases, will be as rare as are now rabies, smallpox and the plague, will come before the century is half over—come within the lives of many of you who have the good fortune to work as long as I have worked.

The light of this medical millenium is already seen at Albany and is guiding the policy of the State in medical legislation, as shown by the fact of State license for the practice of medicine, a revolution of enormous potentiality. State license was not born without pains and labor, and at that labor, the profession of Buffalo contributed a liberal proportion.

From State license by three boards to State license by one board was again an instance of progress, not reorientation, and was in entire harmony with the medical evolution from the ideals of the 19th century to the vastly higher ideals of the 20th century.

Those of you who have not given this subject much thought may consider what I have just said optimistic, beyond warrant and quite unreliable as a scientific statement, and I, therefore, beg such of you to calm your minds with the reflection that insight does give foresight; that God made the world that fore-knowledge is not only possible, but that fore-knowledge may have scientific precision and accuracy. The man wise in mathematical principles does study the starry heavens, does learn the names of the different planets, does know their several sizes and weights, their several axial and orbital motions, their several distances from each other and from their common center, the sun, and can foretell their relative positions and eclipses years and centuries in the future, and that, to the day, the hour and the minute. By the similar operation of the mental faculties of observation and inference, the man learned in surgical principles does know something of the anatomy of the human body, something of the physico-chemistry of the different tissues and fluids of that body—something of the life histories of some of the enemies of that body—and from this knowledge he can and does fore-know and foretell that when necessary he can with safety open the cavity of the knee, of the peritoneum, of the pleura, of the pericardium and of the pia mater.

In like manner, the hygienist, making use of those same priceless mental faculties, observation and inference, attains a clear vision of the achievements of preventive medicine of the future, and in that future, which many of you will live to enjoy, there will be no prominence in the list of causes of death, of consumption, pneumonia, scarlet fever, diphtheria, typhoid fever or the other communicable diseases—that, just as typhus fever, the plague and smallpox—diseases which, for centuries caused a majority of all the deaths, are now, to most countries, mere matters of ancient history; so the historian of the closing years of this century will recount the interesting facts as to the disappearance of the chief causes of our present death rate.

I have said that the insight of the hygienist makes this expectation legitimate and natural; and have only to add that this medical millenium, while it is the pride, is not the boast or the work of the hygienist, or any other specialist in medicine or in science. When this consummation, devoutly to be wished, comes to bless the earth, it will be seen to be the resultant of many discoveries as to the cause of disease, the perfection of many methods as to the prevention of disease, but above all other forces will rate the work of the little red schoolhouse on the hillside where our humble millions are taught those priceless lessons of the three Rs—(reading riting, and rithmetic)—where intelligent public opinion is made possible, because medical convictions expressed and crystalized in health laws and health ordinances only become effective when loyally supported and executed by intelligent public opinion.

That the State of New York may, in due time, enjoy this blessing, there must be in the State one medical profession, compact and effective in unity of organization, of such preparedness as is only possible when its individual members are men of high ideals, inspired with the hope and expectation of great accomplishments in the field of preventive medicine.

I have the belief, nay more, the conviction, that aside from any complimentary or personal element in the proceedings of this meeting, this review of the official activities of your recent representatives can but act profitably, to widen our ideas of the purposes, the scope, the responsibility of our medical societies, to stimulate pride in our profession and its high and ennobling purposes. Should something like this be the result of our evening, you—Mr. President—the speakers, will not have striven or spoken in vain.

At the conclusion of Dr. Hopkins' remarks, Dr. Stockton moved that Dr. Hopkins' address be embodied in full in the minutes of this meeting. Motion was adopted. Meeting adjourned.

## MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

ANNUAL MEETING HELD AT THE ALBANY MEDICAL COLLEGE, WEDNESDAY, MAY 12, 1909.

President W. G. MACDONALD Presiding.

BUSINESS SESSION.

Reports of the officers and committees were read and adopted as read.

The resolution passed by the Council of the Medical Society of the State of New York at its meeting in January, which is as follows, was referred to the Comitia Minora for action:

"Moved, seconded and carried that the Secretary be requested to call the attention of the County Societies to Chapter IX, Section 8, of the By-Laws of the State Society and request that in the future all amendments or changes in Constitution and By-Laws be submitted to the Council before being acted on."

The following resolution, which was passed by the House of Delegates of the Medical Society of the State of New York at its annual meeting in Albany, was adopted:

That the House of Delegates requests the County Societies to repeal the following By-Law, Chapter II, Section 8:

"When a member removes from the State of New York permanently he shall cease to be a member of the Society and shall forfeit all right and title to any share in the privileges and property of the Society, the District Branch and the Medical Socety of the State of New York."

The President's address was then delivered by W. S. Macdonald, H. D. Pease, Vice-President, presiding.

The following officers were elected for the ensuing year: Andrew MacFarlane, President; A. H. Traver, Vice-President; J. A. Lanahan, Secretary; D. V. O'Leary, Jr., Treasurer. Board of Censors: T. W. Jenkins, J. H. Blatner, W. H. Murray, J. H. Mitchell,

D. C. Case. Delegates to the Third District Branch: G. W. Papen, G. G. Lempe.

Meeting adjourned at 9.35 P. M.

A special meeting was called May 19, 1909, to take action on the death of Dr. Charles E. Witbeck. Dr. Witbeck was born in 1844 and died May 14, 1909. He was a graduate of the Albany Medical College, class of 1867, joined the Medical Society of the County of Albany in 1869 and served as Vice-President of that Society for one year.

Besides the resolutions of respect presented by Dr. F. C. Curtis, words of eulogy and appreciation were spoken by Drs. Andrew MacFarlane, La S. Archambault, J. Archibold, J. C. E. Daunais, J. H. Mitchell, W. G. Tucker.

## MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

REGULAR MEETING HELD AT FRIENDSHIP, MAY 27, 1909.

*Program.*

SCIENTIFIC SESSION.

"Disease of the Throat," M. E. House.

"The Relation of Infectious Disease to the Public," H. L. Hulett.

"Renal Calculi," S. S. Mackenzie.

"Gall Stones," C. G. Deming.

Talk—"Our County Laboratory," J. C. Young.

A most enjoyable luncheon was served to the members and their guests.

## MEDICAL SOCIETY OF THE COUNTY OF STEUBEN.

ANNUAL MEETING HELD AT BATH, MAY 11, 1909.

*Program.*

BUSINESS SESSION.

The following officers were elected: President, D. P. Mathewson, Bath; Vice-President, J. L. Miller, Corning; Secretary and Treasurer, W. W. Smith, Avoca. Censors: C. S. Parkhill, R. G. Lawrence, W. S. Cobb and H. R. Ainsworth. Delegate to the House of Delegates: H. B. Smith, Alternate, W. S. Cobb. Delegate to the Seventh District Branch: D. H. Smith; Alternate, F. L. Spaulding.

## WASHINGTON COUNTY MEDICAL SOCIETY.

ANNUAL MEETING HELD AT SANDY HILL, MAY 18, 1909.

Meeting was called to order at 10.30 o'clock by the President, J. S. Guinan.

*Program.*

BUSINESS SESSION.

Minutes of the last meeting were read and approved.

J. T. Park, S. Pashley and R. M. Lee were appointed Committee on Nominations.

The following officers were elected for the ensuing year: President, William C. Cuthbert, Sandy Hill; Vice-President, George D. Wilde, Fort Edward; Secretary, Silas J. Banker, Fort Edward; Treasurer, James T. Park, Sandy Hill. Censors: William B. Melick, John S. Guinan and Clifford W. Sumner. Delegate to State Society: Samuel Pashley. Delegate to Fourth District Branch: William B. Melick.

Two new members were elected.

Report of the meeting of the Comitia Minora, held on May 4th, was then presented, as follows:

Secretary's bill received and audited.

Treasurer's report was received and approved.

E. Joslin, A. E. Falkenbury and J. S. Guinan were appointed a committee to prepare resolutions on the death of Dr. B. R. Holcomb.

The Secretary was authorized to arrange for the program to be read at the October meeting.

S. Pashley reported the Washington tuberculosis meeting and was tendered a vote of thanks for his very interesting paper.

Dr. Eddy, a visiting physician, was invited to join the discussion.

SCIENTIFIC SESSION.

President's Address—"Some Points in Clinical Diagnosis."

Symposium on Tuberculosis—Pathology, G. D. Wilde; Complications, W. B. Melick; Drug Treatment, K. Coffin; Dietetic Treatment, G. M. Casey.

The next meeting will be held at Hartford, N. Y. October 5, 1909.

## MEDICAL SOCIETY OF THE COUNTY OF NIAGARA.

Regular meeting held at the Hotel Imperial, Niagara Falls, N. Y., May 11, 1909.

SCIENTIFIC SESSION.

"Chronic Gonorrhœa," James A. Gardner.

## MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

Special meeting on Tuberculosis at the Armory, Kingston, N. Y., May 21, 1909.

SCIENTIFIC SESSION.

"The Diagnosis of Incipient Pulmonary Tuberculosis," A. H. Garvin.

"The Use of the X-Ray in the Diagnosis of Tuberculosis," A. F. Holding.

After the meeting a buffet lunch was served in the parlors of the Y. M. C. A., to which the doctors and their wives were invited.

## CAYUGA COUNTY MEDICAL SOCIETY.

Regular meeting was held May 13, 1909, at the City Club.

SCIENTIFIC SESSION.

"Compulsory Quarantine of Advanced Cases of Tuberculosis," W. S. Ely.

"In Lighter Vein," W. S. Ely.

"Report of a Case of Gunshot Wound," J. P. Creveling.

The subject of dog quarantine was extensively discussed by W. S. Cheesman, who stated that there were many excellent reasons why a dog should be muzzled and that in his opinion it was a mistake to think that the dog suffered from this treatment.

An invitation was accepted from R. M. Elliott, superintendent of the Willard State Hospital, to visit that institution during the last week of May.

On the invitation of W. D. Cuddeback, of Aurora, it was decided to hold the next regular meeting in that city.

## MEDICAL SOCIETY OF THE COUNTY OF OSWEGO.

Eighty-ninth annual meeting held at Pulaski, May 18, 1909.

Meeting was called to order by the President, P. M. Dowd.

Four new members were elected.

Dr. Wisner R. Townsend, Secretary of the Medical Society of the State of New York, and Dr. W. E. Ford, of Utica, were the special guests of the Society.

A resolution was passed unanimously requesting the Board of Supervisors to restore the coroners' fees to the old basis.

*Scientific Session.*

Vice-President's Address—"Dysmenorrhœa," E. J. Cusack.

"Intestinal Toxemia and its Relation to Other Diseases," F. E. MacCollum.

"The Value to the Family Physician of a Knowledge of Orthopedic Surgery," W. R. Townsend.

"The Advantages of a Hospital in a Small Community to the Public and the Profession," W. E. Ford.

The attendance was the largest in years and the discussion of the various papers general.

After the meeting the guests adjourned to the Pulaski House, where a most enjoyable dinner was served.

The annual meeting will be held in Oswego, November 16, 1909.

## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

All books for review should be sent to the business office of the Medical Society of the State of New York, 17 West Forty-third Street, New York.

THE INFLUENCE OF HEREDITY ON DISEASE, with special reference to Tuberculosis, Cancer and Disease of the Nervous System. A Discussion opened by Sir William S. Church, Bt., K.C.B., M.D., President of the Royal Society of Medicine. (Introductory Address). Sir William R. Gowers, M.D., F.R.S., (Diseases of the Nervous System); Arthur Latham, M.D., (Tuberculosis), and E. F. Bashford, M.D., (Cancer). (From the proceedings of the Royal Society of Medicine, 1909, Vol. II.) Longmans, Green & Co, 39 Paternoster Row, London. New York, Bombay and Calcutta. 1909. Price: $1.50 net.

THE INFLUENCE OF SODIUM BENZOATE on the Nutrition and Health of Man. An experimental study of the Influence of Sodium Benzoate on the Nutrition and Health of Man. By Russell H. Chittenden. Investigations on the effect of Sodium Benzoate on the Health and General Metabolism of Man. By John H. Long.

THE ACTION OF SODIUM BENZOATE ON THE HUMAN BODY. By Dr. Christian A. Herter. Washington: Government Printing Office. 1909.

PHYSIOLOGY AND PATHOLOGY OF THE URINE, with methods for its examination. By J. Dixon Mann, M.D., F.R.C.P., physician to the Salford Royal Hospital; Professor of Forensic Medicine in the University of Manchester. With illustrations. Second edition, revised and enlarged. London: Charles Griffin & Company, Limited, Exeter Street, Strand. 1908. Price: $3.25 net.

## BOOK REVIEWS.

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By EDWIN O. JORDAN, Ph.D. Philadelphia and London, W. B. Saunders Co., 1908. 557 pp. 8 vo. Price: Cloth, $3.00 net.

The writer of this book believes that the subject of bacteriology should find a place in every general scientific course, since the subject bears technical relations to household administration, to agriculture, to sanitation and sanitary engineering, and to various industries and technological pursuits, and with this idea in view he has produced a work which can be read with profit not only by medical men, but also by the general scientific student and reader. The work forms a general introduction to the subject of bacteriology with emphasis laid on general rather than on special questions. The chapter on methods of studying bacteria gives the ordinary technic for sterilization, preparation of culture media and staining, special and elaborate methods being found in special laboratory manuals and guides and not coming within the scope of this work. A sufficient number of bibliographical references are given to enable the reader to pursue the subject further. The first part of the book deals with the structure, mode of development and composition of bacteria; the effect of physical and chemical agents upon bacteria; the effects produced by bacterial growth and bacteria and disease in animal organisms. The chapter on immunity is particularly good. The principal pathogenic bacteria are then taken up and a chapter is also given to the pathogenic protozoa. Among other subjects treated of may be mentioned the bacteriology of milk and milk products, bacteria and the nitrogen cycle, bacteria in the arts and industries, the bacteria of air, soil and water and the bacterial diseases of plants. The book ends with an appendix describing infectious diseases of unknown causation. The paper and printing are both good. The illustrations are numerous and well selected and the book can be highly recommended in every respect. A. M.

THE BLUES (SPLANCHNIC NEURASTHENIA), CAUSES AND CURE. By ALBERT ABRAMS, A.M., M.D. (Heidelberg), F.R.M.S. Third edition revised and enlarged. New York, E. B. Treat & Co., 1908. 287 pp., 8 pl. 8vo. Price: Cloth, $1.50 net.

A splendid little book, which has reached its third edition since 1904. One is impressed by the author's strong common-sense his originality of ideas, and his almost epigrammatic style of expression. The aim of the book is to call attention to a hitherto undescribed variety of nerve exhaustion which Dr. Abrams designates as splanchnic neurasthenia. The reading of chapters II-V inclusive, dealing with general neurasthenia, may easily be omitted by anyone at all familiar with the condition, as those chapters are merely a rehash of the literature of the subject.

The author describes splanchnic neurasthenia as a fit of the blues, as acute neurasthenia, or as an exacerbation of a chronic neurasthenia. He believes the condition to be due to engorgement of the abdominal veins, associated with diminished abdominal tension. This lowered tension causes dislocation of the viscera, and particularly affects the abdominal circulation. This engorgement is due primarily to failure of proper innervation of the abdominal muscles, the respiratory organs, and the blood vessels. Venous congestion interferes with the arterial blood supply, so that elimination of the toxic products of digestion is interfered with, which causes frequent attacks of depression, prostration and other nervous symptoms. The remedy suggested for this condition is the restoration of the abdominal circulation by means of abdominal actomassage, exercises for strengthening the abdominal muscles, respiratory exercises and the application of the sinusoidal current.

FREDERIC C. EASTMAN.

INFANT FEEDING, A Practical Guide to the Artificial Feeding of Infants. J. S. FOWLER, M.D., etc. Oxford Medical Publications. Henry Frowde, Hodder & Stoughton. London, 1909, 230 pp.

This is a very neat little volume, bound in red flexible covers. The paper is almost too highly calendered, but the type is large and clear—a thoroughly restful book to handle and read. There are a number of illlustrations which cannot be said to add to its value

The work is based upon a series of lectures delivered in 1907-8 in the University of Edinburgh Post-graduate Courses. The subject is dealt with in the simplest terms and the practical details of food preparation are stated clearly and at times rather dogmatically, for example, on page 49 we find, "pasteurizing has no real advantage: the choice lies between boiling and sterilizing." The author shows in many places that he considers sterility of the infants' food the most important matter, and he has an evident prediliction for the Budin method of feeding. It must be remembered, however, that he is writing for a country where the proper icing and refrigerating of milk is almost totally unknown. The value of whey in feeding delicate infants is emphasized and the discussion of the proper use of buttermilk would be of value to many of the enthusiastic followers of Metchnikoff in this country.

In the appendix are given the analysis of the more popular infant foods, with some practical comments as to their value. A number of Holt's tables of average development, etc., are quoted. In regard to goat's milk the statement is made that it does not differ greatly from cow's milk, and that from the diatetic point of view it has no special advantage, but that it is a good substitute for cow's milk in places where the latter cannot be obtained. In the tables for top-milk feeding the upperfourth is said to contain but 12 per cent. of fat, although very many analyses in this country have shown 16 per cent. The proteid content is stated rather high and the sugar too low. L. C. AGER.

A Reference Hand Book for Nurses. By Amanda K. Beck. Second edition, revised. Philadelphia and London, W. B. Saunders Co., 1908. 7199 pp., 16vo. Price: Flexible Leather, $1.25 net.

This little book contains in orderly arrangement and displayed in attractive fashion much that nurses need to know or at least to be able to find out readily, and as a reference book is to be highly recommended. This second edition contains new material of value and many excellent illustrations.

Its handy size and flexible covers make it a true *vade mecum* for the nurse. W. S. H.

Text-book of Diseases of the Nose, Throat and Ear. For the Use of Students and General Practitioners. By Francis R. Packard, M.D. Philadelphia and London, J. B. Lippincott Co., 1909. xiv, 369 pp. 8vo. Price: Cloth, $3.50 net. Lippincott's New Medical Series.

The first chapter is devoted to a consideration of the essentials of office equipment, in both the diagnosis and the treatment of ear, nose and throat diseases. The second, to medical remedies and the methods of their application. At this point general considerations are dropped, the next few chapters being devoted exclusively to diseases of the nose and throat. The chapter on the anatomy of the nose (and others throughout the book), contains some new pictures. Nearly all are photographs of preparations made for the book at the Wistar Institute of Anatomy. The next chapter (IV) includes general considerations involved in operations upon the throat and nose. We learn that the author generally precedes the application of local anæsthetics, for galvanic and chemical cautery, by an alkalin nasal spray. In presenting the subject of acute rhinitis the author highly recommends hygienic preventive measures, mentioning the home exercises of dumb-bells, pully weights and others. Somewhat ingenious is his remark: "To the author's mind, the great, if not the sole, advantage of these systems is to be found in the moral effect which they exert. The patient who takes one of them, having made up his mind that it will do him good and paid his money for that purpose, will in all probability persist in its use, and derive the benefit of such perseverence. Nothing is more difficult, on the other hand, than to make patients persevere in daily exercises with dumb-bells, weights and Indian clubs. Preference to any of these methods of indoor exercise, however, is some regular exercise in the open air, such as golfing or horseback riding, especially the latter." A chapter is given to influenza; another, illustrated with X-ray plates, on foreign bodies, is excellent. Diseases of the larynx occupy 22 pages, those of the ear, 106 pages; these subjects are thus, of necessity, considered rather in the gross than in a differentiation of the finer distinctions. We note that the author, in his chapter on the anatomy of the ear, has attributed the originals of certain cuts, made use of, to another recent text-book, whereas reference to the latter shows them there properly credited to their original sources. This is doubtless an oversight. The very considerable amount of original work, incorporated in the book makes it a welcome addition to the library.

William C. Braislin.

Epoch-making Contributions to Medicine and Surgery. Being reprints of those communications which first conveyed epoch-making observations to the scientific world, together with biographical sketches of the observers. Collected by C. M. B. Camac, M.D., of New York City. Octavo of 435 pages with portraits. W. B. Saunders Co., 1909. $4.00 net.

In general literature it is an easy matter for the student to possess for himself a copy of the masterpieces or classics. Whether it is poetry, or philosophy, or pure literature, the original can be had in some shape or form, expensive or cheap. In medical literature this is not so, and few are the students who possess a "Lænec" or a "Harvey on the motion of the heart and blood in animals." Yet there can be no better introduction to auscultation than a careful study of Lænec, or to the physiology of the circulation, than a careful study of "Harvey on the heart and blood." We can no more expect to develop good citizens of the youth of the country with no knowledge of what happened in 1776, than to develop good physicians or surgeons with no knowledge of Harvey, or Lænec, or Lister. This endeavor by Dr. Camac, to place before students of medicine the original papers and monographs that have been epoch-making, is worthy of all praise. These are our classics, for in medical literature the extent to which a contribution goes in forming an epoch, in making a distinct step forward, aids in raising that paper, essay or book to the rank of a classic.

The choice of subjects made by Dr. Camac is a wise one for a first attempt. The short biographical sketches are quite long enough to be interesting and not tedious. It is to be hoped that the editor and publishers meet with the success this volume deserves, and that some others of Dr. Camac's collection of epoch-making articles may soon appear in a second volume.

Concerning Lafcadio Hearn. By George M. Gould, M.D. With a Bibliography by Laura Stedman. Philadelphia, G. W. Jacobs & Co., 1908. 416 pp., 12mo. Cloth: $1.50 net.

There was probably no one better fitted to write on this subject than Dr. George M. Gould. His previous studies on the relation of the eyesight to the health and work of great writers, are well known; and in this particular instance, he had the special advantage of having had his subject live in the same house with him. We may say then, that this is a picture drawn "from life," and not from scraps and notes scattered through diaries and biographies.

The story of the early life and struggles of Lafcadio Hearn is a very interesting, but not a pleasant one. It may be quite necessary, if we are to understand the character of the subject of a biography, or of a biographical sketch, that all should be told, that the sins and faults of youth should be laid bare; but having once stated the facts clearly. it is surely not necessary to state them again and again at the rate of once to every dozen pages. The reader is liable to let his thoughts run off in another direction, to the subject of the forgiveness of sin, and to the time when he stood up in the congregation and sang "Our sins and faults of youth, O Lord do thou forget." Having laid bare the grossness of Hearn's earlier life so freely, Dr. Gould takes pains to censure others for the same fault, saying in reference (apparently) to the publication of Hearn's letters "For those who boasted of being his friends, it seems an astonishing thing, that they should make Hearn portray his vices, his moral nakedness, so publicly."

The part of this book of most interest to the physician, or to the educator, is that dealing with Hearn's myopia. We must admit as correct, the statement of Dr. Gould that his myopia was extreme, 25 diopters, and that all he perceived of objects beyond a foot or two, was a most hazy blur of colors. If that were so, then what Hearn wrote in the way of description of scenery, was nothing less than a miracle. The most interesting part of this chapter on Hearn's myopia is the extract from Hearn's own writings on "The Artistic Value of Myopia." Here, in this chapter, apart from the subject of vision, we have an example of Hearn's style when writing on a subject that did not demand any special effort or "infinite pains with data in phrase building, sentence making, or word choosing." One would have expected that our author having for his subject, a master of style, would have spent some time with file and chisel, but there is evidence of hurry all through Dr. Gould's book. Infinite pains in phrase-building would have prevented Dr. Gould from saying that "he always spoke of returning *often*," or that "a most hazy blur of colors was all he perceived of objects beyond a foot or two *away*." With greater care in word choosing Dr. Gould would have found substitutes for *impro-*

*creant, disincarnate, de-impersonalized,* and *epitonization.* It is a pity the author did not take time to write a monograph on Hearn's near sightedness. He could have done that, and thereby have gained merit. Instead, however, he chose to write a book in a hurry, and as imported merchandise is marked, "Made in Germany" or "in France," this book should be marked "Made in Haste."

There is one other point to be noted. The author has made much of the fact that Hearn was a mere echo, that with his limitations in regard to vision, and to experience in the great things of life, such as religion and love, he could only take for theme and plot what was given to him by others. Now there are some echoes that are quite famous. Did not Shakespeare borrow theme and plot wherever and whenever he wanted either? Did Milton invent the story of the Fall, or the story of the Redemption, or the story of Samson? And

"When 'Omer smote 'is bloomin' Lyre,
He'd 'eard men sing by land an' sea;
An' what he thought 'e might require,
'E went an' took—the same as me."

Concerning Hearn's work on Japan, Dr. Gould's collection of appreciations and epitomes gives one an opportunity of forming a judgment. That this work on Japan was done in a spirit of love and sympathy with an alien people, there is no doubt. In this case Hearn was not merely seeking material for the sake of making a book to sell for money. Rather he was actuated by a love for humanity, he was honestly endeavoring to make the westerner understand the Japanese, and in doing this he was obeying the greatest of all the commandments. It is a pleasure, then, to think, that to him may be applied certain words of Scripture which say "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me."

PETER SCOTT.

PRACTICAL POINTS IN ANESTHESIA. By FREDERICK-EMIL NEEF, B.S., B.L., M.L., M.D. New York, Surgery Publishing Company, 1908. 46, iv pp., 12mo. Price: Cloth, $0.60 net.

The above indicated publication, though criticizable from the fact of its extreme brevity, does present many practical points of value to the untrained anesthetist.

Especially to be noted are its suggestions relative to conserving the comfort of a patient during the initiation of the narcosis, but the method indicated to accomplish this end, viz., chloroform or anesthol, must give place to more safe agents, such as nitrous oxide, or morphia hypodermatically. The subject of so-called "ether feeding" in a chloroform narcosis is mentioned, but less forcibly than its great efficacy warrants, while the pages devoted to avoidance of over-crowding and signs indicating same are excellent. Especially to be commended, the writer considers the effort at a more accurate conception of just what the surgical stage of ether anesthesia is, for at this time of complicated and new apparatus, attention to actual ether and chloroform therapy is neglected.

Also worthy of note is the manner adopted in considering the usual stumbling blocks of anesthesia, viz., obstructed respiration, with its effects and relief; the value of each reflex as a criterion to depth of narcosis; the time and indications for stimulation, etc.

At a time when complexity of apparatus is the special consideration of the day, this small work may help many to better anesthesias, with simple means, when adoption of more elaborate ones would result in failure.

The publisher's result is attractive and certainly artistic, all of which adds to the desirability of the work and elicits commendation. WM. C. WOOLSEY.

THE CAMPAIGN AGAINST TUBERCULOSIS IN THE UNITED STATES. By PHILIP P. JACOB. New York, Charities Publication Committee, 1908. 450 pp. $1.00. 105 East 22d Street.

Since the public has taken an interest in tuberculosis and learned that it is the cause of 100,000 deaths annually in the United States, organization to combat it is going on with rapid strides. At present there are over 200 organizations in this country engaged in the fight. This book is a directory of these organizations in the United States and Canada. It was compiled under the direction of the National Association for the Study and Prevention of Tuberculosis.

It gives a list and description of the sanatoria, hospitals, and day camps for the treatment of tuberculosis; hospitals for the insane and penal institutions which make special provision for the tuberculous; dispensaries and clinics; tuberculosis classes; associations and committees for the study and prevention of tuberculosis; typical forms of organization of associations; legislation aimed against tuberculosis which has been passed in the United States, and some examples of typical laws.

This book gives one a good idea of the amount of work that is being carried on and the manner of its organization, and is a great practical help. One can tell just what his city or State has done in the work, and can advise a consumptive as to the nearest sanatorium, its rates, etc. N. J.

DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS. By JAY FRANK SCHAMBERG, A.B., M.D. Philadelphia and London, W. B. Saunders Co., 1908. 534 pp. 8vo. Price: Cloth, $3.00 net.

This is a brief treatise on dermatology and the acute eruptive fevers. Three hundred and eighty pages are devoted to the consideration of cutaneous diseases and one hundred and thirty-eight to the eruptive fevers. The first part of the book is arranged according to accepted classification of dermatology. The last part is really a boiled down edition of Welsh and Schamberg's well-known work on acute contagious diseases. The text is good and the illustrations are better than many in much more elaborate and expensive books. The great criticism is that too much has been sacrificed to brevity, and while it will aid the medical student and the general practitioner in making a diagnosis of cutaneous diseases and eruptive fevers, and also will give them many valuable hints regarding treatment, one cannot but feel that there were many things left untold about these difficult and interesting diseases.

There cannot be too much said in praise of the press work, especially the white and black reproductions.

MEDICAL INSPECTION OF SCHOOLS. By LUTHER HALSEY GULICK, M.D., and LEONARD P. AYRES. New York, Charities' Publication Committee, 1908. 270 pp. $1.00. 105 East 22d Street.

This is the second book published by the Charities Publication Committee, acting for the Russell Sage Foundation. It is a timely and valuable publication. It is rich in practical information, one of the authors being director of physical training to the New York public schools, the other being sometime general superintendent of schools of Porto Rico.

It puts in available form such information concerning systems of medical inspection as will be of most value in towns and cities in America. A most valuable feature of the work is the splendid bibliography which it presents.

This book is an eminently practical work and should be in the hands of school boards, inspectors of schools and social workers. N. J.

## DEATHS.

LOUIS FEIGENBLATT, M.D., of New York, died May 13, 1909.

ROBERT K. TUTHILL, of Poughkeepsie, died June 9, 1909.

C. E. WITBECK, M.D., of Cohoes, died May 14, 1909.

GERARDUS HILLES WYNKOOP, M.D., of New York, died May 16, 1909.

# NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

ALGERNON THOMAS BRISTOW, M.D., Editor
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## EDITORIAL DEPARTMENT

### THE MODERN MINOTAUR.

ALMOST every phase of modern civilization finds exemplification in the beautiful myths of ancient Greece.

The nations of Christendom have sown the dragon's teeth and are reaping to-day the beginning of a dreadful harvest in the poverty of the masses and the sequestration or utter destruction of national wealth. The fatal gift the Gods bestowed on Midas has been transmitted to our modern overlords of commerce. Men and women fawn upon them, not for love but because of the lust for gold. They are surrounded by hard hearts and outstretched and itching palms. The golden touch has changed love into selfishness and stiffened the appearance of affection into a rigid statue and lifeless simulacrum of true love. The touch of Midas is as deadly to-day as it was in the golden legend.

We need a modern Theseus. Yearly, sings the Greek poet, the unfortunate Athenians were forced to pay tribute to the Cretan King. They sent of their dearest and best, seven youths and seven maidens to the isle across the sea, there to be devoured by a monster, deformed and remorseless, the hideous fruit of a foul amour. Yearly the ship set sail. Yearly it returned with the black sails of mourning swelling to the breeze. From the clutches of the Cretan monster none ever returned.

For years all the nations of the Earth have been paying tribute to a modern minotaur. Our youths in the very morning of life become the victims of their own ignorance and drag our maidens into the deeps with them. Many a little craft sets sail every year from the port of happy and sheltered homes. Parents and friends shower the departing ones with gifts and flowers and all the brightness of good wishes. When the ship returns to port, the black sail has been hoisted, for death is within. The minotaur has claimed another innocent victim or perchance has laid a blighting touch on the future of an entire family.

The Cretan monster was satisfied with seven youths and seven maidens as an annual sacrifice. Who can tell the tale of the victims of our Modern Minotaur? The procession of victims is continuous and as yet no Theseus has arisen to bring this hideous and appalling tribute to an end.

The public never has and does not to-day appreciate the real gravity of the venereal peril. Physicians themselves have only begun to appreciate it. The truth of the matter is that both by the laity and the profession the whole matter has been treated as a joke. We do not crack jokes about cholera, or yellow fever, or plague. The survivors of Messina, as they sat among their ruined homes found nothing to joke about in that awful catastrophe, yet grown men are perfectly willing to crack jokes about a subject which involves the future of the race. They are satisfied with the most futile precautions against diseases whose ravages far exceed that of all the plagues of the world. We joke with death, but our children and our children's children pay the price. Is blindness a joke? Is permanent sterility a joke? Is the chronic and incurable invalidism which overtakes many a fair bride a joke? Are mutilating and disabling operations jokes? Is it a joke to bemire the very fountain of life and turn a sparkling fountain into a sullen and seething mud hole from whence shall issue all sorts of creeping and crawling deformities, and mishapen things of disease and woe?

What is the medical profession doing to prevent these crimes? Nothing.

What is the Legislature doing? Nothing.

What are the courts doing? Nothing.

What are the educational institutions doing? Nothing.

To take up the last question first, the essential facts of sexual life are entirely neglected in both home and school training. Mystery shrouds the subject from the time the child asks the first question regarding its origin until the day when its curiosity is satisfied in a corner by whispering playmates. We commence wrong. Mystery is like the night. In its dark shadows lurks all manner of evil. In our homes proper answers are rarely given to questions which children have a right to ask and to which they will continue to seek an answer. Usually they get the knowledge clandestinely, and that which was the mystery of their childhood becomes a thing of darkness in the ignorance of their youth.

Parents shun responsibility in this matter. Not long ago a well meaning and well conducted journal for women endeavored to arouse its readers on this question of information on sex questions. The articles were timely, modest and informing. The journal was undertaking a necessary and most needful task in a perfectly proper way.

Its course, however, created much criticism. It appeared that many of its subscribers, mothers, were perfectly willing to let their children pick up the same information on the streets in a prurient way, but their delicate sensibilities were shocked that Maria and Jennie should be frankly and openly told the facts concerning the fountain of life. Their knowledge on these subjects, these poor women thought should be gained clandestinely. Our educational institutions preserve the same reserve. When does a ship need the gleam of the light-house? When it is approaching the rocks. When does a child need instruction and warning on sexual matters? When it is approaching puberty! Does it get either instruction or warning from its parents? Rarely.

Does it ever get instruction and warning from institutions of learning? Never. When a boy goes to college, it is usually his first experience away from home. Some time during the college course, usually in senior year, he receives some little instruction in anatomy and physiology. Not a word, however, concerning matters sexual. The time to give a college lad instruction and warning on these matters is in the first week of the first term of his freshman year.

As it is, however, he is left to contract gonorrhoea or syphilis in the passionate ignorance of youth, because the institution which ought to protect him from himself and his natural impulses fails to do its duty.

What of courts and legislatures? As our laws are at present constituted, a physician cannot prevent the marriage of an infected man to an innocent girl. His knowledge of the infection has been gained professionally and he must under the laws as interpreted by our courts, stand by with idle hands. It is not in his power to say, "Thou shalt not." Such deeds are done every day and endless woes follow.

In this state, preliminary to the granting of license, all sorts of questions as to age, previous marriage or divorce are asked of both bride and groom, but the state does not ask the groom the one important question, "Art thou clean?" Its modest lips are firmly closed on this subject. . . . That is the one thing it ought to know. That is the one thing the state insists upon knowing in respect to other contagious diseases, but refuses to inquire into here. Whooping cough must be reported to the Board of Health, but not venereal. Many states quarantine for mumps, but all states permit their gonorrheoics limitless opportunity to spread the infection.

What is the medical profession doing in this matter? It is largely occupied in shutting the stable door after the horse is stolen; in playing the hose on end of a burning block while the fire spreads at the other and involves the neighborhood.

On the single subject of ophthalmia neonatorium an enormous amount of meritorious work has been done by countless committees, state and national societies. The use of the silver salts has been urged as a certain preventative. One state board of health (Rhode Island) furnishes an ampulla of silver nitrate and dropper sufficient for one case free of charge. No state, no board of health, no legislature, no body of medical men has taken any steps whatsoever toward preventing the cause of the disease—the marriage of an infected individual to an innocent and certain victim. The courts close the lips of the physician. The clergy purse up their lips and looked shocked. Educational institutions are equally fatuous and equally anxious to shirk responsibility. On the part of our youth, ignorance is largely responsible for the plight in which they too often find themselves.

There is no panacea for these evils but education, and an education which shall enlighten the legislator, the judge, the pedagogue and the parent. This must be undertaken by the medical profession. Little bottles of silver solution are all very well to prevent blindness, but if society were once aroused to the real meaning of the venereal peril infected individuals would marry only under the peril of the law. A physician's certificate should be a prerequisite to the marriage license. No legislature in the present state of public ignorance and consequent apathy would pass such a law. In time, however, education may do its work and we may see venereal disease placed where it belongs, among the reportable and quarantinable diseases. A. T. B.

## Original Articles.

# VOLUNTARY PATIENTS IN STATE HOSPITALS FOR THE INSANE.*

By ALBERT WARREN FERRIS, A.M., M.D.
NEW YORK CITY.

FOR generations we have been taught that in no class of diseases has the hereditary tendency been more easily demonstrated, or the reproduction of parental qualities been more sure to occur, than in the disorders of the mind. An acceptance of this statement in its broadest application has so impressed us as to result in a reduction of the interest and ambition of many of us, and in a conviction of the uselessness of putting forth all our possible efforts in an attempt to combat a condition that is, at the start, considered inevitable and hopeless.

In the matter of treating and curing cases of mental disorder we have felt that above us hung the black pall of an avenging Nemesis, by which much if not all of the light of life would be shut out, in spite of our best efforts. A failure to ameliorate morbid mental states was viewed without chagrin, as a result not unexpected. A recovery was indeed a triumph; but was regarded as a wide departure, and not to be taken as a precedent for guidance in future therapeutic activity.

The cultivation of this feeling resulted in the establishment of the idea in the minds of both physicians and laymen that a "stigma" attached to all who had suffered from mental alienation; that the fact of such a condition should be sedulously concealed; and the absurd idea took root that its existence was more or less disgraceful.

Charles Mercier defines insanity as "want of adjustment to one's environment." If we can master the facts of the environment we can devise methods of altering it, or of removing certain features of it, or of antidoting some of its ill effects. By increasing the resistance to family tendency, by putting obstacles in the way of the undermining ancestral traits, we may baffle heredity, and its powers may always lie dormant.

Many thoughtful psychiatrists of to-day no longer look upon the discovery of a brain lesion as the only basis of action. They do not even claim that the chief cause of mental aberration must necessarily be in the brain. We know that many insanities are due to disease of the arteries, including the arteries of the brain; to presence in the blood of poisons resulting from defective elimination of waste products; and perhaps to reduction of the quality of the blood. But we also know that many are due to disordered function following stress and strain; and to improper and unhygienic use of the mind. Palliation or removal of these conditions has resulted in the emergence of some insane patients from their abnormal mental state, in spite of the existing hereditary influence. I state the case crudely and but partially when I say that the psychiatrist of to-day therefore aims to ascertain in which respect the insane patient is out of adjustment with his environment and his own proper hygiene; what facts in the earlier history bear upon his present mental attitude; from what early experiences erroneous deductions have been made that initiated alarm, worry, despair or wrong habits of thought.

This is our problem: On October 1, 1905, in the fifteen hospitals for the insane in this State, there were 26,423 patients. On October 1, 1908, there were 29,421 patients. For many years the incidence of insanity in New York State has been such that about 6,000 new cases are received annually into our State hospitals; and while about 2,000 cases die annually, and many are discharged recovered or improved, the average net increase has been 715 each year. On October 1, 1907, the net increase was 750, and on October 1, 1908, at the close of our fiscal year, we found our net increase had mounted to 1,246.

To meet this condition, enlargements to existing hospitals have been made year by year, as fast as money could be obtained for the purpose.

A great torrent has been pouring down the mountain side, threatening us with a devastating flood. We have been building catch basins, larger and larger in size, and filling the basins full to overflowing. Why not go to the fountain head, if we would limit the stream, and control the flow? Why not ascertain and remove the cause of the inundation? The general policy has been to encourage procrastination until cases of mental disorder showed such evident and well established disease as to admit of certification, adjudication and commitment. In the opinion of friends and the community, a judicial opinion that the alleged insane person is insane throws a cloud on his future business capacity, and operates to his detriment. Many jurists tell us that a statute providing for the detention of an insane person would be unconstitutional unless it provided for a notification to him of proceedings looking to such detention, and a chance be given him to be heard. In fact, a large number of jurists claim that all cases of alleged insanity should be taken into court, that the justice, without knowledge of psychiatry in the vast majority of instances, may decide the matter, and dismiss or commit. The damage done to the patient is not considered. The deep impression made upon the wavering mind of one who is in so many respects treated as a criminal, is with difficulty erased; indeed, it often remains for years, and renders treatment far more difficult and far less hopeful.

Professor Adolf Meyer, Director of the

* Read before the Medical Society of the State of New York at Albany, N. Y., January 26, 1909.

Psychiatric Institute of the New York State Hospitals for the Insane, makes the very happy suggestion that a procedure resembling quarantine is really the one to be adopted for the protection of the family and the community, and especially for the benefit of the patient. This illuminates the whole subject. For the safety of the community and of the individual, isolation and special treatment must be secured. Doctor Meyer therefore suggests that insanity be notifiable to a medical health officer, who should be invested with power to act early and promptly and to quarantine the insane patient under proper care. Such a disposition of the matter would reduce improper treatment and consequent demoralization to a minimum.

Medicine has been thoroughly stripped of mystery. We are emancipated from the ideas of evil spirits, devils and demons. We have emerged from the mediæval darkness during which we punished the insane. Let us now as far as possible strike off from the ankles and wrists of the insane the shackles of court procedure which to-day hold them down to the level of the criminal.

To accomplish most successfully the results at which modern psychiatry aims with modern methods, cases of mental disorder should be seen early. The incipient case, the borderland case must be reached and prevented from gliding down the slope into a profound psychosis. Let us then put considerations of heredity aside and let us abandon the absurd term "stigma" and the idea it conveys, and let us encourage the patient to secure early psychiatric aid while reason, judgment and will still persist. In other words, let us open the way for voluntary application to the State hospitals for early treatment of all classes of persons whose mental equilibrium is wavering.

Here we encounter a difficulty, for we must at the outset define the limits of voluntary action. Jurists and physicians alike have been slow to publish their conclusions regarding voluntary action of patients affected mentally, just as they were tardy in deciding that the insane were entitled to medical aid as much as any other ill persons.

The State Commission in Lunacy has ordered that no patient can be admitted as voluntary "whose mind is so impaired as to render him incapable of forming a rational judgment or to render him incapable of resisting influence." The Commission also holds "that voluntary admissions are admissions of those patients whose liberty is not restricted, who are not insane within the meaning of the statute and who voluntarily remain under care and treatment."

At the session of the State legislature of 1908 the Commission introduced a bill so amending the Insanity Law as to provide for the admission into all the State hospitals (except those for criminals) of voluntary patients upon their written application, pursuant to regulations of the Commission. The Commission has ruled that no alcoholic patients without definite psychosis, and no cases of drug habit without psychosis, shall be thus admitted.

Now there opens before us an era of great possibilities. New York State practically monopolizes the care of her insane, having been forced into this position because of crying abuses occurring under county management. With the great opportunity for putting into practice the best methods of treatment and dictating with almost absolutism the conditions surrounding the great majority of the insane within its borders, in parallel lines lies the great duty of neglecting no means, postponing no methods, abandoning no expedients that science, humanity and common sense can devise or suggest for the amelioration and the cure of those with "minds diseased."

Admission of voluntary patients has proved a success in Pennsylvania, Illinois and especially Massachusetts. In McLean Hospital, Waverly, Massachusetts, about 35 per cent. of the patients are admitted as voluntary. Its percentage of recoveries averages nearly 29.

Thus we see that New York is not embarking upon an untried sea. We are not making an experiment. We are adopting a certain method of prevention of continued insanity and a measure of early relief. While our annual death rate in the State hospitals for the insane is 8 per cent. of the population, 40 per cent. of all the deaths occur during the first year after admission and 15.6 per cent. of the new cases die during their first year of residence in the hospitals. We must bring these patients into our hospitals a year earlier, and save many of them.

Our duty is to ascertain the causes of the alarming increase of insanity; teach the people what are the dangers to avoid; restrict, by law, demoralizing influences; and while there is still easy access to the patient's confidence and to his real thoughts, adjust him to his environment, explain and harmonize his troubles, and relieve his physical disorders. To accomplish these things successfully and to the fullest extent the patient must be seen very early.

*Discussion.*

Discussion opened by Dr. R. H. Hutchings explained that the object of the new law was to permit patients to obtain treatment in a hospital before becoming insane. That the comparatively small number of applicants at St. Lawrence State Hospital (nine) was due to the fact that the voluntary commitment law was known to but few, either physicians or laymen. He cited three cases of patients coming to the hospital voluntarily in from three months to a year. He believed that the law would make an epoch in the history of State hospitals.

He called attention to the fact that the well-

to-do have sanitoria in which to recuperate or receive treatment, but "now," he declared, "the State hospital will be the poor man's sanitarium." He expressed the hope that the State hospitals might become of more interest to the general practitioner.

Dr. Ely, of Rochester, expressed his appreciation of the paper, but considered the fact that only nine patients had applied to the hospital for commitment, to be evidence that the general class of nervous cases would not apply to a hospital for insane. He emphasized the importance of psychiatric wards in every general hospital.

Dr. Fisher echoed the words of Dr. Ely and continued, that many persons would not voluntarily commit themselves because of the stigma and handicap for future usefulness. He said that to open the State hospitals to voluntary patients was a mere makeshift, not approved by the Ways and Means Committee or by the Governor. He favored early treatment and believed that the patients should have a hospital to which they might go without any papers whatever.

Dr. Good stated that in the smaller towns and smaller hospitals it would be impossible to have wards for nervous cases; that the other patients could not stand it. But that if the municipalities could be induced to erect and support such hospitals, that they might do a world of good. He explained that in most cities the stigma and prejudice against ex-state hospital patients were not as great as was generally supposed. He also favored the enactment of laws committing alcoholics and persons addicted to the use of drugs, somewhat as is done by Connecticut and Canada.

Dr. Kidder defined insanity as the failure of a person to adjust themselves to environment and stated that places must be provided to save those on the border land. He believed the nine applicants to the St. Lawrence State Hospital to be a very encouraging number considering the length of time that the law has been in operation. He also recommended the State hospitals to assume the care of alcoholics and drug users. He continued that alcoholics consigned to the hospitals were usually back home in a month or two and that that short period was as but a day in the treatment of their malady. He believed that such cases should be committed for a year or more so that the patients might have ample time to regain moral as well as physical resistance.

Dr. Angell, of Rochester, spoke of the economic side of the question. He believed that the State hospitals already had enough with which to contend with, and that the general hospital should be given wider scope and greater power.

Dr. Ferris closed the discussion. He considered that all hospitals large enough to have resident physicians should have a psychopathic ward, but insisted on a resident psychiatrist in all hospitals receiving mental cases. He stated that he was glad to offer 15 "makeshifts," in Dr. Fisher's opinion, till general hospitals would do better. He added that the Governor promptly signed the bill amending the statute so as to receive voluntary patients, and that no member of the Ways and Means Committee voted against it. As to the stigma, he believed that it arose from the disease and not from the hospital; that it would be just as great if a patient were locked up at home instead of a regular institution. He deemed the question of the disposal of alcoholics to be an important one, but declared that the State hospitals had not the room for them, and that legislation should be instituted in that direction. Regarding the economic side, he stated that a patient cost the State $187 a year, of which amount fifteen cents a day paid for three meals; and asked that the allowance be not cut down, but that the period of treatment be shortened. This could be accomplished by sending the patients in earlier.

## EPILEPSY.*

By W. H. KIDDER, M.D.
OSWEGO, N. Y.

Mr. President and Gentlemen:

TO attempt to bring before you any new facts regarding the etiology or course of epilepsy, any new discovery tending to dissipate the fog which has for so long enshrouded this disease, would be on my part a futile endeavor. All that I can hope is to inject some degree of novelty into groupings of old observations and established facts. Our lack of exact knowledge about the etiology of the disease does not excuse us from considering its other phases or from endeavoring to treat and help its multitude of victims.

In reviewing the history of epilepsy some things stand out in a striking way. Particularly impressive is the uniformity of statement, from the earlier days to the present, among writers on the symptomatology and diagnosis. While recent observers may have been inclined to describe its manifestations as a *symptom complex,* and to include cases not of old looked upon as epileptic, in the main the word epilepsy is used to-day to cover the same class of cases as in the early days of its use. However much we may want to look upon it as implying only a group of symptoms of conditions allied but not necessarily the same, the clearness of the line which separates this from disease conditions bearing other names cannot fail to attract attention. In fact, until bacteriology made the diagnosis a matter of exactitude, typhoid fever presented a line of symptoms scarcely more definite. Without using up time by further detail, we may feel some justification for assuming that epilepsy is a definite disease rather than a *symptom complex,*

* Read before the Medical Society of the State of New York at Albany, N. Y., January 26, 1909.

and we recognize that vagueness applies to our knowledge of the cause and pathology rather than to our idea of the symptoms and diagnosis.

Though the study of the cause of epilepsy has passed through many stages, few lines of research which were not suggested as far back as the days of Hippocrates and of Cœlius Aurelianus have been brought forward. Those writers made observations and expressed ideas which have since been elaborated, and many of their statements are pregnant with suggestion, as when the ancient Greek calls attention to changes in the urine excretion at the time of convulsions. The statements of that writer are even more suggestive of more recently expressed ideas about elimination and tissue change when he says, "If young persons are freed from the epilepsy, it depends principally upon the change of air, climates and regimen," (Aphorism 45, sec. 2). He further says that "When intermittent fevers are duly managed, they free the body from its load of peccant humors, and render it more pure and dry; which effect ought also to be produced by proper and well chosen remedies," (Epidemics, Liber 6, Sec. 16), an observation which he has further dwelt upon in connection with epilepsy.

From these hints of long ago it seems only a process of detailed study and elaboration to arrive at the hypothesis that epilepsy is a disease due to some definite defect in the biochemic processes of the body. While the disease is often spoken of as functional, we all must feel that somewhere there is an underlying physical reason for its existence. Gross causes of a definite nature have not been found, and even where apparently observed, they are limited to such a small percentage of cases and are of such varied nature that it seems more reasonable to look upon them as simply contributory. In fact, it seems illogical to attribute so definite a line of symptoms to causes widely differing in different cases. We may grant that the most likely cause rests in some defect in the ultimate processes of nutrition, but whether it be in the changes of katabolism or of anabolism we can do little more than guess.

If epilepsy is due to biochemic defect in the tissues of the body, it would seem that there must be a time in the history of every epileptic when the cause is present but not in sufficient force to produce definite symptoms. It is even reasonable to believe that the specific defect might exist in a body otherwise well ordered, and in connection with a nervous system so well balanced that the epileptic symptoms never appear. However, let such a case be subjected to some additional irritation or stress, and the characteristic signs of epilepsy appear. In this way we can harmonize our hypothesis with the occurrence of cases after traumatisms and as apparent results of peripheral irritations, including defects in the grosser processes of nutrition occurring in the digestive tract. Because of these cases in which epilepsy may be, so to speak, latent, it is incumbent on us to give to every youthful nervous system an environment as normal as possible.

Among peripheral irritations those arising from disorders in the digestive tract and from illogical diet are especially prominent. It would seem natural that any derangement of the ultimate processes of nutrition might be attended by false trophic sensations, and indeed, one of the most constant symptoms in epilepsy is the demand of the patient for a quantity of nourishment materially beyond his evident needs. Disturbances of digestion are to be looked upon as results rather than as causes, and any regulation of the diet which shows deference to such defects must be considered as incidental to the particular case. In the main the diet of the epileptic should be a limited one, but the restrictions should be so planned that the dietary shall show a normal nutritive ratio. If meat is withheld, as is often done, the proteid content of the ration is unduly lowered. Excepting the gluten of wheat, vegetable proteids are not available as substitutes for those of meats. Where it seems desirable to reduce the supply of meat, the nutritive ration can be best maintained at a normal figure by reducing the allowance of vegetable carbohydrate and increasing the gluten content. For patients not at hard manual labor, I would recommend the use of meat only at the noon meal, and making the same restriction regarding the use of potatoes. As sugar is almost clear carbohydrate, it is obvious that it should be used with discretion. In the treatment of cases in childhood and youth I recommend a cereal with milk and some form of bread for breakfast; a dinner of meat with potato or rice in moderate quantity, some one other vegetable, bread, and some light dessert; and a supper of zweiback and milk. The fat constituent in the diet is not likely to cause trouble, and butter may be allowed to suit the patient's taste. Candy should be forbidden and raw fruits restricted. As the eating of candy is largely a matter of habit, it is unwise to compromise by allowing a harmless quantity. Such a diet is desirable for any child of nervous temperament, whether epileptic or not.

We are as likely to make mistakes in the eating of food as in its selection. As a class epileptics eat too fast and too much. They should be asked to carefully chew food. If they do this, they will not eat too much. Some observers have objected to the use of cereal foods. My own observation leads me to think that the chief objection to them is that they can be swallowed without being chewed. The epileptic should be asked to chew all food, and the injunction should be reiterated until it gains an ever-present hold on his consciousness.

The influence of alcohol in epilepsy is becoming widely recognized, especially as a factor in.

causation. We know that alcohol inhibits the activities of tissue change. It is not far fetched to suppose that a chemic function acutely deranged in a parent may have an abnormal continuance in the offspring. We may reverse the line of deduction and infer that a disease which shows parental alcoholism as so common a causative influence is itself an expression of defect in the chemic processes of tissue change. It is scarcely necessary to say that the epileptic should not use alcoholic beverages.

Apart from matters of diet the physical hygiene of an epileptic's life seems to call for nothing very different from what is for the best interest of a normal person. However, even more important than the physical hygiene, at least, second only to questions of diet, is the mental hygiene of the epileptic. It is not strange that patients whose ailment limits their activities, restricts their usefulness, and in a large measure removes them from intimate association with their fellow men, also often laying terrific physical stress upon them, should develop a psychology of its own, and a most undesirable one. An ever increasing irritability and ever lessening powers of mentation seem to mark the progress of epilepsy. To take measures to check these tendencies is as much our duty as to try to stop the convulsions or other physical manifestations. I would put special emphasis on the need of teaching to epileptics the art of self-control, and of inducing in them that state of mind which tends to keep people on "the sunny side of the street." To-day much is said about irresponsibility in epilepsy. It is well to draw a line between that irresponsibility which is the result of psychic duality and that which is only the atavistic tendency of an undisciplined mind.

Finally—in our view of epilepsy we must not confine ourselves to narrow limits. However fully we may be convinced that the disease is definite and due to a definite defect in the biochemic processes of the body, we cannot hope to treat or cure it by simply correcting that defect. Instead we must take the disease in its ensemble. Our treatment must be comprehensive, and with proper lines of medication and physical hygiene, must include purposeful guidance of the mental tendencies.

## SUGGESTIONS FROM PHYSIOLOGY IN THE TREATMENT OF RENAL, CARDIAC AND VASCULAR DISEASES.*

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WITHIN the last three or four years many writers have called attention to an apparent increase in renal, cardiac and vascular diseases. I think we all have noticed in our daily work that affections of the kidneys, heart and arteries are more commonly met with than formerly, and that the degenerative forms of these diseases are detected at a younger stage in life. I doubt very much, although this increase is apparent, if its full significance is grasped by the physician who has but little time to study his daily work, or even by those who are in the fortunate positions of hospital and dispensary workers. Possibly, too, there may be some among us who are skeptical enough to doubt the statement made by those writing on this subject, but full confirmation of these statements can be found in the vital statistics compiled by our various State Boards of Health. Any one who will take the trouble to examine these reports will be able to satisfy himself conclusively that the apparent increase referred to by some writers is really a matter of fact. Naturally much inquiry as to the causes of this great increase in mortality from renal, cardiac and vascular diseases has been instituted by recognition of the gravity of conditions which can double the death rate in ten or fifteen years in a special class of morbid affections, and place them as the chief causes of death in the total mortality. It would be very interesting to know if in this great increase in mortality a larger number of deaths has been recorded in the fourth and fifth decades of life than would be proportionate to the entire number. So far as I am able to ascertain this is so, but I am unable to give figures at present of any absolute value.

Beyond question infection is the most important factor in the etiology of chronic visceral disease and we must admit in the group of diseases under consideration that a very large proportion is due to this cause. We have especially to remember in this connection that during the last two decades pandemic and epidemic influenza has left as sequellæ functional perversions and structural alterations in almost every organ of the body, and that no set of organs suffers more from the effects of influenzal toxins than the heart, kidneys and blood vessels.

Thayer has very forcibly called attention to the frequency of arterial sclerosis as a sequence of prolonged typhoid infection in adult life. But after all the infections are to be classed among the accidents and not among the incidents of life, and many of the infections are to-day, and the majority of them will be in time, entirely unnecessary thrusts into the vitality of the human system; and we can confidently look forward to the time when the results of laboratory research, if accepted and properly applied, will reduce the evil effects of infection to a minimum place in the etiology of chronic disease. But what will it profit the civilized portion of the human race if it substitutes equally deleterious influences, chronic autointoxications, for the infections now the subject of so much study and labor? The writers referred have all given due credit to the importance of the part played by infection in the production of the increased mortality we have just considered, especially the influence of influenza, but all alike are emphatic in

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attributing to other factors a very large place in its causation and of these the stress and strain of modern life seem to be the prominent ones which all agree are productive of the greatest harm.

Krehl tells us that owing to its great frequency arteriosclerosis has an extraordinary claim on the physician's attention, and that no other pathological process is so frequently the direct or indirect cause of functional disturbance of heart muscle. Abundant evidence exists, both clinical and pathological, which shows how certainly renal change, inflammatory or degenerative, accompanies or follows degenerative changes in the arteries. With one or both of these conditions it is by no means uncommon to find degenerative changes seriously involving the heart muscle, or valvular disease complicated with dilatation resulting from loss of compensation. In fact the cardio-vascular and renal tracts are so intimately related that it is scarcely possible to have organic change existing for any length of time in one organ without serious interference of nutrition following in the others. If we exclude the process of involution the legitimate change of age, the infections, and chronic poisonings such as plumbism, we may group the various causes of arterial change under four heads bearing in mind that both heart and kidneys are no less susceptible to these influences than the arteries.

First—Chronic intoxications, which include the injurious effects of alcohol, tobacco and possibly some of the much abused coal tar drugs, gout, chronic rheumatism and uræmia.

Second—Improper diet and overeating, which are responsible for a major part of the conditions recognized as autointoxications.

Third—Excessive muscular work producing the degenerative arterial changes attendant on the lives of those who are compelled to follow a laborious occupation for years, and of those who foolishly carry athletic training to the point of severely straining both heart and blood vessels.

Fourth—The stress and strain of modern life. Osler stigmatizes many of the victims of arterial sclerosis as devotees o Venus, Bacchus and Vulcan; possibly he might be persuaded to class the followers of the mad rush of the day as revelers in the malice of Pandora. It seems to me we preach in no idle strain when we take full reckoning with the tendancy of modern times to live beyond one's endurance, a tendancy which unfortunately has received the commendatory title of "the strenuous life" from high authority. I have not the time, even if I had the inclination, to recount the distracting and discordant elements which make up the day's work and the night's worry in all the walks of modern life; we all know them and I am sorry to say no one of the world's workers feels them more keenly than a member of our profession and, too, probably no one is compelled to carry the load and keep the pace made and set by a restless population with less aid than the man of medicine.

Sweeping generalization and denunciation of the system, however, are of little use; what we really need is some tangible evidence of the evil effects of stress and strains and some method by which the effects can be detected in the human body at a stage when perversions of function can be corrected before the resulting morbid changes have become progressive pathological conditions. From all that has been written on this subject, and from my own personal observations, I am led to believe that a peculiar disturbance of circulation perhaps best described as "vascular insufficiency" long precedes true organic change in the kidneys, heart wall and arteries in those people who develop under high pressure ways of living, interstitial nephritis, arterial sclerosis or myocardial degeneration. I may note right here that Haven Emerson in his article entitled "An Experimental and Critical Study of the Etiology of Chronic Nephritis," which appeared in the *Archives of Internal Medicine,* June, 1908, states in his conclusions "that insufficient blood supply alone will cause first an error in function and later on an alteration in the structure of the kidney." My own observations include a study of the daily lives and departures from health in the rank and file of everyday workers from the clerk to the proprietor, the mill operative to the trustees of the corporation, artisans, school teachers, merchants, bankers, brokers and members of our own profession, in the third, fourth and fifth decades of life. Permit me to give a brief summary of these observations with the reservation that not all of the symptoms have been detected in any one person: Slight cardiac overactivity without detectable hypertrophy; variations in the ratio which normally exists between heart action and respiration; more frequently than one would suspect a blood pressure over 150 m.m. of mercury, the average for adult life as given by Erlanger and Tigerstedt; bodily and mental fatigue not entirely dispelled by a night's rest of usual duration; insufficient renal excretion as shown by deficient nitrogen and phosphoric acid elimination; depression of the excretory action of the skin which works normally only in the heated term, and then often excessively; digestive disturbances which indicate a partial arrest of the digestive processes before completion of these functions. Many of these cases show a little of that pallor which is often a marked symptom in later stages of arterial sclerosis, and yet anæmia is not of common occurrence with the symptoms just enumerated. Very few of the cases tested by Herz's test (self checking muscular movement) responded normally.

Possibly the criticism may be offered that I am simply reciting the well known clinical features of neuræsthenia, but we must remember that in this nervous affection the predominant symptoms are referable to abnormal sensations

and to their psychic effects (Osler). The various persons I made the subjects of observation manifested no psychic symptoms. They were all workers and willing workers under the pressure they have chosen to endure. In the daily lives of many of these people there is much that appeals to the emotions, but there is no subversion of the will. In this abnormal expenditure of energy it is not the higher nerve centers that suffer; the nervous system of the neurotic individual fails in nutrition under the strain of modern life long before the heart, blood vessels and kidneys become seriously disturbed.

The estimate of the heart's energy is reckoned as the amount of blood expelled at each beat, and if I am right in my conclusions that the stress and strain of our high pressure ways of living disturb heart action to the extent of lessening, even in slight degree, the sufficiency of the arterial wave, the disturbance of nutrition which naturally results may become in time the cause of chronic inflammatory or degenerative lesions in the kidneys, heart wall or arteries. Since prophylaxsis is really the most important part of treatment the question naturally presents itself to those of us who fully appreciate the meaning of the tendencies of modern life which are responsible for a large proportion of the increased death rate from disorders of the heart, arteries and kidneys, what can be done to correct these evils and prevent these conditions from exerting still greater influence on general mortality?

It is useless to attempt to arrest the progress of the chronic diseases under discussion by any method of treatment that ignores a consideration of the physiology of the circulation and the processes of elimination. If we are to reduce the mortality in this group of diseases we must apply nature's measures, both preventative and compensatory, before degenerative changes have been excited by long continued perversions of function. A mortality of 23,000 deaths in one year from the diseases under consideration should arouse as much interest in the members of our profession as a mortality of 17,000 deaths from tuberculosis disease. The factors of daily life responsible for a large portion of this mortality must be dealt with by a campaign of education as to the right way of living which will do something more than the campaign carried on so vigorously at present against one form of infection, which seems to have impressed people with the idea that sleeping out of doors and regarding with uncomfortable suspicion the person who coughs, are the chief methods of preventing tuberculosis infection. In our efforts to meet the harmful tendencies of modern life probably no one thing should receive more thoughtful consideration than the subject of diet. So much has been written of late, especially in our daily newspapers, on the habit of overeating, we are forced to conclude that the American people are dreadfully given to gluttony. It is probably quite true that a great many persons who can have the pick of the market every day in the week, eat inordinately and acquire the habit of overeating and of eating too frequently. The question of improper diet, however, is of just as much importance as that of error in quantity. We must remember that every digestive process from that of the salivary glands to the walls of the intestine, with one exception, is under the control of a special secretory nerve. These processes are never continuous, and nature has made no provision in the performance of digestive function for prolonged tax on these glandular organs or their nervous supply. Now it is just as possible to tax digestion by improperly cooked food and unsuitable articles of diet, as it is by overeating. In fact there is good reason to believe that a very much mixed diet will often disturb the digestive functions more than a large amount of one or two kinds of food which will satisfy the appetite. We have, I think, been too much inclined to attribute many disturbances of digestion to failure of the liver to perform its function properly. This organ secretes directly under the influence of blood pressure and its secretory function is that of a continuous process; no secretory nerve governing its function has yet been discovered. If the other processes of digestion are in a state of healthy functional activity it is quite probable that the liver will maintain its function in an equally normal state. The digestive gland most likely to be disturbed by errors in diet is without question the pancreas with its three-fold food splitting properties. A meal which includes meat, two or three kinds of fats, as many forms of starchy foods free and bound up in cellulose, with sugar and possibly eggs, cream or milk in desserts at the finish, must necessarily tax pancreatic secretion to its limit. Accepting the suggestion of Van Noorden in his treatment of diabetes, the week's diet of well cooked oatmeal, I have advised not a few subjects of this disease to eat all desired of one kind of food, with the exception of bread and other white flour stuffs, during the meal time of any one day and I can certainly testify that the amount of sugar in the urine has fallen as a rule under this apparent breach in dietetics. The fasting day or longer period of obstinence supposed to relieve portal plethora or hepatic congestion, probably offers rest to an over-taxed pancreas fully as much as it does to an organ that functionates directly under blood pressure.

My six years experience as commissioner of education in the city I reside in, convinced me that the physiology taught in our public schools is little more than worthless so far as it impresses the student with the necessity of obeying nature's laws. On the other hand I can say with much force that the department of domestic science in teaching the value of food stuffs, the elements of the physiology of digestion and the science of cooking, gives the student really

very valuable and useful information which he or she would have graduated without had it not been for the knowledge imparted by the teachers in this department of public instruction. We can do much I think to further the good results of this work, by supporting these so-called innovations in the school curriculum and helping to institute them where they are still wanting. Again, a little time spent in the daily round in instructing those under our care, especially young mothers, on the subject of diet and meals, proper foods and methods of cooking, will often be of more service than a hurried diagnosis and a dozen or two tablets. We should embrace every opportunity of instructing young men of the folly of overeating, and too of the danger that lies in the abuse of tobacco and alcoholic stimulants. To those later in life, whether in good health or showing some symptoms of visceral failure, we can do no better service than to give the warning of Cheyne's thirteenth aphorism: "Every wise man after fifty ought to begin to lessen the quantity of his aliment, etc., etc." Minot in his book on *Age, Growth and Death,* shows very conclusively that the earliest degenerative change in cell life has its origin in protoplasmic increase and nuclear shrinkage. The persistent over nourishing of the tissues of the body by eating beyond ones actual necessities will surely hasten the degenerative process in advanced life, and help to institute it in the decades which should rejoice in the healthy performance of all the functions of the body.

I think we have to consider also the question of unsuitable food as much as other dietetic problems when studying the subject. The indoor brain-worker hardly requires the amount or kind of energy bearing food that the worker in laborious occupation, or in open air exposure must have. If he choose to consume it he cannot expect to properly assimilate it unless he spends a sufficient amount of time in open air exercise. I fear, too, that the muscle workers of to-day are unknowingly cheated out of a great deal of nutrition, and it is a great pity that our working people do not understand the nutritive value of food stuffs. If they did, they would probably purchase less variety and obtain a better quality.

The ten cent packages of emasculated cereals so commonly in use to-day afford a very small fraction of the nutrition stored up in the whole grain, and the substitution of these stuffs for the full complement of one of nature's best foods cannot fail to rob the consumer of much nourishment.

There is another thing which impressed me very forcibly in my service as commissioner of education, and that is the necessity of including a system of physical culture in the course of study in all of our schools. Our boys and girls, our young men and young women, should be trained under competent direction to develop the muscles of the body. I can say with absolute certainty that the men and women who have opportunities to indulge in gymnasium practice are far superior in general bodily health to those who after a day's work in shop or store, are contented to pass the evening in reading, gossiping or patching up garments to meet some change in style. With labor-saving machines doing the work of the manufacturing world, and with shorter hours of work in almost every occupation, it is hard to believe that men and women are overworked, compared with the generations of half a century ago. But that there is to-day an abnormal expenditure of human energy I think there can be no question; the muscular system designed by nature to expend the greatest portion of the energy of the body, is suffered to deteriorate while the most delicately constituted portion of the organism, the nervous system, is strained in performing the tasks or duties constituting the work of everyday life. If we can send the young men and women of the coming generation into the field left vacant by those advancing in years, with well-developed muscles, vigorous hearts and normal digestions, we can feel with confidence that they are provided with the best compensatory provision which nature affords to meet the competitive struggle of the age.

We have been given of late many instructive papers in our leading medical journals on the subject of hypertonus, but it is only recently that some authors have shown that hypertonus is a necessary compensatory state of the circulation under the demands made on it by an overworked nervous system. Modern physiological research teaches us that there is a normal increase in blood pressure attending muscular exertion and accompanying the processes of digestion. Nature prevents harmful effects of this rise in blood pressure by opening more widely the avenues of elimination in the skin, lungs and kidneys. If hypertonus excited by undue mental strain and perhaps also by the toxins of faulty digestion is a compensatory provision of nature, it seems to me that the development of a more vigorous heart muscle which will insure a more normal state of secretion and excretion, will meet the demands made by a disturbed nutrition more naturally than the process which in time must necessarily embarrass a heart action that was insufficient at the start.

In the earlier and even in the advanced stages of chronic diseases of the heart, blood vessels and kidneys, we should never lose sight of the measures by which nature compensates for loss of heart power or interference with elimination. The hypertonus of interstitial nephritis is very often as much of a compensatory process as the classical cardiac hypertrophy of this form of renal disease. It seems to me that moderate increase in arterial pressure, which, of course, must be included in the consideration of other individual features, should seldom be the subject

of direct therapy, but should rather be regarded as a necessary result of nature's effort to prevent visceral engorgement. We have, too, most instructive suggestions as to the management of these affections in the knowledge derived from the study of physiology. If we remember that both the liver and kidneys perform their functions directly under the influence of blood pressure and that these processes are continuous, but vary with fluctuations in blood pressure, we will, I think, recognize that an over-taxed heart, visceral engorgement and vascular spasm can be relieved more speedily by free elimination through the skin, liver and kidneys, than they can be by the administration of cardiac stimulants or vascular sedatives alone.

*Conclusions.*

An impartial study of the vital statistics at hand shows beyond question that renal and cardiac-vascular diseases have increased very greatly during the last two decades. The increase as reported by very competent observers amounts to nearly 100 per cent. when estimated by the death rate. We are reasonably certain that the infectious diseases are not increasing, and that this great cause of chronic visceral disease will become less and less an etiological factor as the knowledge imparted by our laboratories is accepted and made use of. We must look then to some other condition of life for the cause of this great addition to general mortality; and if the deduction of many of our eminent clinicians are not wrong, we may attribute to the stress and strain of modern life a largely responsible position in the causation of this increase in death rate. We need the lessons of physiology in our daily work, especially in our efforts to meet the results of these transgressions of nature's laws. It matters but little how early we recognize the departure from normal in the performance of function or how accurately we detect the change in structure, if we do not include in our treatment of the affection full recognition of the normal working of the part affected, its relation to the other organs of the body, and above all the methods by which nature tends to compensate for interference with function or change in structure.

## LEUKEMIA; A SYMPTOM, NOT A DISEASE. ANALYSIS OF A SUGGESTIVE CASE.*

By HENRY G. WEBSTER, M.D.
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THAT conception of the blood which regards it as a mobile tissue comparable in its pathology to the more stable tissues and subject to similar morbid changes may lead to a misconception of the true significance of changes from the normal blood picture, for it may give rise to the idea that definite variations from the normal are the evidence of certain well defined causes, like cause always producing like result. Viewed in this light it would be rational to argue that pernicious anemia always follows a definite, if unknown, cause; that a special morbid agent produces the blood picture peculiar to myelogenous leukemia while a different cause underlies the lymphatic variety. The customary division of the anemias into primary, or essential, and secondary tends to fortify this conception, for while recognizing that certain changes in the appearance and quantity of the red cells and hemoglobin often result from diseases external to the blood, it ascribes the changes of the primary type to some causative agent peculiar to the blood alone, although it is not difficult to find cases that partake of the character of either class which suggest that primary anemias are really secondary to some subtle and elusive agency beyond our present powers of recognition. It is not unreasonable to suppose that the same cause by acting upon a different part of the blood-forming apparatus may produce different results in individual cases, or that it may, in the same individual, bring about a varying blood picture if we bear in mind the widely distributed and diverse organs that we believe generate and regulate the structure of the blood. Among those who support the independent nature of lymphatic and myelogenous leukemia Ehrlich lends the weight of his authority, while Cabot, writing in Osler's *Modern Medicine,* urges their essential identity. In discussing the features of the case to be reported I shall refer again to Cabot's views.

With this brief consideration by way of introduction, permit me to detail the following *Case History.*

Mrs. N. D., 38 years old, recently married for the second time, white, American, presented herself at my office December 6, 1907, for the relief of pains in the neck and shoulders that had been called rheumatic by a number of physicians. Family history showed that her mother had rheumatism in early life, but otherwise her immediate relatives have been in good health. Previous personal history: patient had "growing pains" in girlhood, but none of the usual infantile diseases. Menstrual history: began at 13, regular, but always painful. Married for the second time, but never pregnant. Of late there has been little or no blood in menstrual flow. Present illness: about four years ago she began to have gnawing pain at intervals in and under the 7th, 8th and 9th ribs on the left side, which gradually increased until it is now constant. At times she could appreciate a lump in this region that would form and disappear again. She also had pain under the free border of the left ribs. At times the sternum has been sensitive. During the past month the shoulders, neck and occiput have ached and been stiff and sensitive. In general her appetite has been good,

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bowels regular and sleep restful except for occasional attacks of pain. She at one time had hemorrhoids. Has lost 25 pounds since last summer. No venereal history obtained at the time.

*Physical Examination*—Fairly well nourished woman of brunette type, weight 110 pounds, height 5 feet 5 inches. Heart and lungs negative, no deformities, tongue slightly coated white. Temperature 100, pulse 100, respiration 20. Marked tenderness over the manubrium, outer end of left clavicle and both trapezius muscles, also over both sides of the cervical spine and over the spleen, which is enlarged and tender. There is general glandular enlargement except the epitrochlear glands, which are not palpable.

Examination of the blood December 6, 1907, showed 3,500,000 erythrocytes, 20,000 leucocytes and 58 per cent. hemoglobin. The differential count was as follows: polymorphonuclears 65 per cent., large mononuclear and transitional forms, 11 per cent., small mononuclears 7 per cent., eosins, 4 per cent., and myelocytes, 14 per cent. The urine was amber, aromatic, acid, 1020, no albumin, sugar or casts.

A diagnosis of myelogenous leukemia was made and she was advised to enter the Methodist Hospital for systematic treatment. On admission, December 7th, she showed a temperature of 100.4 F., pulse 116 and respiration 26. The treatment outlined comprised rest in bed, with arsenic, iron and X-ray exposures, but the failure of the coil necessitated abandoning the latter. Diet for the first four days included fluids and farinaceous foods with soft boiled eggs, baked apples and two broiled chops daily. This was increased to include a general variety on the 11th. Medication at first comprised sodium cacodylate, gr 1-8, four times daily, and Blaud's mass three times daily, after meals. On the 16th aspirin, gr. 5, every four hours, was added for the aching pain with apparent good results. On the 16th an ointment containing sodium salicylate was applied to the aching muscles and continued daily until the last of January. Trional was occasionally exhibited for wakefulness. The pain had disappeared by the 17th of December and she continued to improve until the 26th, when a small sluggish abscess appeared on the left cheek. This was treated by cupping after Bier's method and was healed by January 5th, but left marked pigmentation which persisted for some months. On the 6th of January the pain in the neck and shoulders recurred and persisted with remissions until early in May. During the latter part of her stay in the hospital she received 2 drm. syr. acid hydriodic in water four times daily as an alterative. From time to time stomachics were indicated and given. She left for home January 10, 1908. During her hospital residence she had a daily rise of temperature averaging one degree.

The record of blood examinations which follows in tabular form, is one of unusual interest.

| | Dec. 6. | Dec. 10. | Dec. 14. | Dec. 21. | Dec. 28. | Jan. 3. | Jan. 10. |
|---|---|---|---|---|---|---|---|
| Red Cells | 3,500,000 | .... | .... | .... | .... | 4,200,000 | 4,800,000 |
| Hemoglobin | 58% | 65% | 70% | 80% | 85% | 90% | 85% |
| Leucocytes | 20,000 | 19,800 | 18,200 | 12,200 | 10,800 | 9,600 | 10,200 |
| Poly. Leucocytes | 57% | 59% | 40.2% | 53% | 65% | 71% | 75% |
| Large Mon. Leucocytes | 18% | 3% | 6.3% | 7% | 7% | 8% | 9% |
| Small Mon. Leucocytes | 5% | 33% | 50.8% | 40% | 28% | 21% | 16% |
| Eosins | 4% | 1% | .4% | 0 | .... | .... | .... |
| Myelocytes | 16% | 4% | 2.1% | 0 | 0 | 0 | 0 |

Subsequent counts show the following figures:

| | Feb. 1, '08. | May 29, '08. | Nov. 15, '08. | Dec. 20, '08. |
|---|---|---|---|---|
| Red Cells | 5,250,000 | 4,500,000 | 4,800,000 | 5,000,000 |
| Hemoglobin | 70% | 65% | 88% | 90% |
| Leucocytes | 5,250 | 7,000 | 8,800 | 7,000 |
| Poly. Leucocytes | 70% | 68% | 57% | 72% |
| Large Mon. Leucocytes | 10% | 12% | 7% | 8% |
| Small Mon. Leucocytes | 20% | 19% | 36% | 19% |
| Eosins | 0 | 1% | 0 | 1% |
| Myelocytes | 0 | 0 | 0 | 0 |

It will be seen from these analyses that immediately following the arsenical treatment the myelocytes began to diminish and had disappeared at the end of two weeks, while the lymphocytes increased rapidly to 50 per cent., the blood picture thus becoming typical of *lymphatic* leukemia. As treatment progressed there was a further change that reached the normal on February 1, 1908. This fluctuated somewhat during the ensuing year, but was normal on December 20, 1908.

On her discharge from the hospital the enlarged spleen, tender sternum and clavicle had disappeared, but there was still soreness and some stiffness in both trapezii. Weight had increased to 118 pounds and when seen February 16th she complained of frontal headache occurring in the late afternoon, and of pain in left thigh, suggesting sciatica. Blaud's mass and iodides were renewed with benefit. From this time until the latter part of May she enjoyed comfortable health. On May 29th examination revealed a distinct tumor corresponding to the sternal end of the left clavicle and a grating sound was appreciable in the upper cervical articulations.

Previous inquiries as to a possible syphilis had been negative, but at this visit persistent ques-

tioning elicited the fact that her first husband had been promiscuous in his attentions to other women and that about eight years ago, after his return from a long business trip, she had developed a mottled red eruption that seemed to worry him greatly. He had taken her to a physician, who was one of his close friends, who had insisted that she continue the treatment outlined for her for a long period—several months. She had never suspected the nature of this trouble and recalled the details somewhat imperfectly. In the light of this history mixed treatment with inunctions of ung. hydrarg. combined with increasing doses of potassium iodide was instituted with manifest improvement. Her pains lessened and there was rapid and complete subsidence of the clavicular tumor. She continued this treatment more or less faithfully during the summer, but discontinued it in the early fall and returned for the relief of a new devlopment late in October. This was a hard, painful swelling on the outer side of the right foot, apparently arising from the astragalus. Treatment with mercury and iodine was recommended and as before relief was rapid and is seemingly complete. When seen early in January, 1909, she weighed 130 pounds and was free from pain, the tender swellings had disappeared, the only glands appreciable were a few very small ones in the posterior cervical chain and reference to the blood examination of December 20th shows a normal blood picture. A report from the patient received a few days since confirms her present well being.

To summarize: the completed history shows an old syphilitic infection, incompletely treated, with late gummatous involvement of the clavicle and astragalus, and probably some of the upper cervical vertebræ and ribs, and later of the spleen and lymphatics. The resulting interference with the blood forming function of the spleen and marrow induced the myelogenous type of leukemia. As this subsided under appropriate treatment the lymphoid elements assumed prominence, only to return to their normal ratio as the cause of the infection was overcome.

Though well aware of the fallacy of constructing theories on the basis of a single observation, I must confess that the unusual association of both forms of leukemia with syphilis in this case tempts me to the conclusion that it is fair to extend Cabot's deductions so as to regard both as symptoms of some form of intoxication—in this instance syphilis, exerting an irritating influence on the hematopoietic system, the predominance of myelocytes indicating that the bone marrow is more particularly affected, while primary involvement of the lymphatic system is evidenced by lymphocytosis, and that it is possible for both forms to exist together or to supplement one another. In the cases where one form only is present we may surmise a less protean cause that possesses a more distinct selective action.

## GASTRO-ENTEROSTOMY, WITH REPORT OF A SERIES OF CASES.*

By EDGAR A. VANDER VEER, M.D.

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THE introduction, trial and judgment of different operations is nowhere better illustrated than in that of gastro-enterostomy. Fifteen years ago the operation of gastro-intestinal anastomosis was considered one of the greatest of surgical feats, only attempted in the most desperate cases, and frequently with fatal results. However, as the technique became perfected, its scope was broadened, until within a few years there is scarcely an organic disease of the stomach in which it is not claimed that it can be relieved or cured by this surgical procedure. At the present time it would seem as though greater experience would indicate that its sphere of usefulness will be greatly lessened. The pendulum has swung back and its proper place in surgical technique is being reached.

The subject of gastro-enterostomy in itself has been talked and written about to such an extent that it would seem to me to be our duty to consider one side of the question which is coming into prominence—the after results and just how much good the patient has derived.

In the beginning this operation was looked upon with much interest and the patient watched with the greatest care and attention. The mere fact that the stomach could be operated upon and the patient live was thought remarkable; that an anastomosis could be made between the stomach and small intestine, and the patient after the operation have scarcely any rise of temperature or pulse, be out of bed at the end of ten days to two weeks, and leave the hospital at the end of three weeks, was equally impressive.

The accumulative results soon led the surgeon to think it was possible to cure every disease of the stomach by means of an operation, especially a gastro-enterostomy, and while on the whole the final outcome has been good, it has only been so in certain classes of cases.

At first, the unsatisfactory results might have been blamed to defective technique. This step, however, has improved, until now, by means of a shorter duodenal loop and an anastomosis to the posterior wall of the stomach, we have an almost perfect operation. Yet, as I have said before, the permanent results are not good, except in certain classes of cases.

At the Chicago meeting of the American Medical Association, Dr. N. B. Leggett, of New York, in discussing a paper on this subject published in the "Transactions of Anatomy and Surgery of the Association" for this year, reported a series of experiments in which

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he had performed gastro-intestinal anastomoses upon dogs, and then by means of certain instruments had fed them lead balls to which strings were attached, then killing the dogs and examining them, he found that in every case in which the pylorus was allowed to remain open the bullet almost invariably passed through the pylorus and not through the artificial opening.

Of the twenty-two cases on which I have operated in the last five years, three have died in the hospital, and I have been able to follow the other nineteen more or less accurately. They might be classified as follows:

Ulcer of the stomach or duodenum, 13.

Carcinoma of the pylorus, 3.

Dilatation of the stomach, not due to stenosis of the pylorus, 3.

Stenosis of the pylorus, benign in character (by which I mean a stenosis due to a healed ulcer or tumor closing the outlet of the pylorus), 3.

Two deaths occurring in the hospital were cases of ulcer of the stomach, one dying from secondary hemorrhage from the ulcer in 48 hours after the operation. An autopsy revealed that the site of the anastomosis was clean, and there had been no hemorrhage from that source. The second patient died at the end of three weeks from exhaustion. A most unfortunate class of cases for operation.

Right here is a point which I would like to bring out, and that is the lack of co-operation between the physician and the surgeon. I believe that in both of these cases, if they could have been reached earlier, before they had become so debilitated from their pain and exhaustion, they might have recovered. However, the physician is too prone to treat his cases medically and allow them to progress too far before consulting the surgeon. On the other hand, the surgeon sometimes, possibly, is prone to operate too early. But surely, when medical means have been given a fair trial and have failed, surgery should have a chance, and not be adopted as a last resort.

Of the 11 remaining cases of ulcer all have recovered with no unfavorable results, leaving the hospital from three to four weeks after the operation. Six of them have been permanently benefitted, the benefit now extending from one to three years. Three had little benefit and two subsequently died. Unfortunately, upon the two that died no autopsies were held and so exact cause of death could not be determined. But in one case, from the history of the symptoms, I have reason to believe that carcinoma subsequently developed and the patient would not allow any further operative interference.

The second case apparently died from a tubercular peritonitis, and of the three cases that derived but little benefit, two have dropped out of my sight; and the other was one in which, when I operated, I found a large number of adhesions about the pyloric end of the stomach, at the site of a chronic ulcer. The patient did well for three or four months, when he returned to the hospital complaining of pain, not in the site of the old trouble but more in the median line, where the anastomosis had been performed. I did a second operation and found the adhesions had extended about the site of the anastomosis. These were broken up and the parts replaced in as normal position as possible. The patient again did well for three or four months, when the symptoms returned the same as before. This patient certainly was benefitted by the operation, and it would undoubtedly have been a success had it been possible to prevent the formation of adhesions, a factor which we have not yet been able to thoroughly eliminate.

The operation in the cases of carcinoma were merely paliative in character. All recovered from the immediate effects of the surgical procedure and were free from distress for the remainder of their lives, as well as being a comfort to their families, one living six months, the other two twelve and eighteen months, respectively.

This brings up the point of an early exploratory incision in cases of suspected malignancy of the stomach. An exploratory incision in itself is so simple in character, and the results sometimes so far reaching, that it should be done in all suspected cases.

Of course, the ideal operation in carcinoma of the stomach is a resection of the parts involved, provided the disease has not progressed beyond the walls of the organs. But if the lymphatic glands of these parts have already become infiltrated little benefit can be gained. And here is where the conservative operation of gastro-enterostomy is of most service.

What a relief to the patient to be eased of all his symptoms (the nausea, the pain, etc.) for at least a few months, even though the disease is progressing; for by allowing food to pass through the new opening, and not over the carcinomatous mass, thus irritating it, the progress of the disease seems to be retarded very materially.

Of the cases of simple dilatation, one died in the hospital ten days after the operation, having insufficient vitality to overcome the shock. Of the other two, both seemed to be benefitted for a while, but then developed conditions almost similar to those prior to the operation. In these two cases, I believe the untoward results were due, possibly, to a defect in my technique, the anastomosis having been made at the seemingly lowest point of the stomach, but apparently the site being at the lowest point did not allow for the complete drainage as was anticipated.

In the three cases of stenosis of the pylorus, non-malignant in character, most excellent results were obtained, each making a good recovery, remaining well since. And I might be pardoned for quoting the histories of two of these cases.

The first was that of a man aged 64, who up to three years previous enjoyed the best of health. He was a veteran of the Civil War, and had always indulged in the good things of life. Three years before he noticed that immediately following the ingestion of food he had distress, with a fullness in the region of the stomach. Occasionally he would vomit, the vomitous containing the meal which he had just eaten and a portion of the previous one. These conditions gradually grew worse, until for two years all he had been able to live upon was milk and eggs. This diet eventually failed him and he was rapidly emaciating, dropping from 140 pounds to 90 pounds.

Upon physical examination no growth could be palpated in the epigastrium, but there was a marked thickening at the pylorus.

Taking into consideration the age of the man and the history of the case, though it had extended over quite a period, a diagnosis of carcinoma of the pyloric end of the stomach was made, and a gastro-enterostomy, merely as a palliative measure, was advised.

At the operation the condition was found to be a stenosis of the pylorus, due to a chronic ulcer which almost closed the calibre of the outlet. A posterior gastro-enterostomy was performed in the usual manner, and the patient has never vomited since the operation.

He left the hospital at the end of four weeks, and six weeks after the operation he partook of a Thanksgiving dinner of ten courses, to some of which he was helped twice; and not being satisfied with that, went home and had a night-cap of beer and cheese, without the least discomfort. He has regained his normal weight, can eat anything he wishes, without the least return of the stomach conditions, and has remained well for over 18 months.

The second of these cases, a young man of 25, had been treated for two years for a chronic ulcer, and had gradually grown weaker. In his case a partial stenosis of the pylorus was found. The usual posterior gastro-enterostomy was performed. He made an excellent recovery and within three months gained 30 pounds in weight, weighing more now than ever before.

The history of the third case is much the same, except that the patient had not gained quite so much in weight, but still has no discomfort.

In this class of cases I think the benefits of gastro-enterostomy are most emphatically shown, and that it has a permanent place in surgery.

In reviewing the histories of the cases, I believe we get the best results in these cases of stenoses of the pylorus non-malignant in character. In them we are almost sure to obtain relief. In cases of carcinoma we do not perform the operation with the hope of permanent results, but it gives the patients a deal of relief.

When we come to the cases of ulcer of the pyloric end of the stomach, or of the duodenum, the percentages of return of symptoms after the operation are fairly numerous; so that I believe before the operation is advised the case should be carefully studied and all medical means exhausted before we undertake surgical intervention, provided we feel sure there is no malignancy present.

The etiology and pathology of ulcer of the stomach or of the duodenum are not as yet thoroughly worked out; and here is the opportunity for the internist and the surgeon to combine and help each other. As a matter of fact, I believe most surgeons are prone to operate upon all cases of ulcer, when in a number of them medical treatment not only is of more benefit but will actually cure, since very frequently the cases operated upon have a return of the symptoms within three or four months' time.

In cases of simple dilatation where the operation is performed for drainage, it seems to be the least beneficial, because the natural outlet for the food is through the pylorus, and nature will have her way in spite of all we can do. Here, therefore, I believe that gastro-enterostomy should have most careful thought. In cases of stenosis of the pylorus, the operation of gastro-enterostomy is surely indicated.

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## A NEW PLASTIC OPERATION FOR THE RELIEF OF CICATRICIAL PALATO-PHARYNGEAL CONTRACTURES AND ADHESIONS.*

By JOHN O. ROE, M.D.

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THE unsatisfactory results commonly obtained in the treatment of cicatricial contractures and adhesions in and about the fauces, and particularly in cases of adhesions of the soft palate to the pharynx, doubtless accounts for the meager references to this condition in treatises and text books on diseases of the nose and throat.

In considering briefly the etiology of this condition, it may be divided into three main classes: the heredity, the acquired, and the traumatic.

In the hereditary cases the condition is due to defective or distorted development, the predisposing causes of which being largely conjectural. The acquired form is the result of destructive ulceration followed by extensive scars when healing has taken place. This ulceration may be due to a variety of causes; it may be tubercular, as in the case of limited local manifestation of tuberculous disease or of lupus; it may result from small-pox, from diphtheria, from the ulceration that sometimes accompany the exanthemata, or it may be, as is most frequently the case, luetic. Among the trau-

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matic causes are gun-shot wounds, or substances accidently driven in through the mouth, or laceration of the fauces in surgical operations.

An interesting case of the latter came under my observation last summer, in which the fauces were so extensively lacerated during an attempt to excise the tonsils, about four months before, that when healing had taken place there was a complete synechia or adhesion between the soft palate and the pharynx. The operation was done under ether, which the patient took very badly. There was also much bleeding, which so obscured the field of operation that the posterior pillars of the fauces, the uvula and much of the lower border of the soft palate were cut away. At the time I saw the patient, a young woman twenty-four years of age, there was complete occlusion of the posterior nates, excepting a very small opening through which an ordinary small silver probe could be passed.

In the treatment of these conditions, it has been my custom to introduce a large silver wire loose suture through the adhesion on each side at the extreme lateral portion where it is desired to separate the adhesion. This silver wire is allowed to remain in situ until the tissues have healed around it. The same method as that adopted in the case of webbed fingers in order to have a point of healed tissue at the junction before the adhesion is cut through, thereby preventing the gradual growing together again of the separated parts, which will always occur when this precaution is not taken.

In the case of adhesion of the soft palate, this method has usually been successful, but in this particular case the adhesion was so thick and the tissues so infiltrated with inflammatory deposits, the result of the extensive inflammation that followed the operation, that the obtaining of a healed opening at each side through this thickened tissue proved to be practically out of the question. At the time I decided to liberate the adhesion, I thought I had succeeded in obtaining a healed opening all the way through, but it turned out that the healing had extended through the mucous membrane only and, therefore, the operation was certain to prove a failure if some other expedient was not resorted to, and to attempt to prevent re-union of the parts by plates held in situ would be equally futile. My extensive experience in plastic work, however, came to my rescue by suggesting the covering of this raw surface with mucous membrane, which I at once proceeded to put into execution and which, in the language of common parlance, "did the trick." As it was necessary to cover but one surface of this opening, the upper or palatal side was most available. In order to secure the mucous membrane for this purpose quite a broad flap was taken from the inside of the cheek near the lower jaw, including sufficient sub-mucous connective tissue to assure the vitality of the flap. This was then brought down and the end turned backward and upward around the lower border of the soft palate, which had been sufficiently denuded of its mucous membrane around its lower border to secure union. This flap was then stitched at the sides and also through and through along the upper border of the end of the flap that had been turned up behind the palate.

Complete union of this flap took place, and on healing there was no undue contraction at the site of these flaps, nor was there the slightest inclination for a re-adherence of the soft palate to the pharynx at any point, all of which was very gratifying. I did not attempt to cover the center of the soft palate with mucous membrane, as the soft palate hung so free from the pharynx that adhesion of the two surfaces could not take place. I should also mention that the surfaces from which the flaps had been taken were speedily covered with mucous membrane and soon all traces of it disappeared.

The central portion of the palate was quite thickened and this thickened tissue was utilized by cutting and stitching it into shape so as to form a very desirable uvula. And as the levator palati muscles had not been sufficiently injured to destroy their function, by the construction of this new uvula the function of the soft palate in closing the posterior nares during deglutition and phonation was almost completely restored.

At the time the patient came under my observation, the voice necessarily was completely nasal, and the patient, from the effects of mouth breathing had been gradually losing flesh and strength and had become exceedingly nervous, but after the liberation of the palate and the restoration of complete nasal respiration she gained rapidly in flesh and strength, and at the end of three months had completely regained the thirty pounds she had lost during the period above described.

This method of dealing with faucial and palatal adhesions is, I believe, entirely new, since I have found no record of its having been done before. It is also a method that cannot fail to be successful in these cases if the operation is carefully and properly done. It also cannot fail to be successful in syphilitic cases if the surfaces are freshened sufficiently to secure union of the flaps. While the silver suture method was quite satisfactory in many cases, still it was slow, tedious and caused the patient much discomfort. It was also lacking in the immediate result, so desirable in all operative procedures, which this operation gives. This operation also does away with the annoyance attending the wearing of plates and the discomfort that accompanies the necessarily frequent attempts to prevent the re-union of the parts by breaking up the adhesions with sounds or probes.

# THE PROBLEM OF EFFICIENT NURSING FOR PERSONS OF MODERATE MEANS.*

By WILLIAM O. STILLMAN, M.D.

ALBANY, N. Y.

WHILE poverty is not a crime some of its punishments are more severe than those frequently meted out to criminals. One of the greatest misfortunes which falls to the lot of persons of small or limited means is the entirely inadequate provisions which are usually within their reach in order to secure scientific or even intelligent nursing care in case of sickness.

Among the propositions advanced for relieving this condition have been: *First,* an attempt to increase the general knowledge of physiology and hygiene by having it more thoroughly taught in the public schools. This certainly does not meet the essential needs of the case which are largely special and technical. A *second* proposition is that there shall be increased hospital facilities and community hospitals established for rural districts. This proposition seems also wholly to fail to meet the requirements of the great masses of people of small income both in the city and country for home care. A *third* proposition, which has been advanced, is that the visiting nurse should solve the problem. While the visiting nurse is a most excellent idea, in cases of severe sickness close and constant skilled attention is imperatively needed. A *fourth* plan is that an endowment should be created to assist patients in paying for a trained nurse. This method has had some respectable sponsors. Aside from the fact that this plan is financially unattainable other great difficulties are that the majority of people of small means do not care to be pauperized by any such method, and, furthermore, that the supply of hospital trained nurses is entirely inadequate to meet the necessities of the case for our vast population, and is likely to remain so. The *fifth* plan is that of the less highly trained, low priced nurses and attendants. My own experience is along the line of this proposition. Dr. James Tyson, of Philadelphia is quoted as saying in regard to poor patients: "Either the trained nurse must be willing, as physicians are, to take such cases at less than their usual fee, or they must consent that there shall be a class of nurses not so well trained as their more favored sisters, who are willing for this reason to work for smaller compensation." As we all know the resource in case of sickness for most families of small income has been to employ what is commonly known as "the domestic nurse." She has usually been merely a volunteer, oftentimes in the past superannuated or physically partially incapacitated, and unable to earn her living in any other way. In all probability the great mass of the people will continue to employ domestic nurses and it seems to me that the most reasonable plan which presents itself is to give these domestic nurses a moderate amount of scientific and technical training so as to fit them for more intelligent and efficient service, gradually in the course of time, increasing the standard of efficiency. The effect of any systematic attempt to give such an education at a reasonable price, is to attract to this service young and capable women who will rapidly displace the incompetent persons who have so largely monopolized domestic nursing.

Nearly four years ago, I undertook, in connection with some eighteen or more other physicians, aided by the skilled assistance of a registered nurse and other trained help, to solve this problem of efficient nursing for people of moderate means, by establishing a regular school for didactic and practical instruction for domestic nurses. This work was located in the city of Albany. It is unnecessary to go through the details of the development of the idea. I think that it will be sufficient to give the results as they now stand.

We have undertaken to fit women, over twenty-one years of age, who can come up to the not very exacting educational and physical standard for admission to our school, for intelligent domestic service by a six months course of instruction. I will say right here that it requires a good student to acquire the lessons taught and to master the course of instruction given. Those persons who are long since past the age when school lessons can be easily acquired, find it very difficult to take the course and are discouraged by us from beginning it.

The text books employed are those usually adopted in training schools for nurses. The course of lectures continues for four or five days each week for sixteen weeks, or practically four months, and includes instruction in the elements of nursing by the head nurses.

This comprises taking temperature, pulse and respiration; the keeping of charts and records, the giving of technical lessons in spongeing and baths of all kinds, in bed making, and in giving packs and enemata; the care of instruments and materials, the preparation of dressings and the patient for minor home surgery; the use of the syringe and the catheter, the preparation of antiseptics and also of nutrient enemata. Our registered nurse was given a course of instruction in dietetics in the school for domestic science at Columbia University, and we have a diet kitchen, with a number of tables and gas stoves so that a considerable class can be trained at one time to prepare food for the sick according to the latest scientific rules.

The physicians undertake to give instruction in anatomy by lectures and demonstrations on the skeleton and manikin. They also teach the elementary principles of physiology and bacteriology, and demonstrate the sub-

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jects by means of charts and the microscope. Materia medica is taught and the pupils are required to learn the dosage and administration of drugs, together with the weighing and measuring of the same, and the physical properties of the more important medicines. Attention is given to poisons and their antidotes. Special emphasis is laid on the study of hygiene and sanitation, including the usual problems relating to air and water, the disposal of waste, disinfection, ventilation, personal hygiene, etc. Lectures are also given by physicians on accidents and emergencies, including instruction as to what the nurse may do before the physician arrives in cases of hemorrhage, fracture, drowning, poisoning, etc. Lectures are given on obstetrics and gynecology, the proper care of the child and the mother, and on the indications for the surgical relief of female complaints. Diseases of children and the care of infants receives special attention, and contagious and infectious diseases are handled from the standpoint of public protection, as well as the protection of the nurse herself. Special attention is given to tuberculosis; also to venereal diseases, typhoid and other fevers, small-pox, etc. Lectures are given on general nursing in medical cases, and on the relation of the nurse toward the patient and physician. The pupils are also taught to have an intelligent idea of the interpretation of symptoms, and what they may mean. For instance, they are taught concerning sputum and its preservation for examination, the significance of excessive perspiration, chills and their immediate treatment, the urine and the interpretation of its ordinary clinical appearances. They are taught concerning the significance of severe pain, disturbances of nutrition, also of the excretions and digestive apparatus. Finally a very moderate knowledge of the principles involved in surgical nursing is given, lest a nurse be called upon to assist in emergencies in the country or when hospital trained nurses are not within reach in the home. This instruction includes the knowledge of sterilization and disinfection, the care of instruments and surgical supplies, the preparation of bandages, ligatures and gauze, rubber gloves, as well as what to do in the case of wounds, fractures and the care of the patient before and after operations. The methods of using anesthetics are also explained. Specialists give instruction concerning the rudimentary principles of treating diseases of the eye, especially ophthalmia, and the knowledge that every nurse ought to have concerning skin diseases and maladies of the ear, nose and throat. Electricity and electro-therapy are also briefly touched upon. After four months of oral instruction and class work, in which the head nurses give as many lectures as do the physicians (one hundred and twenty-eight in all) and conduct quizzes on all lectures given, the pupils are required to perform two months of actual bedside work on cases to which they have been assigned, subject to supervision by the head nurses. They are carefully instructed in regard to keeping records and temperature charts, and are also expected to wear a nurse's cap and distinctive nurse's dress. Everything is done to encourage *esprit du corps* and respect for their calling, and they are encouraged to take magazines especially published for nurses and to continue their studies after graduation. A few ultimately become registered nurses. A few drop out. Many remain nurses. The fee for this course of instruction is the nominal one of twenty-five dollars in full.

Now as regards the results obtained I believe them to be very much what they are in any school. Some of the pupils are proficient and very satisfactory, and some are backward. At the close of the lecture course written examinations are very carefully conducted, and I am sure that an inspection of the examination papers would surprise physicians generally because of the indications that a really large amount of detailed and technical knowledge has been absorbed. Answers to questions are marked on a percentage basis. Previous class standing is considered. Nurses who cannot come up to the required standard of marks are refused graduation. Seven classes, the last containing thirty pupils, have been graduated by the school and the experiment has proved on the whole a very satisfactory one to those conducting it. The weak point is the short practical training. It will undoubtedly in time be extended, and probably, even now, is proportionately as long as that received by the average medical student before graduation.

Our nurses usually readily find employment and the demand, as a rule, is in excess of the supply. Many excellent nurses are produced. I commend this experiment to the careful consideration of the profession at large as a practical attempt to solve the problem of efficient nursing for persons of moderate means. It is not felt that these nurses infringe on the legitimate field of work of the registered nurse. We endeavor to have the prices charged vary from eight and ten dollars a week for undergraduates, to not more than twelve to fifteen dollars a week for graduates. Occasionally our plans in this respect are spoiled by persons offering eighteen dollars a week in order to secure the services of some favorite nurse. After all, the great law of supply and demand must be the final arbiter in this question of nurses for people of moderate means and in determining what compensation shall be paid. In most families the question is now between a moderate priced nurse or none at all.

# THE EXERCISE OF DESCENDING IN THE TREATMENT OF DISEASE.*

By HEINRICH STERN, M.D.

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DESCENDING hills or stairways, in contradistinction to climbing the same, was recommended by me as a valuable therapeutic adjuvant in a lengthy discourse on "the treatment of obesity," delivered in part at the St. Paul meeting of the American Medical Association in 1901, and published in full in the Journal of the American Medical Association on February 15, 1902. The new therapeutic exercise was soon employed to some extent by a number of progressive practitioners, and I was, at that time, the recipient of sundry inquiries and suggestions concerning it. In a brief communication to the *Zeitschrift für physikalische und diätetische Therapie* of November, 1907, Benderski practically claims to be the originator of the descending exercise, and, of course, fails to refer to my work published nearly six years before his, and which, to all appearances, he has seen in translation or abstract, if not in the original.

I designate as "descension therapy" an auxiliary remedial measure consisting in the application of definite and graded exercise of descending hills or stairways. The therapeutic descension exercises are primarily devised for the treatment of non-inflammatory abdominal disturbances and metabolic disorders, but also for certain forms of cardiac disease.

*The Physiological Action of Descending Exercise*—Moderate descending exercise does not call forth a noticeable increase of urea in the healthy individual accustomed to temperate exertion by walking or work. On the other hand, in a patient whose condition did not warrant active exercise for any length of time, descending movements, even if but slightly indulged in, cause a more pronounced absolute augmentation of urea than does three or four times the amount of ordinary walking on level ground. From these observations it may be inferred that oxidation is not enhanced in the healthy individual on performing moderate descending movements, but that the latter causes a striking intensification of the oxidation processes in invalids not habitated to physical exertion.

Descending exercise stimulates diuresis more or less; this is usually the case in the healthy as well as the diseased. The greater part of the diuretic increase is presumably due to the physical action of the descending movement. While the act of ascending primarily incites the activity of the muscles of respiration, the principal effect of the act of descending consists in the impelling of the abdominal muscles and viscera to renewed energy. The respiratory muscles and respiratory activity in general, however, become also animated by descension exercise, but in a milder manner and through the medium of increased diaphragmatic function. At all events, the act of descending does not impede respiratory movements, but facilities thoracic activity in almost every instance.

In ascending, the abdomen is at comparative rest. Gastric rotation and intestinal peristalsis are hardly ever stimulated by climbing hills or stairways, but, on the contrary, they are often retarded by it or even temporarily checked. The diaphoresis, which always ensues in the healthy on taking a certain amount of climbing exercise, is in itself a natural, even if but a compensatory phenomenon for the time being; however, it concurs with diminished urinary secretion (the reverse which takes place when descending exercise is taken), which shows that the abdominal organs are not mechanically influenced by ascension.

When descending in an unconstrained manner, the abdominal walls become always somewhat relaxed, a factor facilitating the jolting of the viscera. The degree of jolting and subsequent increased activity of the abdominal organs, depends, of course, upon the velocity and intensity of the descending movements. The effect exerted by the descending movements upon the viscera is in a certain degree comparable to that of riding on horseback, differing, however, in these main points, that the former have a much wider range of therapeutic application, that they may be employed in many invalids who cannot even walk well on level ground, that they stimulate many more organs to renewed energy, and that they are not followed by untoward results, as the sitting posture together with violent jolting is only too apt to call forth in plethoric individuals.

*Indications for the Employment of Descension Therapy*—Specified and graded descending exercise is preeminently indicated in all functional and some organic diseases of the alimentary tract, and all the metabolic perturbation, especially if there is a concurring affection of the heart or lungs; it is also a valuable adjuvant in the treatment of all stages, but the last, of arterial degeneration, of the sclerotic metamorphosis of most abdominal organs, of some functional and organic cardiac affections, and of a variety of other functional and structural derangements.

Among the functional disorders of the alimentary tract those designated as atonic in character are by far the most numerous. The patients thus affected frequently lead a sedentary life, exhibit little vigor and resistance, and readily become fatigued. Descension therapy, as an auxiliary measure, will accomplish much more for this class of patients than will climbing exercise or ordinary walking. Gastric and intestinal motor insufficiency, and the flaccidity of the alimentary organs can only be relieved by the

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continuous stimulation of a vigorous nervous system. But how can the nervous system be vigorous when a patient of this class spends all his nerve energy in forced walks and strenuous ascensions? In other functional affections of the alimentary canal the employment of descension therapy is equally rational, and even in those conditions which I have characterized as compensatory diarrheas* there is nothing that will interdict its pursuit in the great majority of instances.

In patients with disturbances of the metabolic equilibrium, especially in advanced obesity and diabetes with cardiac implications, descending movements are a rational mode of exercise. In gouty affections, particularly when the condition of the legs and feet will not permit climbing, or for that matter, much walking on the level ground, descending movements, it will be found, are often the only form of exercise which can be taken without causing exacerbations of pain, and from which noticeable benefits will accrue for the entire system. Of course, proper gymnastic exercise has to be selected for each individual case of obesity or diabetes complicated with cardiac disease, and descension therapy is by no means the only agent affording the necessary exercise, but it is by far the most effective, and again, it is frequently the only permissible form of locomotion. Descending therapy will not overtax the patient's heart, nor his general bodily endurance, and by increasing the oxidation processes, enhancing respiratory movements and exerting decided stimulating influence upon the intra-abdominal lethargy, it successfully copes with many cases which are usually deemed beyond the reach of treatment. In ptotic conditions of one or the other abdominal organ and in general splanchnoptosis, excepting in the instances concurring with acute or chronic inflammatory conditions, therapeutic descending exercise may be executed, provided the patient wears a well-fitting supporter that really supports the abdomen, and which permits the utmost freedom of the respiratory movements.

Descension therapy yields probably better results in patients affected with arterial degeneration, whether this be of sclerotic or atheromatous nature, than any other single auxiliary method of treatment, excepting the high-frequency currents. In the management of arterial degeneration descending exercise may be applied for protracted periods, and in fact, until the degenerative process has very far advanced. It effectually lowers the blood pressure in some instances of arteriosclerosis, while it frequently elevates it for some time in cases of atheromatosis.

Descension exercise is the proper form of locomotion in gallstone disease. Together with the proper medication it has brought to daylight many a gallstone, and when continued for some time has averted new paroxysms and probably also the formation of new calculi. In cirrhosis of the liver and sclerotic kidney descension therapy is very well borne as far as the local conditions are concerned, and is often followed by distinct systemic improvement. Descension exercise has rendered good service in functional disorders of the heart, as palpitation, arrhythmia, tachycardia and bradycardia. The exercise should not be taken during a paroxysm, because then rest in the recumbent position is nearly always the best expedient. But when a person is subject to attacks of functional cardiac disturbance, prophylactic descending movements are apt to avert a paroxysm or, at least, diminish the frequency and the severity of the attacks. In most cases of this category a moderate amount of exercise should be performed every day in the year, and the most efficient manner to accomplish this is by descending therapy.

In the treatment of chronic valvular disease descension exercise may be employed to advantage as an accessory remedial measure in many instances. Time and rest are essentials in establishing compensation. As soon, however, as exercise can be taken, and this may be after a period of many months, ordinary walking together with descension may be undertaken in moderate and gradually, in increasing amounts. It will be found that the limit of the patient's capacity for exercise, evincing itself by shortness of breath, palpitation, exhaustion or faintness, will ensue much earlier if walking on level ground alone is done, than when it is interspersed with descension movements. When compensation is restored rest is imperative, and exercises should be resumed with the greatest caution only. Instead of commencing with ordinary walking unduly taxing the patient after a few hundred steps, descending movements, which place little or no strain on the heart, should form not only the initial, but the principal mode of exercise later on.

*Contraindications for the Employment of Descension Therapy* — Descending exercises are, of course, contraindicated in acute diseases, especially in those of any of the abdominal organs; they are also inadmissible soon after acute inflammations of these organs and after laparotomies. In chronic inflammatory states of any of the viscera contained in the anterior portion of the abdomen, treatment by descending movements is likewise inappropriate. Where there is a marked tendency to recrudescence or recurrence of an inflammatory process in any of the abdominal viscera as, entero-colitis, appendicitis, sigmoiditis, oophoritis, salpingitis, endometritis, etc., descending therapy, if at all, should be undertaken tentatively, and should never form the principal mode of therapeutic locomotion. In the presence of extensive peritoneal adhesions descending movement is mostly contraindicated; in some instances, however, it may serve as an expedi-

* Heinrich Stern.—A Consideration of the Compensatory Diarrheas, *Jour. Am. Med. Ass.*, August 8, 1908.

ent in ameliorating the effects brought about by such adhesions. While descension therapy is not contraindicated where there is a large pendulous abdomen, general splanchnoptosis or a ptotic condition of one or the other abdominal organ, it should not be prescribed until proper support have been secured. Again, uterine prolapse, hernia, and enlarged scrotum due to any cause, should be corrected by rational appliances before descension therapy is instituted. When there exists an adherent pericardium descension exercise should not be taken. Likewise, it should not be recommended in pronounced varicosis or in edema of the lower extremities. Individuals subject to attacks of vertigo should never attempt descending exercise when unaccompanied, and epileptics, whose physical condition prompts the institution of descension therapy, should never be permitted to indulge in it without a watchful attendant.

*Technic and Methods of Descending Exercise*—It goes without saying that descending a hill is the best descending exercise which one possibly could devise. It is not alone performed in the open air, which is so essential in the treatment of almost all chronic affections, but it brings into play the entire musculature of abdomen, back and lower extremities. However, descending hills as a therapeutic measure will always remain an expedient of a privileged few. In the first instance not every one has a hill in his back yard, secondly but few can take a perpetual vacation and move from hillside to hillside in accordance with the season, and thirdly, not every body can afford a vehicle, which brings him to the top of the hill, and an attendant, who accompanies him down into the valley. For these reasons, we cannot expect that the average patient will practice hill descension for any protracted periods. As a substitute for the same, I have, therefore, proposed the descension of stairways, an exercise almost analogous to hill descension, in which, however, not all the muscle groups of the lower extremities participate as uniformly as in hill descension, and which, although it may be executed in well ventilated staircases, cannot be taken in the open air.

An elevator to carry up the patient is the only necessary implement. There is to-day hardly a hotel, sanitarium, hospital, etc., in which an elevator is not installed. The rectangular stairway with its numerous landings is very well adapted for the exercise. Of course, flights of steps, especially constructed for graded descension therapy, exposed to the air on at least three sides and situated near an elevator, would answer the purpose still better. Such therapeutic stairways which, I trust, will soon be found in many sanitariums and institutes for reconvalescents, need not exceed two or three stories in height, 36 feet in width and about 60 feet in depth. A therapeutic stairway 36 feet in width should be divided into six sections, each six feet wide and extending from the uppermost landing to the bottom. The first section should contain an incline and no steps at all. The grade of the incline should be changeable, so that the inclined surface may represent either a steep or sloping hill. The second section should consist of a stairway in which the riser of each step is about 2 1-2 or 3 inches high, while the tread is 18 inches deep. The third section may contain an ordinary stairway with the usual 6 inch risers for each step. The fourth section should consist of a stairway with 8 inch risers and 20 inch tread; the fifth section, of a stairway with 10 inch risers and 18 inch tread, and the sixth section, of a stairway with steps irregular in height and depth.

The technic of descending exercise, which I pursue without the assistance of a therapeutic stairway, is very simple. The patient is carried by the elevator to an upper story of a high building.* For the first week he is ordered to slowly descend the stairs with relaxed abdomen, two or three flights at the start if the case be one of great exhaustion, or five to ten stories if the case be one of uncomplicated obesity, or functional abdominal disturbance. The exercise is performed from one to four times daily as the case may be. From week to week the exercise is extended. The amount of descending which certain obese patients may perform is practically unlimited. Repeatedly ascending by means of the elevator, they may descend forty, fifty and more stories on a single occasion. If the patient's general state of health permits, and in many instances of abdominal lethargy it is essential, and very well borne, the exercise is modified during the subsequent weeks in that the patient descends from step to step in a jumping manner, which enhances the jolting of the abdominal muscles and viscera. Another mode of increasing the efficiency of descension treatment, is to step on the heel and to bend the knees when descending. The speed of the descending movements may be increased in the ratio in which the patient gains strength, steadiness and endurance. Descension should always be performed with relaxed abdominal muscles and unconstraint of the entire musculature, with the exception, of course, of those muscles which are engaged in knee bending, heel walking, and other complicating exercises. Descension should always be practiced for protracted periods. Naturally, numerous modifications of and additions to these simple exercises will be devised in course of time, especially if the therapeutic stairway should become a sanitarium feature.

It must never be forgotten that the amount of descension exercise for an individual in a precarious state of health is to be determined and graded by the physician in conformity with

* A number of patients, in order to be able to execute the descending exercise without interruption and inconvenience, have moved to high apartment houses or hotels.

the physical findings, and that it is neither safe for an invalid to undertake descension therapy on his own account, nor for the physician to prescribe it promiscuously in any amount to every patient.

To resume briefly:

1. Descension therapy is an auxiliary remedial measure consisting in the application and graded exercise of descending hills and stairways.

2. Descension therapy exerts a beneficial influence upon all the functional and some organic diseases of the alimentary tract, and all the metabolic perturbations, especially if there be an accompanying affection of the heart or lungs, and a variety of other derangements.

3. By employing the stairways of elevator buildings, descension therapy is easy of execution.

4. It is neither safe for an individual to undertake descension therapy on his own account, nor for the physician to prescribe it promiscuously in any amount to every patient.

5. Descension exercise may, of course, be applied together with other forms of locomotion, if the case warrants it; its administration is not meant to replace any particular mode of treatment, but to act as an auxiliary expedient in the amelioration of manifold derangements.

## THE NATURE OF FOOT AND MOUTH DISEASE.*

By VERANUS A. MOORE, M.D.

ITHACA, N. Y.

FOOT and mouth disease first came to the United States through a shipment of cattle from England to Montreal in 1870. From there it found its way into Northern New York and Western New England. Owing to the almost complete absence of cattle traffic, the long northern winter, and a more or less effective quarantine, it became extinct during the year. In the fall of 1902 it again came to our shores at Boston, Mass., extending into four states, involving 244 herds and causing the destruction of 4,712 animals. It was eliminated after some months through the radical measures adopted by the Bureau of Animal Industry and the authorities of the states involved. In October, 1908, it again appeared in New York and Pennsylvania and since that time it has been found in Michigan and Maryland. It is believed that it appeared first in Michigan. It is too early to record the extent of the present outbreak, the loss it has occasioned or the channel through which it gained entrance. We are indebted to the efficient work of our Commissioner of Agriculture, the Bureau of Animal Industry and the officials of the other infected states for the promptness with which its ravages were checked.

* Read before the Medical Society of the State of New York at Albany, N. Y., January 26, 1909.

Foot and mouth disease seems to have been first observed in Asia, where it has been known for a very long time. Its most destructive outbreaks have been during the last two centuries. The significance of the disease can be appreciated from the more accurate statistics of recent outbreaks in Europe. It was estimated by Fleming that the losses to the farmers of England from foot and mouth disease were 13,000,000 pounds or $65,000,000. The loss for each herd attacked was from 20 to 50 per cent. of its value. In Germany it is said to have attacked, from 1888 to 1892, 1,504,000 cattle, 2,193,000 sheep, 17,782 goats and 438,000 swine. The heavy losses sustained are due largely to the reduction in flesh and the unthrifty, debilitated condition in which it leaves the animals, and from which it often requires several months for complete restoration. The sequelæ are in many cases serious, as for example the formation of abscesses in the udders, sloughing of the hoofs and septicemia. The vesicles and erosions of the feet are especially liable to secondary infection, which may lead to severe inflammation of the matrix and separation of the hoof, arthritis, bone necrosis and general pyæmia. The mortality is not generally high, varying from 2 to 5 per cent. Some outbreaks are very mild and others quite severe.

Foot and mouth disease affects cattle, sheep, goats and swine. Other animals are said to occasionally become infected. Man is susceptible. It is characterized in cattle by a rise of temperature, and the eruption of vesicles on the mucosæ of the mouth, on the feet, especially between the claws, and upon the udder and teats. It has a period of incubation, that is, the time between exposure and the appearance of the first symptoms, varying from 36 hours to 5 days. There are cases reported where symptoms appeared earlier and also after a much longer time. The duration of the morbid changes is from 10 to 15 days. The first symptom of the disease is a rise of temperature. The mucous membrane of the mouth and the muzzle becomes dry, the appetite is diminished and rumination ceases. The discomfort that comes from this condition in the mouth causes the animals to chew their food very carefully. There is considerable accumulation of saliva in the mouth with some collection of froth about the lips, and strings of rather viscid saliva may hang from the mouth. This condition becomes accentuated as the disease advances. There soon appears evidence of pain, and the animal may refuse food altogether. Soon after these symptoms appear in the mouth, there is evidence of soreness of the feet as shown by the tendency to shift the weight from one foot to another. This stage is followed by the appearance of vesicles, or water blisters, in and about the mouth. This eruption usually appears at the ends or margin of the pad, the tip, border and top of the tongue, the inside of the upper and lower lips, and sometimes on the muzzle and about the nostrils. These vesicles appear

later on the udder and in the region of the feet, especially between the claws. It is reported that in cattle the changes are more common and conspicuous in the mouth, while among sheep and hogs they appear more frequently in the region of the feet. The vesicles may be few and small, or they may be large and coalesce. After the vesicles are well formed, the temperature of the animal tends to diminish. In milch cows the flow of milk is checked. Following the vesicles, there are erosions which give rise to raw denuded surfaces from the sloughing of the outer layers of the mucous membrane or of the skin that covered the vesicles. The soreness of the mouth in some cases is very pronounced. The period of sloughing and healing requires from 5 to 10 days. Cattle affected with this disease make, after the increase of the secretion begins, a peculiar sucking, clinking and smacking sound that becomes quite prominent as the disease advances.

The symptoms and lesions appear with such regularity that four stages have been defined: the first that of dullness and rise of temperature, the second that of eruption of the vesicles, the third that of erosion and the fourth as the period of healing.

"The virus of foot and mouth disease is taken up by exposed animals through the digestive or respiratory tract. The exact portals of entry are not known. It has been stated that it could not pass through a sound membrane. Infection follows the direct inoculation of the fresh lymph under the skin or directly into the circulation. The virus of this disease spreads more easily than that of any other disease of cattle. It is carried most readily and most surely by affected animals, or by animals that have come from infected herds or premises. It may also be carried, and in numerous authenticated instances has been shown to have been carried in hay, straw, grain, manure, stable utensils, blankets, bags, etc., from premises where diseased animals have been. It is also carried upon the hands, boots or clothing of persons who have been on infected premises. Small animals may transport the contagion in the way it is carried by inanimate objects, and so it is necessary to guard against the spread of infection by dogs, cats, poultry and pigeons. There are numerous examples of the carriage of infection long distances wherein all means of communication excepting by birds have been excluded. Bolz reported in 1904 a case wherein the virus persisted in a manure pile for six months and caused a new outbreak when cows came in contact with the scattered manure. In the present outbreak in Pennsylvania some cows became infected while walking across a railroad unloading platform over which some exposed cattle, that later developed foot and mouth disease, passed some hours before; these cows were later placed among other cattle and have infected herds."

Calf buyers and cattle dealers who go from farm to farm and from herd to herd, have often carried infection, presumably upon their boots or clothing. Such persons may unknowingly come in contact with the disease in its earlier stages and failing to recognize it they may carry the virus to other premises. During outbreaks of foot and mouth disease, visits of perambulating cattle dealers, of castrators, and of careless cow doctors are especially dangerous. There is, however, no danger from visits of veterinarians who observe certain well known precautions. Cattle hides, calf and sheep skins, wool, milk and the carcasses of slaughtered, diseased or exposed animals may also convey virus.

Lœffler and Frosch of the German Commission to study this disease, were unable to find any specific organism in the lymph from the vesicles. This result was later confirmed by Nocard and Roux. This places the etiological factor among the ultramicroscopic organisms. The virus is destroyed when dried for 24 hours at 31° C. but it retains its vitality and virulence after an exposure of nine months at zero. It is very virulent, .005 cc. of the fresh lymph injected intravenously has produced the disease in cattle. Immunity has been established by the injection of the virus in the fresh lymph from the vesicles, diluted with serum. However, a practical method of immunizing cattle against this disease has not been secured.

Foot and mouth disease, or aphthous fever, was first described in the human species in the eighteenth century. Its relation to the disease in cattle was suggested by Sagar in 1765, who believed that it was transmitted by the milk of the infected cow. Human infection has invariably accompanied epizootics of this disease, although in the outbreak in America there have been few cases in the human subject. It is believed by some writers that there are many cases not recognized among children because of its mild nature.

The symptoms in man consist in a rise of temperature after a period of incubation varying from two to ten days. The temperature is usually not high but may reach 140° F. and is usually accompanied by a shaking chill. Loss of appetite, pains in the muscles, back and head, with cramping pains in the abdomen, nausea and vomiting are the usual manifestations in the beginning of the disease. The primary seat of infection is most frequent in the mouth, due to drinking infected milk. The mouth feels hot and dry and there are areas of hyperemia over the lips and base of the gums, margin of the tongue and mucosæ of the cheeks. The vesicles form about two to three days after the initial symptoms. They are at first usually small, but they tend to enlarge rapidly and become confluent so that they may extend over the entire buccal mucosæ, even reaching into the pharynx, larynx, œsophagus and trachea. Blebs are oc-

casionally found on the skin about the mouth and nose. The conjunctiva and cornea may be involved, or the skin between the toes and fingers may frequently be affected. When it occurs among those working with sick cattle the borders of the nails are attacked, followed by secondary infection. In very severe cases eruption has been reported distributed over the whole body.

As in cattle, with the development of the vesicles the temperature falls. At the same time the corners of the lips swell and there is difficulty and pain in swallowing, and marked salivation. Profuse nasal discharge is sometimes observed. The vesicles are at first clear but soon become purulent and invaded by bacteria of the mouth. The vesicles are easily broken, leaving shallow ulcers which are very painful when touched. This may lead to serious inanition through the refusal of food. The submaxillary or sublingual lymphatics may be swollen and painful. Accompanying the vasicular stage there is often colic and diarrhœa, and in children frequently bloody stools. When uncomplicated the course of the disease is generally mild and favorable. The average duration is about two weeks from the onset, although very mild cases may be well in less time. In young children the danger is greater from the severe disturbances of nutrition rendering them especially liable to severe gastro-enteritis, and even death from inanition. It is interesting to note that in this disease the symptoms, nature of the lesions and their location are practically the same in man as they are in cattle.

In controlling this disease, the United States Department of Agriculture has found it more expedient, because of its extreme infectiousness, to slaughter, cover with lime and deeply bury all infected and exposed animals and thoroughly disinfect all stables, barns and litter. The heavy losses it occasions when generally distributed, warrant the radical measures adopted by the state and national governments in stamping it out.

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## RENAL TUBERCULOSIS.*

By WILLIAM SMITH NELSON, M.D.

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RENAL tuberculosis was recognized ages ago, and was described, says Senator, by Morgagni and others, under various names, such as struma of the kidney and scrofulous tumor. Our subject is an important one, for it is said that of all the cases suffering from tuberculosis at least 2 per cent. have it in the renal form, and that about 50 per cent. of those who die of tuberculosis are found to have had their kidneys damaged by it. The kidneys are very susceptible to bacilli carried to them by the blood and are infected by them in various ways.

First: By the blood, hematogenous infection.

Second: By propagation from the urinary passages, ascending infections.

Third: By extension from the neighboring organs, contiguity.

First: By far the most frequent infection is by the blood. It is probable that at least 80 per cent. of the cases of infection occur in this way. The hematogenous infection is sometimes spoken of as a primary infection.

It should hardly be called primary, for it is not so in the pathological sense of the word. The blood, in the great majority of cases, has borne the infection from some other focus. Kuster calls this a deutoropathic infection.

Senator says that it is very questionable whether in the strict sense of the word a primary case of renal tuberculosis ever exists, and that it is more than probable that the bacilli trace their origin to some focus in the body which may be hidden and difficult to locate. There is no doubt but what primary tuberculosis is rare. This is the consensus of opinion.

Second: Ascending tuberculosis.

Many able men, among them Albarran and Guyon have taken the ground that the ascending infection is of great frequency in comparison with the hematogenous. Others, Steinthal and Baumgarten among them, contended that the ascending infections are in the minority. This seems pretty well shown by such pathologists as Hunner and Israel. Hunner says that in thirty-five cases of renal tuberculosis he found only five of the ascending variety, and Israel that he found eight out of thirty.

It has been generally thought that ascending

* Read before the Fifth District Branch of the Medical Society of the State of New York at Utica, October 15, 1908.

infections pass up the ureter assisted by the lymphatics, but it is now believed that ascending infections by means of the ureter are not as frequent as was supposed.

It is now known that tubercle bacilli from the genito-urinary organs are carried through the blood, and that many cases which were formerly supposed to be direct ascending infections are really hematogenous. In this manner infections of the kidney occur from the testicle, the epididymis, the seminal vesicles and other parts. The third method of infection is by extension from the neighboring tissues. These are the rarest cases, and the extension largely takes place through the lymphatics. Tubercular suprarenal capsules often convey the infection to the kidneys.

*Kidney Lesions in Renal Tuberculosis.*—Both kidneys are affected in two-thirds of the cases where general tuberculosis exists, but when the lesions are confined to the kidneys it is unilateral in the majority of cases.

It is calculated by most authorities that men suffer from it more frequently than women, and that the right kidney is more frequently affected than the left. In a series of cases by Kuster one hundred and eighty-nine infections were in the right side and one hundred and sixty-three on the left. The time of most frequent occurrence is at the second and third decade of life.

There are two forms of renal tuberculosis, the miliary and caseous nephritis.

First: Renal miliary tuberculosis is the frequent disease of childhood, and is often not detected. It occurs comparatively seldom in adults. Both kidneys are affected and it is hematogenous in origin.

Upon macroscopical examination of a kidney with miliary tuberculosis, one discovers a few or a great many little tubercles that appear like grayish or yellowish gray dots. They are arranged singly or in groups under the capsules, and the size varies according to the age of the lesions, some being as large as a good-sized pea. They are more frequent in the cortical than in the medullary substance and are particularly abundant in the perivascular lymph spaces of the capillary blood vessels, the pyramids and the glomeruli. Occasionally a tubercle forms in a glomerulus. Microscopically, they are typical in appearance. Often a hyperemic zone surrounds the lesions.

The patient usually dies by the general tubercular infection from which he is suffering before the lesions in the kidney have an opportunity to become very much disorganized.

Second: Caseous nephritis makes up about 10 per cent. of all tubercular diseases. The second form of tubercular nephritis is usually a hematogenous infection, but may be brought about through the lymphatic vessels from lower parts of the genito-urinary tract. When the infection invades the kidney from the blood, it may attack the cortical region first and remain there for some time and give rise to nodular tubules with little loss of substance. Tubercles may form in any portion of the kidney substance, a frequent place is in the base of the pyramids and from this position the formation extends to the cortex as well as to the pelvis. The infection also because of a peculiar circulatory arrangement often begins in one pole of the kidney.

Sometimes it limits itself to one lobe, and again it invades all parts of the organ. In the lymphogenous cases the earliest lesions are usually in the pelvis of the kidney. Beginning as a miliary tubercle the disease extends gradually, taking possession of new tissue by continuity and lymphatic extension. This continues until frequently all parts of the kidney are invaded.

Now the tubercles develop degenerative changes, a coagulative necrosis begins and then terminates in softening and finally there is an evacuation of the putrescent contents into the pelvis, leaving ragged cavities.

There may be several of these processes going on for some time, and when they all slough together and empty into the pelvis there is hardly anything of the parenchyma of the kidney left. Again, pathologists are familiar with cases of embolic variety which give little trouble as long as the general health is in good condition.

It is not uncommon, says one authority, to find healed tubercular lesions in cases which have never suggested it clinically.

In some ascending forms of renal tuberculosis the process may be confined to the pelvis for some time, but later extends up through the kidney. The ureter becomes diseased, and sometimes becomes plugged up.

The kidney may have a little urine forming, and not being able to escape mixes with the pus and sometimes forms a large pus sack which has been called a cold abscess. Frequently all that is left of the kidney is a thick fibrous sack filled with a yellowish dirty material. Occasionally the capsule of the kidney becomes perforated by the great pressure from within, and this may result in perinephritic abscess.

*Etiology.*—Active foci anywhere in the system are apt to expose the kidney to infection, for it is a filter and is particularly exposed to danger. There are certain conditions in the genito-urinary system, which predispose these tissues to tuberculosis. They are chronic inflammations of the urethra, prostate, seminal vesicles, etc., and are most frequently the remains of a gonorrhea.

The colon bacilli also, and other germs often get the urinary canal into very unhealthy condition, and like a gonorrhea make the tissues favorable to—the development of tuberculosis.

Any infection which reduces the resistance of the urinary passages, predisposes to tuberculosis.

Trauma, exposure, floating kidney, renal stones and anything which causes interference with the urinary flow makes the kidney more vulnerable. A prolonged disturbance of the circulation or a general malnutrition will predispose to a renal tuberculosis.

*Symptoms.*—In the beginning renal tuberculosis may give no symptoms. Sometimes a chronic tuberculosis, when the pelvis is not involved and the process not extensive, may run its course without symptoms. The first signs noticeable depend upon the manner of infection.

If it is a pelvic involvment polyuria and dysuria will be noticeable early. If the infection is in the cortex or an embolic involvement, it may be some time before it extends enough into the parenchyma to affect urination. It is said the bacilli, in a hematogenous infection, cannot get by the Malpighian bodies till they become diseased, and often these bodies resist the bacilli for some time. Frequently only after a long period, do they work their way down through the pyramids to a point where they can be excreted.

There may be at first only a slight polyuria, the patient, perhaps, having to urinate in the night, and then in the day more or less frequently.

As the disease advances the dysuria becomes more intense, due to the irritation of the pelvis. An important point just now is the mixture of blood, pus, or muco-purulent masses in the urine.

Blood may appear at any time, but is apt to come early. Hematuria, one writer says, occurs in about 25 per cent. of the cases, but it seems to me that is a low estimate. Pain located in the region of the kidneys, at this time, is significant of the seat of the trouble. But pain is not constant, and on examination of the kidney enlargement may be felt, but in some cases is entirely absent.

The general condition of the patient may be quite satisfactory in a primary infection when it is simple, but later when tissues begin to break down and pus to form, there may be considerable temperature.

This chronic process lasts months or years. According to Roberts it may last from five months to three years, largely depending on the care the patient can have and his resistance. In exceptional cases, where good care can be provided, patients may live five years.

*Diagnosis.*—When a patient is known to have tuberculosis of the lungs or some other tubercular focus in his system, a pain in the back and polyuria, and pus and blood in the urine, the physician may easily suspect from these symptoms renal tuberculosis.

But when there has been no evidence of tuberculosis in the organism, and kidney symptoms are insidiously developing, he may congratulate himself if he recognizes the dangers of the above symptoms. These obscure cases are often due, as we have just said, to the manner of infections, as in some cortical and embolic cases. Pus in the urine which cannot be otherwise accounted for, with the above symptoms, is very suspicious and is often discovered to be from renal tuberculosis.

The general appearance of the patient, and his history often help in diagnosis more than the local symptoms. A little temperature may give local symptoms a meaning they had not before.

The patient should be closely questioned regarding his history. It should be found whether he has lost weight, and attention should be given to the quality and frequency of the pulse. His lungs should be carefully examined, and a search made for any tubercular manifestations whatever.

The blood and pus which have been found in the urine call for a urinary examination. The urine may appear perfectly clear, before destructive changes have taken place, but the general symptoms should demand an examination.

The sp. gr. is usually good if the tuberculosis is unilateral. In the course of a case of unilateral tuberculosis if the sp. gr. suddenly falls it may speak for involvment of the other kidney. There will be albumin, casts, and epithelium present according to the activity of the destructive changes and their locations.

The finding of the casts, of course, is important for they indicate that the kidney is involved in the pathological process, whatever that may be. Next a careful bacteriological and chemical examination ought to be made of the urine.

It is well to examine a centrifuged specimen of urine, taken from the amount passed in 24 hours. It is not necessary to weary you with the technique of the bacteriological examination. The main points are the thorough heating in of the stain, and the thorough washing out, with absolute alcohol at the last, so that a smegma bacillus may not be mistaken for a tubercular bacillus.

There is considerable danger of mistaking a smegma bacillus for a tubercular bacillus, for they are very frequently present.

It is not only necessary to make a careful study of the staining of the bacilli, but also of their grouping, form and size. A beaded appearance is never seen in a smegma bacillus, and they have a different way of grouping from bacilli of tuberculosis. The grouping of bacilli of tuberculosis is characteristic. They lie end to end or across each other in V and X shapes, while the smegma bacilli are apt to get together like the typhoid bacilli in a widal reaction.

If there is any doubt about this examination, and those most experienced are sometimes in

doubt, a guinea pig ought to be inoculated with a drop of the urinary deposit. Then if it is fortunate enough to escape a mixed infection we can generally make a diagnosis. If the guinea pig does not die in three or four weeks it should be killed, and an examination made of its inguinal glands, spleen, liver and kidneys. If tuberculosis has developed it will be unmistakable macroscopically.

An excellent way, too, to make a diagnosis, at this time, is by giving a hypodermic of tuberculin to the patient. It is easily done, and if carried out in the proper way devoid of danger. In some cases tuberculin gives valuable diagnostic indications, such as increase of bacilli in the urine, greater tenderness of the kidney, and increased hemorrhage. Besides the tuberculin test hypodermically, we may use also the newer tests with tuberculin—the eye test of Calmette, also Von Pirquet's dermatological test. We may find bacilli of tuberculosis in the urine, but how shall we determine whether they are from the kidneys or not?

By the supporting evidence. For instance, if we find casts in this urine we will have a right to believe that the bacilli are from the kidneys, for ordinarily casts show or indicate destructive renal changes.

If we have an acid urine it is more evidence that the bacilli are from the pelvis of the kidney, for from the pelvis usually comes an acid urine in renal tuberculosis, and it is usually alkaline in a long continued inflammation of the bladder.

The subjective symptoms are very different in a bladder and in a kidney tuberculosis. The urine is not so intimately mixed with the blood in a cystitis as in a nephritis.

If one is expert with the cystoscope it will pay him, in differential diagnosis, to view the interior of the bladder, and if in doubt the instrument will be found very helpful.

Willy Myer, at the Tuberculosis Congress at Washington, in a symposium upon genito-urinary diseases, said that the cystoscope was very useful to him in the diagnosis of tuberculosis of the kidney. When he had the instrument in place and the bladder well lighted, if he noticed a swollen, angry condition about the opening into the ureters, and a tendency to erosion or ulceration, he concluded that this was an evidence of tuberculosis of the kidneys.

The chief conditions which produce such symptoms as tuberculosis of the kidney are stone and carcinoma. There are cases of stone of the kidney, diagnosed by the X-ray, but in which the symptoms are very much like tuberculosis. They may be tuberculosis with stone. The writer saw a case in this city, only a short time since of both tuberculosis and stone of the kidney. The stone was about the size of a good sized bean.

It is sometimes very easy to make a mistake and call a tuberculosis of the kidney a stone. The points against renal calculus are the absence of typical renal colic, of sand or gravel in the urine, the occurrence of a rise of temperature toward evening, and the absence of any other tuberculous manifestations in the lungs or the glandular system.

Morris, in a very able article, shows how difficult it is at times to distinguish between an incipient tuberculosis and a small stone. In early cases of tuberculosis, when the cortex is first infected, and no bacilli are passing down into the urine, the diagnosis between it and a stone must be very difficult.

In the differential diagnosis between carcinoma and tuberculosis the evidence is against carcinoma when there is no evidence of cachexia and the constant presence of pyuria.

In tuberculosis of the kidney pus in the urine is constant. We have very little comparatively in carcinoma. In both stone of the kidney and carcinoma, we can always resort to the finding of the bacillus to establish the diagnosis and can also employ tuberculin for this same purpose.

If we conclude that we have tuberculosis of the kidney it is important, especially in the event of an operation, to determine whether both kidneys are affected, and how much. Various procedures have been used for this purpose.

The first measure is the estimation of the amount of urea from each kidney. Healthy kidneys excrete the same amount of urea. If the output of urea is normal it helps the surgeon to know that he probably has one kidney in good condition, and can safely operate on the disabled one. Of the various methods in use to determine the functional capacity of the kidneys, this is the most reliable and practical. Phloridzin has been used to determine functional capacity and methods to give color to the urine have been employed for the same purpose. Phloridzin determines the capacity of the kidney, by the rate at which it excretes sugar from the blood, under its influence. Any departure in excretion from the proper time and amount shows functional incapacity.

The latest color test is the indigo carmine. It is said to have advantages over the others, but as yet but few have been able to give it a trial. It is given as an inter-muscular injection.

Cryoscopy in expert hands, is helpful. It is used to determine whether there is a molecular concentration or not in the urine, in other words to determine whether the kidneys are excreting well.

There is considerable difference in opinion as to the value of determining the functional capacity by the above methods. They have been subjected to considerable criticism and Kronfeld, in a recent article, is not enthusiastic about them. They are, however, certainly of considerable value and until better methods are given us they ought to be employed.

*Prognosis.*—The prognosis is very serious, although it is admitted that tuberculosis of the

kidneys, in the early stages, may be recovered from by hygienic and medical treatment. Most surgeons therefore, do not advise operation, in the earliest stage of the disease. Wandel claims that renal tuberculosis may be recovered from as long as it remains an unmixed infection, and this seems a reasonable contention.

About all the statistics are unfavorable so far as prognosis is concerned, but the autopsy shows that some of these cases recovered, and it is observed occasionally clinically.

An early diagnosis and proper care would certainly increase the per cent. of recoveries. It has been shown what can be done in caring for simple tubercular infection of the lung. Why cannot we advance and get better results in renal cases?

*Treatment.*—Under the head of treatment, let me bring prophylaxis, for it is by treating the disease before it is advanced that we accomplish most.

In the tubercular patient we must remember that the mucuous membranes are places of lessened resistance, and that they are apt to become abnormal.

All these abnormal tissues are to be looked upon as places of lessened resistance for all kinds of infectious germs. Patients with tuberculosis, must therefore be guarded against advances of inflammation in the region of the genito-urinary system.

The practitioner must remember how easily, in a tubercular subject, the bacilli can find lodgment in tissues debilitated by gonorrhea, by diphtheria, and by colon bacilli and other infections. This holds true also in the various catarrhal troubles caused by poor circulation and malnutrition.

The treatment of miliary tuberculosis should consist simply of rest, fresh air and the proper food. The same attention must be given a miliary renal tuberculosis as we would give a pulmonary. No medicine will halt it, and there are no surgical indications.

In caseous nephritis we probably only see in the kidney a manifestation of tuberculosis, elsewhere present in the system, and our chief aim should be to build up the general system. Especially while waiting to make a positive diagnosis should rest, proper food and a constant outdoor life be prescribed. When the patient is suffering from a tubercular focus, such as a testicle, let it be taken out at once, so as to prevent a metastasis to the kidney. By removing any foci we may prevent a migration of bacilli.

Preventive treatment is most important, and most apt to accomplish something. The lessons that we have learned in treatment of tuberculosis of the lungs should be applied here, in tuberculosis of the kidneys.

Great attention should be paid to the underclothing, the condition of the digestive tract and the condition of the bowels. Frequent bathing, to keep the skin breathing easily, ought to be carried on. Nowhere are the three essentials of rest, fresh air, and proper food more necessary than in renal tuberculosis.

At times the urine may need diluting when it is quite concentrated, and the symptoms of dysuria are marked. For this purpose the mild alkalies are indicated, perhaps combined with a little hyoscyamus. When there is considerable pus in the urine a urinary antiseptic suited to the case may be employed. Care should be taken regarding the drinking water, and those which contain much carbonate of lime should be avoided. A mild alkaline water is indicated.

Direct medical treatment is not very satisfactory. Probably for the direct treatment thiacol—the sulphate of guaicol is the most satisfactory. In the early unmixed infections there are favorable reports in the therapeutic use of tuberculin.

Wright, of England, is especially enthusiastic in the treatment of tuberculosis of the kidneys with tuberculin.

*Surgical.*—It is a matter of extensive experience and nice judgment to know when to operate. Operations ought at least to be postponed while there are any signs of improvement. On the other hand if the symptoms increase, in spite of treatment, they must not be delayed.

The surgical treatment will largely depend upon the condition of the other kidney, and this will be determined by the size of that kidney, whether it is free from pain or not, and upon the results of the functional tests. The catheterization of the ureter of the kidney to be tested is of great value in making sure that we have only the urine from one kidney, but it requires a specialist of considerable experience to do this.

The segregating apparatus may be used in these cases. On doubtful kidneys it is better to perform a nephrotomy than a nephrectomy.

If the disease of the kidney is well advanced, and there is reason to believe that the other kidney can do the work the diseased kidney ought to be removed.

Von Bergman says in closing his article on "Surgery in Tuberculosis of the Kidney," the probability of a beginning disease in the other kidney is not sufficient reason in itself to prevent extirpation of the diseased kidney, provided the extirpation is desirable on other grounds.

## THE NERVOUS SYMPTOMS OF CHRONIC DIFFUSE INTERSTITIAL NEPHRITIS.*

By SMITH BAKER, M.D.

UTICA, N. Y.

ANYTHING like a satisfactory understanding of the nervous symptoms of chronic interstitial nephritis cannot be had, unless due attention be first paid to the general condition, of which these along with numerous concomitant manifestations arising

* Read before the Fifth District Branch of the Medical Society of the State of New York at Utica, October 15, 1908.

from various other organs, as the heart, eyes, stomach, etc., are but a natural expression.

While questions are still raised, it seems to be pretty generally accepted that chronic interstitial nephritis is most frequently a local result of a more or less general vascular malfunctioning, because of either inflammation or sclerosis. Thus it is an old observation that very often there is a direct relation between a contracted aorta and granular kidneys. Likewise other cardio-vascular changes frequently come to light. According to Potter (*Journ. Am. Med. Assoc.*, Oct. 27, 1906) in 30.5 per cent. cases of interstitial nephritis there is hypertrophy of the left ventricle, in 11.5 per cent. hypertrophy of the left and right together. Similarly, suggestive percentages might be obtained of gross changes in the arteries and veins, and all other organs and regions of the body, all of which would conspire to enforce the contention that in chronic interstitial nephritis we have to do really with a systemic condition, in which the kidneys have only a relative part, which, if pre-eminently significant, is by no means exclusive.

Likewise, as the result of detailed and intimate examination it is becoming more and more evident that the systemic disease underlying interstitial nephritis is not only the much discussed arteriosclerosis, or the less discussed plebosclerosis, which Osler says "is not at all uncommon," but that there is a universal tendency to a connective tissue hyperplasia, which seems to depend upon certain toxins of the blood, that are in turn the results either of faulty metabolism, or of putrefactive changes in the alimentary tract, or of both combined. In this respect Landouzy and Bernard (*N. Y. Med. Journ.*, April 13, 1900) make out a direct relation of the intercellular anatomy of the kidneys to the toxins of the blood, and affirm that the resulting nephritis is not a disease entity of itself so much as an expression of the general trouble; and Harlow Brooks (*Journ. Nerv. and Ment. Dis.*, May, 1905) says that "Toxins are doubtless the more ordinary and important etiological factors concerned in arteriosclerosis."

When we come to inquire what these toxins, which cause not only vascular sclerosis but interstitial nephritis, may be, there is as yet but little more than speculative interest excited. Morse, acting under Councilman (*Journ. Am. Med. Assoc.*, Feb. 9, 1907), reports that "It must be admitted that the human kidney is more or less constantly exposed to the action of chemical substances produced by bacteria. Hence it would seem justifiable to assume," he continues, that "a certain proportion of the cases of chronic nephritis in man may be due to the action of such substances," substances which may originate in the bacterial activities found in infectious diseases, such as typhoid, diphtheria, chronic tuberculosis and the like, or in over-aliment, habitual constipation, mal-nutrition, or physical or mental exhaustion, which causes degeneration of the spinal ganglion cells, and if these, then certainly the cells of the cerebral ganglion and cortex as well. Arculi and Figaro (*ib.*) account for the cardiac hypertrophy of nephritis by the action of a nephrotoxic serum which causes contraction of the blood vessels and so increases the blood pressure; and they account also for the various nervous symptoms on the basis that this serum contains a neurotoxic element, and Lindenman (Rickett's *Infection, Immunity, and Serum Therapy*, p. 169) "seems to have discovered an auto-nephro toxin, an amboceptor of nephrotoxin, to which has been attributed the degenerated changes in the kidneys;" while Otto Folin (*Journ. Am. Med. Assoc.*, May 2, 1908), ventures to predict that "we shall learn more concerning the abnormal and subnormal metabolism of the sick on the basis of creatinin and creatin determinations alone, than could be learned in another thirty years by means of the nephritic determinations of the past"; a prediction which everything at present seems encouragingly to sustain, for all studies upon, not only the poisonous purin bodies, but upon the putrefactive processes in the alimentary canal, lead toward the conclusion that owing to the long disturbed functions of the liver less urea is formed and more uric acid and ammonium carbonate are filtered through the latter into the blood, and so irritate the heart and vessels and disturb the function of all other organs and tissues. This is seen not only in whatever evidence the kidneys may offer, but often in the early loss of flesh and strength, and suggestively in the dry harsh skin that frequently accompanies this.

According to Herter (*Journ. Am. Med. Asso.*, March 23, 1907), "examples of the combined indolic and sacchoro-butyric type of chronic excessive intestinal putrefaction are common. In these there are many putrefactive amerobes in the gut, and also a persistent and well-marked indicanuria which is but slightly influenced by diet"; while it is of deep interest to have him say that "the nervous symptoms appear early." "They are," he says, "emotional variability and periods of mental depression; muscular and mental activity soon induce a striking fatigue. . . . In some, the mental and nervous symptoms increase"; . . . and again even more profoundly, "whether the nervous system or the blood shall bear the brunt is determined by the relative vulnerability of these tissues." This brings to mind the very probable significance of what Osler says of physiological arteriosclerosis, "which depends," he declares, "in the first place upon the quality of the arterial tissue (vital rubber) which the individual has inherited, and secondly upon the amount of

wear and tear to which he has subjected it. That the former plays the most important role," he continues, "is shown in the cases in which arteriosclerosis sets in in early life," evidenced practically much more frequently than is suspected, one imagines, by the enuresis and polyuria, which Guthrie (*Functional Disorders of Children,* p. 57), affirms to be "strangely suggestive of chronic interstitial nephritis."

It is very suggestive to note the correspondence between the symptoms of intestinal autointoxication itself as given by Herter, and the early nervous symptoms of arteriosclerosis as given by various authors, and as seen in practice. In both they appear early, in both there are periods of emotional variability, and especially of mental depression; in both fatigue, mental and muscular, which are quickly induced. In both, these symptoms tend to become more noticeable with time.

Probably, as investigation progresses, this symptomatology of intestinal putrefaction will be seen both early and conclusively to point to approaching or already concomitant arteriosclerosis, and both these will be taken in turn, as reliable fore warnings of chronic interstitial nephritis, especially when they are taken into due consideration with other etiological factors, such as heredity, syphilis, alcoholism, gout, over-work, high-living, etc. In all these, and in many others besides, the frequent appearance of indican along with repeated attacks of fatigue-psychoneurosis, should awaken attention to the possibility of worse trouble further on, as it thus becomes early suggestive of the probability of the development of nephrotoxic elements, and this, long before hardened arteries can be made out, or albumen or casts or uremic explosions supervene. And then, when attacks of general malaise without obvious cause, or of palpitation, dizziness, ringing in the ears, headache, loss of appetite and coated tongue, vomiting, sleeplessness, head and limb paresthesia, all of which are apt to be ascribed to "biliousness" and there left, come repeatedly, and under widely various conditions, attention should still more promptly be concentrated on this probability, in order that if possible fuller evidence of the on-coming degenerative processes may not be overlooked. It probably cannot be too frequently or to vigorously affirmed that the practice of simply attributing this syndrome to hepatic insufficiency should more generally give way to the broader comprehension of its real meaning, and consequently to a truer kind of practice, especially in persons beyond the middle life. Even the commonest digestive disturbances may be but the prodromal warnings of what eventually will prove to be the basic *arteriosclerosis universalis,* with perhaps its most marked manifestation or accompaniment in the interstitial tissue of the kidneys.

But of course there must always remain more or less doubt of what is really to happen eventually in this early stage of the disease, even though accurate knowledge be important both theoretically and practically. Frequently we must wait until something more definite occurs before we can be absolutely sure, even until something like cardiac hypertrophy, or evidence of renal involvement comes to light. Yet we must remember that in this form of nephritis especially, albumen may not be present at any time we happen to investigate; although it may come to light through frequent and repeated examinations later on; and also that casts may only occur and reoccur intermittently, and sometimes "only sparsely, or again as if in showers." (Difendorf, *Yale Med. Jour.,* December, 1902.) Yet by dwelling upon the prodromal cardiac symptoms, such as irritability and hypertrophy, the vascular crises of various sorts, the hard breathing upon exertion, the more or less accentuated second aortic sound, and perhaps especially when the concomitant increase of headache, dizzy attacks, ready fatigue, loss of memory, and, by this time, obvious and increasing arterial tension, we may be pretty sure that the cause of the patient's distress has a direct relation to degenerative kidneys, and that sometime later we shall be able to elicit more thorough and direct proof of this fact. At any rate we can believe that this train of symptoms is but the natural outcome of a systemic condition, which everywhere more or less necessarily interferes with both proper nutrition and needed elimination, and which, in the more delicately constituted and more specifically active organs, such as the kidneys or the brain, is likely to cause threatening mischief from the first, and so, to justify exceptional attention from the more comprehensive point of view.

Sometimes, in other cases, there will be first presented severe loss of memory followed by marked inclination to fabricate, with loss of judgment, disorientation, episodes of confusion, inattention to important interests, and even hallucinatory delirum, any one of which may have served to bring the patient first under observation. Here the tendency seems to be most naturally again to think chiefly about the mental condition, and to forget the possible underlying somatic basis of it all. But if each time inquiry be made as to the earlier severe headache, continuing perhaps after correction of refractive and muscular errors, or more generally a headache that begins as a morning heaviness coupled with apprehension and becomes a definite pain later, a pain that is most frequently located on both sides and usually high up, and is apt to be aggravated by mental effort or stimulants; or if there have been much tingling or heaviness in the legs, or intense neuralgia, intermittent and not following the course of nerves; or sleep that is rather poor at all times, or sleeplessness that is most apt to be worse early in the night, or perhaps the reverse, a somnolency of an unexpected and incalculable order; or if the patient

be between forty-five and fifty and gives an account of marked recent neurasthenia without very obvious cause—if these be inquired into, light as to the basic interstitial hyperplasia, and as to the probable kidney condition and the dangers predictable therefrom, will rather certainly be had, and the way be thus made clearer for prognosis and treatment.

Often in these conditions it must perhaps remain impossible to differentiate between arteriosclerosis and plebosclerosis, and the resulting arteritis and thrombosis. One thing should not be overlooked, although its importance as a diagnostic help is suggestive rather than conclusive, especially in chronic interstitial nephritis; namely, that there is often, (as Lion, *Zeisch. f. Klin. Med., Vol.* 50, has shown so markedly), an exaggerated *Patellar reflex,* which, increasing as the intoxication become more severe, becomes later so significant that when discovered suspicion of the asic disease and of the kidney degeneration becomes more legitimate than perhaps elsewise.

As to the major late nervous symptoms of chronic interstitial nephritis, they all may be chiefly attributed to the completer breaking down and inefficiency of the vascular system and the development of thrombi and emboli in different localities. In the brain, local or more general vascular lesions, giving rise to sensory troubles in the eyes or ears, and to motor troubles in the various muscular spheres, are common. Uremic convulsions or successive paralytic attacks affirm in turn the extent to which degeneration has progressed. Often, however, these, or any other severe symptoms, do not occur until after the aurist or the ophthalmologist finds indisputable evidence in his special investigations. Probably quite a proportion of cases of *tinnitus* and even of deafness, that are usually attributed to catarrhal changes, belong to the category of arteriosclerotic or interstitial changes. In this field as yet but little seems to have been differentiated. In the eye, however, very definite manifestations are already known in connection with these basic conditions, and sometimes the evidence thus gleaned is simply invaluable.

Indeed, among the very first appreciable symptoms at all, may be the flame-shaped retinal hemorrhages, or the diffused retinitis, or the pupillitis, or the uremic amaurosis so startlingly sudden, which needs the ophthalmoscope for discovery and differentiation. Twenty years ago Gowers declared every practitioner should know how to use the ophthalmoscope; and in connection with the diagnosis of chronic interstitial nephritis, or of vascular sclerosis, one cannot see how the general practitioner can very well get along without it. These conditions when marked are very plain, and discoverable by anyone who knows how to observe the interior of the eye. Earlier than these, however, and if accurately determined, very suggestive, to say the least, are certain other changes sometimes noticed in the retinal blood-vessels, and at the margin of the disc. Indeed, I should not wonder if it turned out that certain narrowings of the retinal arteries, certain distensions of the retinal veins, and certain partial obscurations of the pupillar margin, which may be noticed when there is no characteristic arterial crinkling present, will be found to point at least suggestively to possible degenerative changes. If we can only learn to do it, it seems to me that here is a field for early recognition of interstitial changes, which will enable the discoverer both to warn the patient and to prescribe for the condition, in time, possibly, to be of some use. So far as the sudden blindness of uremia is concerned, every such case should be as promptly differentiated from other possible conditions entirely remote from that under consideration as possible.

Evidently as the nephritis and the basic condition become more permanent, difficulties of diagnosis often disappear proportionally. Often, of course, the case is not seen until transient hemiplegia or monoplegia, or aphasia, or frequent and marked vertigo, or the Stokes-Adams syndrome consisting of vertigo, slow pulse, and syncopal or epileptic attacks, hasten the sufferer to seek advice and help. Often, too, the hour of apoplexy or of uremic convulsions is awaited. Here the determination of gross heart lesions, and if practicable of casts and albumen, with a previous history of increased quantities of pail urine of low specific gravity makes the explanation of previous minor nervous symptoms easy. And in this connection, and in fact all along, what Leszynsky (*Med. Rec.,* May 20, 1905) has so emphatically said, should be remembered: "In making the diagnosis of chronic nephritis in a doubtful case it is more essential to consider the amount of urine secreted every twenty-four hours, its specific gravity, and the amount of urea or solids therein contained than to lay stress on the presence of a trace or more of albumin and a few hyalin casts."

Another bit of skill we have serious need of too is that which will enable us to appreciate vascular hypertension, or hypotension of slight degrees much more accurately than now, and also their real significance when found. The recent studies of Rotch (*Jour. Am. Med. Asso.,* Oct. 10, 1908), respecting the "anatomic age" of children, as contra-distinguished from their "chronologic age," suggests the possibility of likewise determining the real age all along, by degrees of tissue involution, rather than by years as we now do.

To sum up, then, first, the almost constant relation between intestinal putrefaction, arteriosclerosis and chronic interstitial nephritis is the primary fact to be borne in mind; no matter

whether the symptoms be chiefly nervous or otherwise; and it matters little, too, whether we believe the nephritis or the arterial degeneration comes first, or whether both be expressions of some underlying systemic fault, an idea that has the support of Minot, and has many everyday observations that sustain it strongly. Probably in most instances they are such close twins that their existence is practically inseparable.

Second, with this toxemia and vascular degeneration both effective in the brain and cord, it is not surprising that we may note a rather long series of symptoms which may legitimately be called nervous:

Headache, variable, even unto true migraine;
Sleeplessness, or somnolence;
Head distresses of all sorts (*paresthesia*);
Neuralgic pains anywhere;
Numbness, etc.;
Indigestion and vomiting;
Muscular twitching, and spasm to convulsions;
Blindness, deafness, retinitis;
Transitory aphasia;
Paresis or paralysis of face or extremity;
Temporary or permanent hemiplegia, with or without aphasia;
Delirium, stupor, coma;
Insanity.

Third, the earlier nervous symptoms, save the occasional retinitis, although not particularly pathognomic, and valuable chiefly as suggestive forewarnings, still, when the patient is fifty years old, in this age of strenuous and irregular life, with all sorts of climatic, industrial, domestic and individual trauma to shock and exhaust, the possibility of underlying interstitial nephritis should have its weight always.

Fourth, cases of inexplicable neuralgic pains or paresthesia, not bounded by definite nerve tracts; or disagreeable neck and head feelings in the morning, turning later into definite headache, which interferes with timely dropping asleep; or fatigue neurosis, recently developed; or mental pain and weakness, and nervousness, all slowly developed, and variable in expression; or of irritable muscular activities, either manifest generally or more especially in the heart; various and repeated crises in all the vascular sphere, and in various organs, and often these concomitant with corresponding nervous and mental crises; these, even if the urine reveals little or nothing, should arouse the suspicion that neuro-fibrosis is developing, and that nephritic or hepatic or gastric or any other localized interstitial hardening is imminent.

Fifth, all these overlooked or past, then the occurrence of cardiac hypertrophy, hardened arteries, sudden blindness, suddenly affected hearing, inexplicable faintings, dyspnea, convulsions, vertigo, paralysis, stupor, etc., should not be otherwise explained until all other evidence of chronic interstitial nephritis has been most thoroughly looked for and sifted.

## CORRESPONDENCE.

June 9, 1909.

*To the Editor:*

Several press reports of my paper on Congregational Practice, read by title before the American Academy of Medicine, tend to convey the idea that I favor the ordinary form of contract practice. Without anticipating the publication of the paper, I may say that it proposes a much broader scope of professional service, which could be put into execution only by a gradual development of professional and public opinion, the basis of payment being only one of the details. Ordinary contract practice starts with a false conception of the value of services and usually involves bad faith both as to demand and fulfillment.

Very truly yours,
A. L. BENEDICT.

## NOTICE.

The Medical Board of St. John's Hospital, Brooklyn, N. Y., desires to announce that the position of Visiting Anæsthetist is vacant. Applications for same should be directed to Frank Henry Knight, Secretary of the Medical Board, St. John's Hospital, corner of Albany and Atlantic Avenues, Brooklyn, N. Y.

## COUNTY SOCIETIES.

### CHENANGO COUNTY MEDICAL SOCIETY.

ONE HUNDRED AND FOURTH SEMI-ANNUAL MEETING HELD AT AFTON, JUNE 8, 1909.

PROGRAM.

"A Case of Pneumonia," A. H. Evans.
"Insanity Due to Dental Lesions," C. M. Dunne, D.D.S.
"The Aid of a Laboratory in Country Practice," E. Danforth.
"Bier's Hyperemic Treatment," P. B. Brooks.

### MEDICAL SOCIETY OF THE COUNTY OF CHAUTAUQUA.

TRI-ANNUAL MEETING TUESDAY, MAY 25, 1909, AT FREDONIA.

"Eclampsia," Ellis W. Storms.
"Some of the Causes of Constipation in Children," G. E. Smith.
"Some Things We Ought Not to Say or Do," E. M. Scofield.
"Minor Pelvic Ailments," J. L. Greeley.

### RICHMOND COUNTY MEDICAL SOCIETY.

REGULAR MEETING HELD IN THE STATEN ISLAND ACADEMY, JUNE 9, 1909.

Interesting Spinal Cases, illustrated with photographs, Sigmund Epstein.

After the meeting a very enjoyable collation was served.

## MEDICAL SOCIETY OF THE COUNTY OF COLUMBIA.

Semi-Annual Meeting, Chatham, May 11, 1909.

A committee was appointed to draft resolutions of condolence on the deaths of Drs. John T. Wheeler, of Chatham, and F. T. Kunker, of North Chatham.

SCIENTIFIC SESSION.

*A Symposium on Syphilis.*

"Etiology," T. S. Van Riempst, New York.

Address and Pathological Demonstration with Special Reference to Microscopical Findings. Discussion opened by Y. F. Dunning.

Prognosis and Treatment Louis Van Hosen, Hudson. Discussion opened by I. C. Washburn.

The next meeting of the Society will be held in Hudson, October 5th, in conjunction with the Third District Branch, at which time an address will be given by Dr. Hortense V. Bruce, Superintendent of the New York Training School for Girls at the Institution, on "The Juvenile Delinquent." The members of the Society have been invited by the Managers of the Institution to a luncheon at 1 o'clock and to inspect the buildings and methods employed there. A scientific program will follow in the New Court House at 2 o'clock. At 5 o'clock a fitting tribute will be paid to the late Dr. John T. Wheeler, who was, at the time of his death, First Vice-President of the Medical Society of the State of New York and an active memger of the Medical Society of the County of Columbia.

## MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Regular Semi-Annual Meeting, Saratoga Lake, June 16, 1909.

"Movable Kidney," William P. Faust.

## MEDICAL SOCIETY OF THE COUNTY OF MONROE.

Regular Meeting Held at Rochester, May 18, 1909.

"Surgery of the Kidney," E. W. Mulligan.

Discussion: F. W. Zimmer and C. R. Barber.

"Recent Progress in the Treatment of Gout," E. P. Joslin, Boston.

Discussion: C. G. Stockton.

"Sciatic Pain," R. R. Fitch.

Discussion: E. B. Angell.

"Fresh Air Treatment of Surgical Tuberculosis," Brainard Whitbeck, New York.

Discussion: J. R. Culkin.

"The New Sanitation," Prof. C. W. Dodge.

Discussions: Quarantine of Small-pox, G. W. Goler. Quarantine of Advanced Pulmonary Tuberculosis, W. S. Ely.

"Psychoses Occurring During Pregnancy and the Puerperium," E. P. Ballantine.

Discussion: W. J. Herriman and W. M. Brown.

A very enjoyable dinner was served at 1 o'clock.

## MEDICAL SOCIETY OF THE COUNTY OF TOMPKINS.

Regular Meeting Held June 15, 1909.

Program.

"Rabies—The Present Method of Its Diagnosis," V. A. Moore.

## MEDICAL SOCIETY OF THE COUNTY OF FRANKLIN.

Semi-Annual Meeting at Saranac Lake, June 8, 1909.

Program.

*Business Session.*

The meeting of the Comitia Minora was held at 1.30.

The regular Society was called to order at 2 P. M. There was a full attendance.

The following candidates were nominated for officers for 1910: President, E. R. Baldwin, of Saranac Lake; Vice-President, A. H. Garvin, of Ray Brook; Secretary-Treasurer, G. M. Abbott, of Saranac Lake; Delegate to Medical Society of the State of New York, G. M. Abbott; Delegate to Fourth District Branch, A. E. Moody. Two new members were elected.

Dr. McClellan, Chairman of the Franklin County Milk Commission, reported that a bulletin has been prepared to be sent to all the dairymen supplying milk in Franklin County. Dr. D. C. Twichell read the bulletin.

*Scientific Session.*

"Surgical Tuberculosis," C. C. Trembley.

"Tuberculosis of the Ear," A. A. La Vigne.

"Report of Two Cases of Pneumothorax," A. H. Allen.

"Uterine Fibroid," A. E. Moody.

## BOOKS RECEIVED.

**Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.**

**All books for review should be sent to the business office of the Medical Society of the State of New York, 17 West Forty-third Street, New York.**

Diet in Health and Disease. By Julius Friedenwald, M.D., Professor of Gastro-Enterology, College of Physicans and Surgeons, Baltimore, and John Ruhräh, M.D., Professor Diseases of Children, College of Physicians and Surgeons, Baltimore. Third edition, thoroughly revised and enlarged. Philadelphia and London, W. B. Saunders Company. 1909.

Medical Inspection of Schools. By A. H. Hogarth, M.B., B.Ch., Oxon., D.P.H., County Medical Officer of Health for Buckinghamshire. Assistant Medical Officer (Education) London County Council. Medical Officer Mansion House Committee on the Dwellings of the Poor. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C.

Inborn Errors of Metabolism. The Croonian Lectures delivered before the Royal Colleeg of Physicians of London, in June, 1908. By Archibald E. Garrod, D.M., M.A., Oxon. Fellow of the Royal College of Physicians. Assistant Physician to and Lecturer on Chemical Pathology at St. Bartholomew's Hospital. Physician to the Hospital for Sick Children, Great Ormond Street. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, 20 Warwick Square, E. C.

International Clinics. A Quarterly of Illustrated Clinical Lectures and especially prepared original articles by leading members of the medical profession throughout the world. Vol. II. Nineteenth Series, 1909. Philadelphia and London, J. B. Lippincott Company. 1909.

Graphic Methods in Heart Disease. By John Hay, M.D., M.R.C.P., Assistant Physician, Liverpool Royal Infirmary. With an introduction by James Mackenzie, M.D., M.R.C.P. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909.

Common Disorders and Diseases of Children. By George Frederic Still, M.A., M.D. (Cantab), F.R.C.P. (Lond.), Professor of Diseases of Children, King's College, London. Physician for Disease of Children, King's College Hospital. Physician to Out-Patients, Hospital for Sick Children, Great Ormond Street. Honorary Member of the American Pædiatric Society. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909.

Studies on Immunity. By Robert Muir, M.A., M.D., Professor of Pathology, University of Glasgow, in collaboration with Carl H. Browning, M.D., Alexan-

der R. Ferguson, M.D., and William B. M. Martin, M.B., Ch.B. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909.

SUTURE OF ARTERIES—An Experimental Research. By E. Archibald Smith, M.B., Ch.B., Victoria University, F.R.C.S., England. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909.

MYOMATA OF THE UTERUS. By Howard A. Kelly, Professor of Gynecology in the Johns Hopkins University; Gynecologist-in-Chief to the Johns Hopkins Hospital, and Thomas S. Cullen, Associate Professor of Gynecology, Johns Hopkins University; Associate Gynecologist to the Johns Hopkins Hospital. Illustrated by August Horn and Hermann Becker. Philadelphia and London, W. B. Saunders Company. 1909. Price: Cloth, $7.50 net.

TREATMENT OF THE DISEASES OF CHILDREN. By Charles Gilmore Kerley, Professor of Diseases of Children in the New York Polyclinic Medical School and Hospital; Attending Physician to the New York Infant Asylum and Maternity; Assistant Attending Physician to the Babies' Hospital; Consulting Physician to the Sevilla Home for Girls, and to the New York Home for Destitute and Crippled Children; Consulting Pediatrist to the Greenwich (Connecticut) Hospital. Second Edition, revised. Philadelphia and London, W. B. Saunders Company. 1909. Price: Cloth, $5.00 net.

SMITHSONIAN INSTITUTION. BUREAU OF AMERICAN ETHNOLOGY, Bulletin 34. PHYSICAL AND MEDICAL OBSERVATIONS among the Indians of Southwestern United States and Northern Mexico. By Aleš Hrdlička. Washington, Government Printing Office. 1908.

LEGAL MEDICINE AND TOXICOLOGY. By R. L. Emerson, A.B., M.D. (Harvard), Member of the Massachusetts Medico-Legal Society; formerly Instructor in Physiological Chemistry, Harvard University Medical School, and Assistant in Clinical Pathology, Boston City Hospital. New York and London, D. Appleton and Company. 1909.

## BOOK REVIEWS.

THE LAW IN GENERAL PRACTICE. Some Chapters in Every-day Forensic Medicine. By STANLEY B. ATKINSON, M.A., M.B., B.S3. London, H. Frowde, 1908. 230 pp. 12vo. Cloth, $3.00 net.

Being written by an Englishman for English practitioners, this book would appear at first sight to have less interest for Americans. It is not so, however, for there is much of interest, especially to one who cares to compare the methods of procedure in both countries. It contains a good deal of sound advice to every physician who may at any time come in contact with the law.

In the chapter on negligence in medical practice, no mention is made of different schools of medicine, though malpraxis and unqualified practice is discussed. In this country, or at least in some states of America, the practice of different schools governs to such a degree, that the treatment of a physician of one school must be tested only by the general doctrines, or no doctrines, of his own school, and not by those of other schools. (A. N. Taylor.) Shall we say "Happy England"?

Again, the liability of governors of a charitable hospital for negligence is an unsettled point in England, while the U. S. A. courts have decided that there is no such liability if a competent staff is employed. We are told, also, that the English law places no restraint nor limitations upon testimony, on the ground that such evidence was gained under the privilcged circumstances of a medical adviser treating a patient. In about one-half of the states in America the physician and patient are protected, though in general this applies to civil cases only.

The decisions of some of the older judges seem strange to us and sometimes amusing. "If a physician or surgeon, even though not licensed, acting with due care gives his patient a potion or plaster, and contrary to expectations it kills him, this is neither murder nor manslaughter, but misadventure. For physic and salves were before licensed physicians and surgeons." (Lord Hale, 1675.) Throughout the book, the impression conveyed is, that the English are looking to ancient times for their authority, to a larger degree than we do in this country. PETER SCOTT.

ANGINA PECTORIS. Von Dr. LOUIS PEISER. Stuttgart, Verlag Von Ferdinand Enke. 1908.

It is not the author's intention to add a new theory on angina pectoris to the many already in existence. He has, however, made an exhaustive study of the best literature on this subject, and the manner in which he presents the collected material shows a great deal of thought, while his deductions suggest a man of sound and practical reasoning. He begins by citing a few typical and instructive cases of angina from his private practice and gives then a short historical sketch of this diseasc. Like the majority of modern writers, he accepts sclerosis of the coronaries as the principal etiological factor of true angina. Considerable space is allowed to arterio sclerosis, which he discusses in all its phases, and this leads to many repetitions when he arrives at the subject proper. There is one feature of angina which is extremely puzzling and has given rise to a great many theories—I mean the pain. The explanation offered by some writers and favored by Dr. Peiser, seems rather plausible to the reviewer. This pain, being simply a cramp-like spasm of the heart muscle, produced by ischæmra, may be compared to the pain of "intermittent claudication" found with arterio sclerosis of the lower extremities. Another puzzling feature, the sudden death, is caused by the occlusion of a coronary artery. This is proven by animal experiment and on the autopsy table. When one of a dog's coronaries is clamped, the heart will come to a complete standstill in less than one minute. On the other hand, almost in every instance one of the coronary arteries is found practically occluded after death from angina. A complete and excellent picture of the predisposing factors and of the attack itself is presented and a differential diagnosis from the various forms of pseudo angina is offered. But the author himself confesses to the great difficulty of a positive diagnosis during life, because there is not one single symptom of angina vera which may not be found with other conditions.

The chapter on treatment suggests hardly anything new, but shows again the author's good therapeutic reasoning. Altogether, this little volume will prove of great interest and value to the physician who wants to get a clear and complete picture of this deplorable condition, even though it will make it only plainer to him how powerless he is to arrest or cure this disease.

HARTWIGKANDT.

SELECTIONS FROM THE WRITINGS MEDICAL AND NEUROLOGICAL OF SIR WILLIAM BROADBENT, Bart., K.C.V.O. Edited by WALTER BROADBENT, M.D., M.R.C.P. Lond., Henry Frowde, 1908. viii, 444 pp. 8vo. Price: Cloth, $5.50 net. Oxford Medical Publication.

It seems quite appropriate that a choice selection of papers written at various periods during the life of Sir William Broadbent should now be published.

The author graduated in medicine in 1858, and in the following year his first papers on medical subjects appeared. From that time till the year of his death, there were only two years in which he did not publish something, and as a rule something of more than usual interest. All his papers are noted for accurate, independent observation, close reasoning, wide outlook, and clear statement.

This volume contains, among other papers of high

value, one published in 1866, on what has come to be known as "Broadbent's Hypotheses of the Bilateral Association of Nerve Neuclei," also the last paper published by him in 1907, on "The Examination of the Heart." His work represents in time and quality a close correspondence with the progress in medical science of the second half of the nineteenth century. This volume is therefore of more than usual interest to the students of medical progress during the last fifty years. The wide range of his investigations is shown by the papers on therapeutics, which indicate clearly that Dr. Broadbent did his share of the work of bringing medicine out of that Nihilism in Therapeutics that existed in the first part of the last century. PETER SCOTT.

CANCER OF THE WOMB: Its Symptoms, Diagnosis, Prognosis, and Treatment. By FREDERICK JOHN MCCANN, M.D., F.R.C.S., M.R.C.P. Lond., H. Frowde, 1907. Col. front., x, 172 pp., 46 pl. 8vo. Cloth: $7.00 net.

A well-grounded clinical knowledge of the macroscopical pictures presented at an operation coupled with a large experience in symptomatology and the possible sensing of early signs may be sufficient to warrant a trained observer to positively assert the existence of incipient carcinoma uteri without relying on the microscope. It is a much safer procedure, however, in suspected cases of early carcinoma uteri, when a positive diagnosis cannot be made, and where delay means further lymphatic involvement, to have recourse to the microscope.

McCann believes that operation in the early stage can cure. To diagnose in this stage he gives a few rules, signs and symptoms which are not only of interest to the specialist but which would be well for the general practitioner to learn by heart. In the first place, insist on a local examination in all cases of abnormal discharge or irregular bleeding. *In advanced cases* there is irregular vaginal hemorrhage or a discharge, and probably pain or loss of flesh. Yet it is true that advanced cases of cervical carcinoma with infiltrated vaginal walls may show no loss of flesh, although such cases are exceptional. *In early cases* there is friability of the cervix, a sign of the greatest importance. The cervix bleeds easily on touch with anything, *i. e.*, the hemorrhage is entirely out of proportion to the injury inflicted. Early cases show the definite occurrence new growth from the service of the portio-cervical canal, or in the substance of the cervix.

Irregular bleeding of any description, or post-coitum bleeding, or a watery blood-tinged discharge are all danger signals. Complete absence of pain is characteristic of the early stage. As most of these cases occur between the fortieth and fiftieth years, and as bleeding owing to menopause is regarded by the patient as one of the symptoms of the menopause, the practitioner should assume cancer present until he can by local examination and other means, satisfy himself that his assumption was incorrect. Remember, as McCann says, that there are high lying cervical cancers, and even carcinoma of the fundus, which detection is possible only after a curettage. In such cases the microscope plays an important role. Excise any suspicious nodules and send them to the pathologist.

Cases suggesting carcinoma of the fundus are those in which atypical bleeding is associated with a sound cervix and portio—especially in old or sterile women, or after the climacteric. The occurrence of cancer in young women must not be overlooked.

As regards etiology, the author believes that the mass of evidence favors the view now held by most pathologists that cancer is a disease of the epithelium characterized by excessive and atypical growth, together in the later stage with a certain amount of inflammatory reaction in the stroma of the affected tissue. The trend of modern opinion is against the parasite theory, as no parasite has been isolated nor inoculations made from a pure culture. It is, moreover, held that the occurrence of cancer in particular localities or houses is merely a coincidence. There is, though, a contact infection, also an inoculation on wounded surfaces. Of the former, epithelioma of the lip and labia are examples. Of the latter, the involvement of vaginal or vulvar wounds during a vaginal hysterectomy, and even later infection or inoculation of the whole pelvis from carelessness during a vaginal hysterectomy for carcinoma cervicis. Inoculation has been held to explain many cases of local recurrence after cancer operations. It is always wise to have a vagina as thoroughly sterilized as possible before operations, and avoid curetting. Allow no cancerous particles to infect the raw vaginal flaps. The cautery for making the anterior and posterior flaps is preferable to the kink or scissors, as the cut edges are seared and sealed by the thermal knife.

Fifty-three years represents the age at which cancer of the body most frequently occurs, while forty-six may be taken as that for cancer of the cervix. The parous woman is more prone than the nulliparous.

McCann believes that well-marked cervical erosion should demand operation, consisting of a complete excision of all the diseased mucosa and the tissue underneath. Such operations, he thinks, are of great importance in the prevention of carcinoma cervicis.

He protests against the instruction to the general public of early sign and symptoms of cancer, and argues that the public should look to better medical education for guidance in such matters.

The book has numerous photographs of specimens taken after removal, which are more truly representative of the actual disease than illustrations, for many illustrations, while of artistic merit, bear little or no resemblance to the diseases as found in the living subject.

His own surgical treatment is described, which follows closely that of other operators. A chapter on the treatment of inoperable uterine cancer will be of interest to those having such cases. Sarcoma uteri and deciduoma malignum also receive attention.

One chapter merits praise, *i. e.*, "The After Treatment of Operative Cases." A few facts noted are: Do not allow a patient ice to quench thirst; give food as soon as vomiting ceases. Food is a good mouth cleanser, it prevents accumulation of flatus and favors its passage, stimulates peristalsis, and urges the bowels to act naturally. Do not allow patients to suffer post-operative pain, for it lower resistance and prevents the beneficent influence of sleep, which tends to restore vitality. A patient, the first two or three days, is constantly worried by enemata, calomel and salts, while rest, the greatest therapeutic agent, is absolutely neglected by some operators

CLARENCE R. HYDE.

GLANDULAR ENLARGEMENT AND OTHER DISEASES OF THE LYMPHATIC SYSTEM. By ARTHUR EDMUNDS, M.B., M. S., B.Sc., Lond., F.R.C.S., Eng. Lond., H. Frowde, 1908. vii, 320 pp., 12vo. Cloth, $3.00 net.

This is an excellent and fairly comprehensive treatise on the diseases of the lymph system.

The volume is profusely illustrated with many half-tone plates which are creditably clear and much superior to similar half-tones in far more pretentious volumes.

The author is evidently a careful and competent pathologist as well as surgeon. The book is readable and instructive. A. J. B.

THE CURE OF RUPTURE BY PARAFFIN INJECTIONS. By CHARLES C. MILLER, M.D. Chicago, Oak Printing Co., 1908. 81 pp. 12mo. Price: Cloth, $1.00 net.

This little monograph has at least the merit of clearly describing a bad method for the cure of hernia. Evidently the writer anticipated unfavorable criticism, for he says with a certain note of pathos, "Hospital surgeons may be expected to condemn the injection treatment of hernia," and then adds a perfectly gratuitous and unwarrantable insinuation that they do so from interested motives. Dr. Miller is not an hospital surgeon himself and evidently is entirely unaware of

the tendency of scar tissue to stretch. The paraffin treatment of hernia depends on the connective tissue proliferation in the inguinal canal due to the presence of paraffin. It is therefore but a revival of Heaton's method long since abandoned. Dr Miller refrains from mentioning any of the dangers of this method, such as local gangrene, pulmonary embolism, suppuration or the production of unbearable pain by the paraffin masses. The disadvantages of this method were set forth by Harris at the 1907 meeting of the American Medical Association. The best that can be said of the book is that it is a good description of a bad method.

TYPHOID FEVER. Its Causation, Transmission and Prevention. By GEORGE C. WHIPPLE. With an Introductory Essay by WILLIAM T. SEDGWICK. New York, John Wiley & Sons; Lond., Chapman and Hall, Ltd., 1908. xxxvi, 407 pp. 8vo. Cloth: $3.00 net.

This book is by an engineer who has a wonderfully practical grasp of the subject. He believes that the existence of typhoid fever is a national disgrace, and that the fight against it must be made largely by physicians and sanitary engineers. He calls attention to the fact that the former are prone to think of and deal with society as individuals, while the latter are prone to think of men as masses and to study communities as a whole. These two professions admirably supplement each other. This book furnishes both professions with a summary of important facts in dealing with typhoid as a disease of the community.

The book opens with a general description of typhoid fever, its history and character. Then come chapters on the bacteriology of the disease, the patient as a focus of infection, the typhoid bacillus at large, lines of defense against it, typhoid statistics, dstribution, epidemics, control of epidemics, influence of public water supply upon the death rate in cities, and milk; and finally a most valuable chapter dealing with the financial value of human life, the cost of typhoid fever to the country, the effects of filtration, and the effects of contamination. Besides these the book contains some sixteen appendices, all of which give some useful information, such as concerning house flies, histories of epidemics, typhoid in relation to the army, and other valuable statistics. The work is copiously illustrated with diagrams of all the important epidemics.

This book fills an important place in our literature. It is very practical and contains a vast amount of information. If every legislator could be made to read it the typhoid problem in this country would come close to its solution. It should be in the hands of every municipal authority who has to do with any of the departments of government contributary to typhoid fever.

N. J.

MANUAL OF PSYCHIATRY. By J. ROGUES DE FURSAC, M.D. Authorized Translation from the French by A. J. ROSANOFF, M.D. *Second American from the Second French Edition.* Revised and Enlarged. New York, John Wiley & Sons, 1908. xiv, 406 pp. 8vo. Price: Cloth, $2.50 net.

This excellent little work has reached its second edition three years after the publication of the first. All the author's additions in the second French edition have been introduced, and the translator has added notes on psychotherapy, after care of the insane, Adolf Meyer's theory of dementia precox, and the technic of lumbar puncture. It has become a somewhat hackneyed phrase for reviewers to speak of books being "of special value to the student and general practitioner," but it does seem as though that well-worn phrase fits peculiarly well in this instance, was de Fursac has produced a book which is remarkably terse and clean cut, and he has that enviable gift of being able to classify his material so that it is extremely easy of grasp and retention. The work does not aim at being an exhaustive treatise on insanity, but its 400 pages are well worth the reading by any one at all interested in the subject. He follows Kraepelin's classification of mental diseases, which is the one adopted in all our State hospitals.

F. C. EASTMAN.

METABOLISM AND PRACTICAL MEDICINE. By CARL VON NOORDEN. Anglo-American Issue under the Editorship of I. WALKER HALL. Vol. 1: The Physiology of Metabolism. By ADOLF MAGNUS-LEVY. Vol. 2: The Pathology of Metabolism. By CARL VON NOORDEN, FR. KRAUS, AD. SCHMIDT, W. WEINTRAUD, M. MATTHES, and H. STRAUSS. Vol. 3: The Pathology of Metabolism. By CARL VON NOORDEN, H. SALOMON, A. SCHMIDT, H. CZERNY, H. STEINITZ, C. DAPPER, M. MATTHES, C. NEUBERG, O. LOEWI, and L. MOHR. Chicago, W. T. Keener & Co., 1907. xx, 527-1320 pp. 8vo. Cloth: Vol. 1, $4.00 net; Vol. 2, $6.00 net; Vol. 3, $6.00 net.

This great work, in three volumes, is a veritable mine of wealth to the student of metabolism. For those who for the first time scan its pages it is somewhat appalling to realize the vast amount of work that has been done upon this subject. Its pages teem with the results of long and laborious experimental and laboratory investigations. Critical estimates of the labors of many men are found in abundance. Bibliographies of length and completeness are scattered here and there. Portions of the book bristle with tables of figures and chemical formulæ. There is probably nothing known concerning the metabolism of the human body which has escaped the purview of the authors and editor of this splendid treatise. As a book of reference it stands, undoubtedly, without a peer on the subject of its title.

The first volume deals with food-stuffs, their digestion and absorption, and their final fate in the tissues; then with the normal metabolism of the body. The latter embraces in general the total energy exchange, nitrogenous metabolism, the influence of muscular work and the sexual processes upon metabolism, the rôle of water, the metabolism of mineral substances, and the metabolism of old age.

The second and third volumes consider most exhaustively the metabolism of disease. Thus in the second volume there are chapters upon the metabolism of chronic starvation, overfeeding, fever, and infection; so also in regard to disease of the stomach and intestines, the liver, the heart and lungs, the blood, and the kidneys. The third volume takes up the metabolic changes occurring in diabetes mellitus, gout, obesity, diseases of the skin, cancer, and diseases of children. The effects of mineral waters and baths are described. Changes due to the diseases of the ductless glands receive due notice; so also the effects of drugs and poisons, of light and the Roentgen rays, of diseases of the nervous system, and of the bones and joints.

The foregoing sketchy outline will serve to give a shadow of a shade of the contents of these enclopedic volumes.

G. R. B.

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## DEATHS.

CLINTON T. BRANDOW, M.D., of Moravia, N. Y., died June 1, 1909.

HENRY C. KEENAN, M.D., of Brooklyn, N. Y., died June 1, 1909.

JOHN J. WARD, M.D., of Ellenville, N. Y., died June 12, 1909.

# NEW YORK STATE JOURNAL OF MEDICINE

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## EDITORIAL DEPARTMENT

### SOME EXAGGERATED VIEWS IN MEDICINE AND WHERE THEY LEAD TO.

IT is a source of real sorrow to a man as he grows older and considers carefully and calmly his professional experience, to note what harmful opinions and practice prevail. Sane, conservative, well-balanced, broad-minded judgment is very frequently at a discount.

It is not rarely the young man with comparatively limited knowledge and experience, but filled to an excessive degree with advanced information, and with an undue appreciation of his own value, expressed, or tacitly accepted, who simply claims first place as a sort of right. To his predecessor who has reached that sense which comes only as the result of many years of work and service, he yields a very small quantum, if any, of allegiance. And thus every new fad or fancy of the hour, or the day, is almost sure to meet with a certain amount of popular acquiescence.

It doesn't really matter that many like things have been shown after a brief experience, to be valueless and often injurious, so far as his temporary conviction is concerned. He goes right ahead with great enthusiasm, showers encomiums right and left, upon what neither he, nor others, have thoroughly tested, and only gradually awakens mentally, and we shall trust, morally, to know the great wrong he has done to his patients, to his profession and to himself. And singular to say, this type of man, and there are very many of them, even after he has learned one good lesson, will not profit for long, but will soon go to work again and bolster up some very remarkable medicine as he calls it, or worse still perhaps, some surgical procedure of very doubtful value.

Now then these ill-timed, exaggerated notions, lead in the end, simply to intolerance and skepticism, even as to what is really good and reliable. It becomes almost impossible to men and women, often deceived, to believe in anyone, or in anybody. After presenting these generalities, it seems as if it were well to be somewhat specific as to crying ills, which should be remedied.

Look a moment at what is being done about the "white plague," so called. How foolish, unwise, wrong, a great deal of it all really is. Is tuberculosis contagious, or rather transmissible? Yes, slightly so, under certain conditions, but these can very easily and with very little expense, relatively, be absolutely guarded against in many instances. In numerous other instances, alas, it will make practically very little difference how careful we are, because sooner or later, given the soil and conditions which are unsanitary, or unhealthy, the disease will almost inevitably develop. A few germs, with the real noxa which some of them carry, will be encountered and they will begin their work of destruction, simply because the opportunity is offered for their attack and development.

Therefore, treat people in their own homes as far as may be, and make these homes as far as possible, what they should be, and *cease* spending large amounts of public and private funds building sanatoria in a vain and senseless crusade against tuberculosis. Again take the really very contagious, but still more infectious diseases like scarlet fever, diphtheria, and measles, and what have we done with our great refinements to protect others from taking them? Do we accom-

plish our purpose? We may once, or a few times, perhaps, at a great outlay of precautionary measures. Sooner or later, the disease is taken, however, unless a personal immunity exists, which no one can either diagnose in advance, or when it occurs, tell the why, or wherefore of its existence.

In some epidemics we have an extensive but very mild form of disease; in others the epidemic is severe as to numbers attacked, but also, and far more important, as to severity of disease. Why use certain exaggerated measures of protection at one time or the other, when one must know if we avoid mild forms with certainty of recovery, we may take grave forms later and die? I do not believe we can shorten disease of acute infectious type in the majority of instances, except small-pox by vaccination, and perhaps diphtheria by antitoxin, by any modern method of treatment, or deal with it much more successfully than many years ago, except in so far as we appreciate and insist upon the observance of wise sanitary laws, and good, attentive, common sense, trained nursing as much on the part of the doctor, in a way, as upon the carrying out of his orders by the nurse.

Epidemics come; epidemics go, and we know no more of their sudden rise and sudden departure, than we did centuries ago. The germ theory of disease is very good up to a certain point as a basis for fighting at times, and in a practical way from many a standpoint, should be properly considered. But it has its many, and great and unsolved exceptions, and is by no means explanatory of every acute disease in a satisfactory way, even among the infectious. Microbes are good, bad, and indifferent. Some fight for us if we only give them a chance, as witness the latest, most scientific explanation of fever. Some microbes are bad it is true, but not always; causes of disease at times no doubt; but again scavengers and helps. When they are causes it is not so much on account of their bodily form, as because of the real poison which attaches itself to them; they, in other words, are only the habitat of the poison.

Again and finally, how many microbes float about indifferently, and innocently for many a long day. This is true, as we know, even of pneumococci and the bacillus of diphtheria. The former may rest quietly in the air passages for days and weeks and no pneumonia result: the latter may grow unobserved, and seek to be let alone until some microscopic and bacterioscopic fiend goes searching around, and drags him out of his nest and holds him up before a gaping world to be shunned and run away from, and as far as possible. The worst, final result of all the foregoing, and very much more that might be added, is to increase in my humble judgment, "Man's inhumanity to man."

BEVERLEY ROBINSON.

## DISTRICT BRANCH MEDICAL MEETINGS

The Medical Society of the State of New York is composed of 58 County Societies, having a membership at the present date of over 6,700. These County Societies are united into District Branch organizations which corresponded with the judicial districts of the State when formed, although since the organization of these branches one more district has been added. These eight branches hold annual meetings and have been of great value to the organization, because they enable the members of the various counties to meet and discuss medical matters and to become better acquainted with one another. Men of adjoining counties have to practice in more than their own county, and it thus brings together many who otherwise would not meet.

The Fourth District Branch held its meeting for the year 1909 at Plattsburg, July 8th. The reason for holding it in the early summer was that the Lake Champlain Tercentenary celebration was held at that time and it was thought advisable to also have the medical meeting so that the doctors and their families might attend both. The program is printed in this issue on page 343.

The remaining seven meetings will be held in the fall and the dates and places of meeting are herewith given so that the members of the different County Societies may know when their meetings will be held and that they may make the necessary arrangements to attend.

There are many worthy men throughout this State who are practically unknown, because of the fact that their reputation is only local and that they have not had the opportunity to present their work to the profession. The County Society, the District Branch, and the State Society give them this opportunity, and the State Journal is always pleased to publish articles of value written by its members, and each year many such papers are presented. This method of presentation of one's work to the profession is particularly good when one considers that the JOURNAL is sent to every member of the State Society, and that it is on file in the libraries of this and other states and that every month the different Journals of the country which abstract literature, quote freely from the NEW YORK STATE JOURNAL OF MEDICINE.

The First District Branch will meet at Middletown, October 28th; the Second District Branch, time and place not yet decided; the Third District Branch will meet at Hudson, October 5th; the Fourth District Branch meet at Plattsburg, July 8th; the Fifth District Branch will meet at Watertown, October 14; the Sixth District Branch will meet at Oneonta, September 28th; the Seventh District Branch will meet at Hornell, September 16th; the Eighth District Branch will meet at Buffalo, September 8th and 9th.

W. R. T.

# THE PHYSICIAN'S DEMANDS OF THE PHARMACIST.*

By W. A. BASTEDO, Ph.G., M.D.
NEW YORK CITY.

TO an audience of pharmacists and physicians this subject would scarcely seem to need elucidation. Yet in answer to the query, "What do you think of the pharmacist as a professional man?" I have found medical men so ready with adverse criticism, that there must be either on the physician's part a woeful misunderstanding of the pharmacist's work, or on the pharmacist's part a failure to make good, I believe, therefore, that the better pharmacists will appreciate a frank statement of what the physician needs of them, not as analytical chemists, or bacteriologists, or microscopists or dealers in drugs, but as dispensers of prescriptions.

The greatest of these demands is that the pharmacist shall have *pharmaceutical ability*. The physician must have such confidence in the average pharmacist's ability that he will trust the pharmacist to make up extemporaneously any formula into any kind of preparation desired.

Let the physician gain such confidence, and let him understand that the cost of extemporaneous preparations is not prohibitive, and not only will he consider it unnecessary to specify Q.E.D. and Co.'s pills, or A, B and C's elixir, but he will welcome the facilities at hand to further his therapeutic practice.

To establish such confidence, the pharmacists as a class must convince the physicians as a class (so that the attitude of confidence shall come to be the traditional attitude of the physician) that they, the pharmacists, have the ability and have the facilities for making all kinds of pharmaceutical preparations quickly, and accurately, and according to the methods of up-to-date pharmacy.

The physician of the past seems to have had some hard experiences, for he has handed down to his successors a certain traditional lack of confidence in the druggist. The graduate of a few years ago knew little pharmacy because he was not taught it, and it was easy for him, under the influence of his lack of confidence in the pharmacist, to drift into the use of ready-mades. But the medical student of to-day is being taught pharmacy, not to enable him to serve as a pharmacist, but to fit him for proper prescribing; and he will neither on the one hand be a user of the ready-made formula, nor on the other hand will he accept suppositories made by hand, lumpy and large and unsightly, or ointments with a polka dot appearance from inadequate admixture, or mistura cretae which is fermenting, or flat, strongly acetic spirit of Mindererus. These new medical men will understand and appreciate good pharmacy; and now is the time of all times for the pharmacist to make quite sure that what he practices *is* good pharmacy.

One thing is certain that before he undertakes to win the physician's confidence, the pharmacist must have confidence in himself and in his own pharmaceutical ability. When a pharmacist dispenses a "ready-made" emulsion or a gelatin-coated pill, such not being specified on the prescription, does he show confidence in his own ability? Does a pharmacist who advises physicians to prefer capsules to cachets because of the difficulty and expense of making the latter, have pharmaceutical ability? And what must we think of an apothecary who is unable to supply a simple tablet triturate at 9 p. m., because he does not have it in stock and the wholesale houses are closed till to-morrow morning? Yet these are instances recorded in my own book of experience.

That in some cases the price is a factor might be inferred from the remark of a Professor of Therapeutics in a nearby medical college that he regularly ordered the ready-made proprietary when it served his needs, as the price of it was less than that of an extemporaneous mixture. Whether this is true or not, the matter hardly needs comment at this enlightened period.

A second demand of the physician is that the pharmacist shall use due *carefulness*—carefulness in reading the prescription, carefulness in checking his bottles, his weights, his measures, and his label. Mistakes will happen, but as far as possible some checking and recording system by which the majority of errors will be detected, should be in common vogue among pharmacists, and understood by physicians to be the common practice. Such a system should render it well-nigh impossible to have the thick, sweet rhubarb and soda mixture of the pharmacopœia, which contains 35 per cent. of glycerine, dispensed on a prescription written *"Mistura rhei et sodae, U.S.P. sine glycerino,"* or the compound tincture of cinchona dispensed for the compound tincture of lavender, these being next door neighbors on the druggist's shelf.

One of the crying evils in this regard, an evil that it seems impossible to overcome in the smaller stores, is the necessity that the dispenser is so frequently under of leaving a prescription half dispensed while he performs the functions of a sales clerk in some other part of the store.

A third demand of the physician is a proper *ethical attitude* on the part of the pharmacist. That is, that in regard to the nature of the ingredients or the therapeutic usefulness of a prescription, the pharmacist shall refuse absolutely any information to the patient. I might say to the pharmacists present that among patients, especially nervous and spoiled ones, the physician is often handicapped by prejudice against certain drugs, a patient saying "I cannot take cascara," or "all coal-tar products poison me severely," or "calomel always makes me

* Read at the Joint Meeting of the Medical Society of the County of New York and the New York Branch of the American Pharmaceutical Association at New York, May 19, 1909.

dreadfully ill for a week." But these same patients do well on rhamnus purshiana, or acetphenetidin, or hydrargyri chloridum mite, and the revealing of the real nature of these substances is a serious matter.

A patient recently reported to me that his pharmacist had commended my prescription for rheumatism, but had said that if he had been prescribing such a mixture he "would have added a little fluid extract of—something the name of which the patient had forgotten—which was the best thing yet for rheumatism." These are instances of thoughtlessness, but they strike the physician most forcibly, and leave a bad impression.

Still, though without a definite code of ethics, many pharmacists do try to deal ethically as regards both patient and physician, even sometimes at an immediate commercial loss. And we physicians, who make so many errors in our prescription writing, must never cease to be grateful to the pharmacists, who have so often protected us from the consequences of our prescription errors, and have times without number shouldered the unjust blame themselves. Indeed, physicians have many faults that at times are trying to the pharmacist.

The good pharmacists are doing much to improve the practice of pharmacy. Through their efforts, and theirs alone, there has been a great advance in the educational requirements of the pharmacist. But the fact remains that the efficient and conscientious pharmacist is suffering for the faults of the inefficient and unscrupulous: for the physician has no satisfactory way of distinguishing them.

So far as we physicians can help ourselves in these matters, our success in improving the milk supply may offer a suggestion. A few years ago there was no satisfactory distinguishing mark between the good and the poor milks. Now we have certified milk, which is produced under conditions laid down by the Milk Commission of the County Medical Society, conditions as to care of cows, stabling, milking, bottling, etc., and which on occasional tests is found to conform with certain high standards. All specimens of milk cannot be tested, but it is found that milk coming from dairies thus controlled is very uniformly of good quality.

For the benefit of pharmacy and of medicine I hope that the day is not far away when we shall have "certified pharmacies," *i. e.,* pharmacies whose prescription departments are *arranged* and *conducted* according to certain practicable specifications laid down by a Pharmacy Commission of the County Medical Society, with the advice and counsel of the best pharmacists. The good and conscientious men of the pharmaceutical profession will welcome such distinction; and some of those who are not naturally good will develop a conscience under the new incentive.

To sum up, the things that the physician demands of the pharmacist as a dispenser of prescriptions are: (1) Pharmaceutical ability; (2) Responsibility and carefulness; (3) A proper ethical attitude towards the prescription and the prescriber. And we might add, a method by which the physician may distinguish the sheep of the pharmaceutical fold from the goats.

## THE SUFFICIENCY OF STANDARD REMEDIES FOR THERAPEUTIC NEEDS.*

By R. A. HATCHER, M.D.
NEW YORK CITY.

STANDARD remedies are those which measure up to the requirements approved by well-informed members of our profession. The Pharmacopœia is the highest standard which we now have for therapeutic agents.

It is true that the activities of manufacturers occasionally add new and valuable articles to our armamentarium which are not admitted to the Pharmacopœia at once, but all articles of this character are admitted promptly into the little book, New and Non-Official Remedies. The standard for admission to this being prescribed by the rules of the Council on Pharmacy and Chemistry, which are so broad that no meritorious remedy is excluded if exploited honestly.

No one denies the shortcomings of the Pharmacopœia, and we are now trying to induce physicians to take an interest in the problems concerned with the forthcoming revision, but one hears many more complaints of the superabundance of official substances than of omissions.

The Pharmacopœia is an octavo volume of 690 pages exclusive of the introductory, of most concise information for pharmacists and physicians, but there are few who have even a fair acquaintance with its contents.

Nine hundred and fifty-eight articles are mentioned in the text, 117 having been recently admitted.

The large number of official substances—far exceeding the capacity of any man to know thoroughly and use with skill—is presented under a great variety of forms to suit the most varied conditions.

Crude vegetable drugs are not used now so commonly as they once were, but progressive pharmacy has devised the best means of extracting the active principles of nearly every one of proved value, and these preparations are supplied by reputable pharmacists in more than thirty different forms, or classes, of preparations.

For example, any true pharmacist can make fluid extract of cascara sagrada fully equal to any that is sold under a fanciful name. One hundred and eighty-four assays provide for the

* Read before the Joint Meeting of the Medical Society of the State of New York and The New York Branch of The American Pharmaceutical Association, New York City, May 19, 1909.

standardization of as many as possible of these articles, while the purity of the chemical substances is assured by proper tests.

The facts just stated show the wealth of standard material and the variety of forms in which it is presented, but the crucial question is to what extent does it include that which is really valuable in therapeutics.

I will admit at once that many of us would be sadly handicapped by the loss of all unofficial remedies, but I believe the true explanation of this lies in the fact that we have permitted the proprietary interests to train us in the use of their products, until we have come to depend upon them instead of familiarizing ourselves with official substances, and learning the possibilities afforded by the intelligent use of them.

We can answer this crucial question correctly only when we have determined how many of the unofficial substances are indispensable even to one who is well acquainted with these which are official and able to use them properly.

We must consider any remedy indispensable unless it can be replaced by a better one. It is evident that many of us consider digalen, isopral diuretin, atoxyl, the glycero-phosphates or lecithin and many others, indispensable additions to our materia medica.

Until recently many of us would have included antikamnia, collargol, lactopeptine, cactin, bromidia and many of lesser note.

I feel certain that those first mentioned are no more indispensable than are the latter.

We do not know the composition of digalen; we know little of its keeping qualities or of its products of decomposition. Cloetta claims that it is soluble amorphous digitoxin, but digitoxin is neither soluble nor amorphous, and if its physical properties can be so altered we have no proof that its physiological action does not undergo an equal change. Kiliani believes digalen to be impure digitalein. Many careful clinicians continue to prefer the powdered digitalis leaf, the tincture or infusion to digalen, digitalone and other substitutes for digitalis.

The intelligent use of any member of the digitalis group requires far more study than is usually devoted to it. and I venture the opinion that many who sing the praises of digalen cannot distinguish between the toxic stage of digitalis action and the ordinary progress of cardiac disease. I know that there are physicians in New York who know so little of the pharmacology of digitalis that they use it externally.

One manufacturer admits that eggs can supply the required amount of lecithin provided that the patient can digest the necessary amount of eggs. As a matter of fact, the yolk of one egg contains the equivalent of four doses of lecithin. The glycero-phosphates, the hypophosphites and preparations of lecithin are probably entirely superfluous.

The stock argument of those who cling to the use of proprietary preparations and ready made mixtures is that phenacetine and antifebrin were indispensable long before they became official. To cite these in support of the argument of the insufficiency of standard remedies is a confession of ignorance. They are the result of careful scientific investigations, the highest aim of therapeutics, but it is indeed a far cry from phenacetine to antikamnia.

It is laudable to strive intelligently for better antipyretics than those which we now possess, but it is folly to accept the word of ignorant makers of nostrums who claim to have succeeded where the best men have been forced to admit that the original basic idea from which the vast number of antipyretics has sprung has been exhausted and offers no hope for material improvement.

S. Frenkel (Arzneimittelsynthese, 2d. ed. p. 290, 1906) says: "The ideal specific antipyretic with strong antineuralgic, and antimalarial, but no side actions, is still to be attained, but to achieve this there must be new studies of quinine—barring chance, which plays such an important role in discovery. The ideas hitherto brought forward have been exhausted in all their variations and must now give way." That potent "chance" to which Frænkel refers has caused a vast deal of misunderstanding. It has nothing to do with the endless production of nostrums by ignorant and unscrupulous manufacturers who make unimportant changes in valuable remedies and exploit them as great discoveries. All of the antipyretics of this class belong to a few groups which can be understood with a little careful study, which will at the same time, show the absurdity of the claims made for pretended discoveries.

The safe hypnotic and analgesic is also the object of endless research and its appearance is often proclaimed, only to find many ever-credulous practitioners ready to ply their patients with the latest fad, however dangerous, provided only that some one can be found to attest its virtues. Such were the claims made for isopral, but Kobert holds isopral to be utterly superfluous, having all the dangers of hydrated chloral but in a still greater degree. He adds, little used in Germany.

We probably have no safer hypnotic than hydrated chloral with potassium bromide, but the abuse of bromidia is one of the scandals of therapeutics. I have seen a man suffering from the frightful consequences of over-dosing with bromidia prescribed by a specialist in Paris, after he had visited other specialists in Berlin and Vienna, little suspecting that he needed only rest, quiet and fresh air.

The makers of proprietary hematinics often quote Bunge in support of their claims of the superiority of organic iron over inorganic, but what physicians should read and ponder well is Bunge's statement concerning the advantages of

beef, swines blood and various foods as hematinics. How many of the adherents of peptomangan and ovo-ferrin know the amount of available iron in meat, lettuce, spinach and other foods, not to speak of blood.

There are many official preparations of iron including the tincture of ferric chloride, solution of iron and ammonium acetate, Blauds pills and that simple triumph of elegant pharmacy, the bitter wine of iron, so acceptable to the most delicate taste.

Attempts are still being made to induce physicians to employ internal antiseptics on the evidence of the antiseptic action as shown in the test tube. The fallacies to which this argument are liable will be appreciated by any one who is familiar with the results of Bechhold and Ehrlich with a large number of antiseptics tested against the bacillus of diphtheria. They found that some of their substances had enormous antiseptic power and comparatively little toxicity for the human organism and yet they were one and all utterly worthless for the treatment of diphtheria, simply because none could be found with a selective action for the bacillus rather than for the host, and they were therefore practically devoid of any antiseptic action in the human body. It is often forgotten that the antiseptic power of a substance against one organism is no index of his action against another organism. The variations in this particular being enormous.

The official antiseptics practically cover the range of therapeutic action even if we exclude the unscientific pharmacopœial imitation of listerine.

One of the most extraordinary misconceptions of the average physician is that the granular effervescent salts are beyond the domain of retail pharmacy, but in fact many of the proprietary so-called granular effervescent salts are crudely mixed powders, whereas the official are made by any pharmacist and are quite equal to any ready made, and superior to most of those. Furthermore, the physician is not limited to the official powders in this form but can prescribe a number for extemporaneous dispensing.

Heroin is looked upon by many physicians as indispensable. This view is based largely upon the mistaken idea that it is a harmless respiratory stimulant, and on an insufficient acquaintance with the actions of codein. Kobert characterizes heroin as a dangerous remedy. Codein will probably answer every purpose that heroin serves and it is certainly much safer.

Theobromine is one of the most active diuretics in the materia medica and may be considered indispensable, though its action is uncertain, but we are not dependent on diuretin or agurin, for theobromin is soluble in warm water and cocoa or chocolate may be used.

Atoxyl affords a good example of the rise and decline of a nostrum. Its name is a misnomer intended to indicate a non-toxic character, but a non-toxic preparation does not have the actions of arsenic. It reminds one of the claims formerly made for a notorious opium preparation—"The pain-relieving principle of opium with the harm left out."

Every proprietary remedy is in the experimental stage and we owe it to ourselves and to our patients to disregard the literature gratuitously supplied by the manufacturers. The busy practitioner will say that he has no time to study the extensive literature when he can have it abstracted and presented to him in concise form. The fallacy of that argument is illustrated by the report of the committee on collargol in the *Journal of the American Medical Association* for March 13, 1909.

Commercial men are not philanthropists but they are optimists and use the bright lexicon of youth which lacks a certain word with which their followers become all too familiar.

Even in Germany there are signs of an awakening from the apathetic attitude toward this question, and protests are being made against the flood of fraudulent nostrums.

We do not need more new remedies which will save us the trouble of thinking. The most urgent need in therapeutics to-day is the careful study of a few of the best standard remedies which we now possess, for that man is recreant to his trust who accepts a fee from his patient and then trifles with his health while experimenting with secret remedies or those of which he knows little—that little, often the mere statement of an irresponsible detail man who is hired to talk about that which he does not understand.

In our ignorance of materia medica, listening to every siren voice that promises easy therapeutic success, we flit from one absurdity to another while repeating the senseless formula of the manufacturer—"I care not what it is so it cures." Thus we go in a dreary circle, peddling the wares of the nostrum maker, leaving a path strewn with the victims of overcredulousness.

Thus far we have retained the confidence of the public, but we are at the parting of the ways and he who refuses to avail himself of standard remedies will find himself distanced by those who are striving earnestly to practice legitimate therapeutics.

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## "THE PHARMACIST'S ABILITY TO MEET THE PHYSICIAN'S DEMANDS."*

**By G. C. DIEKMAN, M.D. Ph.G.**
NEW YORK CITY.

PRIOR to the year 1871 there were no requirements imposed by law upon such as desired to operate in the field of pharmacy. In the year 1871 a pharmacy commission appointed by the then mayor of New York, was

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created, and the commission held office during a part of the year 1871.

In the year 1872, a pharmacy board, elected by the pharmacists who were members of the College of Pharmacy of the city of New York, was created, and this board, with many changes in its personnel, and operating under several different laws, continued in office until December, 1897.

Owing to the consolidation of the territory now known as the Greater New York, it became necessary in 1897, to create a new board, known as the Board of Pharmacy of the city of New York, consisting of five members, three from the old city of New York, and two from Brooklyn. The members from New York were elected by the Manhattan Pharmaceutical Association and the German Apothecaries Society, and the members from Brooklyn, by the Kings County Pharmaceutical Association. This board continued to exist until December, 1901, when it was superceded by the "All State Board," which had jurisdiction over the entire State, and which board still exists.

The duty of all these boards, besides exercising supervision over pharmacists and pharmacies and regulating the practice of pharmacy in general, was to examine candidates who desired to obtain a license to practice pharmacy.

It would thus appear that the State since 1871, exercised its jurisdiction as far as the professional ability of the candidate for license was concerned. Other requirements were, that the candidate must be at least 21 years of age and that he must have had at least four years experience in a place where drugs and medicines are sold at retail, and physician's prescriptions compounded.

Until January 1, 1905, nothing in the law took cognizance of the *preliminary* education of such as desired to become pharmacists. Any one could enter a college of pharmacy; there were no restrictions, except such as were imposed by the colleges themselves. Indeed it was unnecessary for the aspiring pharmacist to become a college student, he being permitted, under the law to present himself before the board for examination without any college experience whatever, and if successful, was granted a license to practice pharmacy.

On January 1, 1905, the so-called pre-requisite law went into effect. Under its provision all candidates for license to practice pharmacy must possess among others, the following:

A diploma of any pharmacy school, college or department of a university maintaining a two years' course in pharmacy, and upon the request or with the approval of the said board, registered by the regents of the university of the State of New York as legally incorporated and as maintaining a proper pharmacy standard, provided such pharmacy school, college or department of a university shall require as a condition for entrance a satisfactory examination in subjects designated by the said regents of not less than 15 regents' counts, or an equivalent acceptable to said regents. From this it will be seen that the State now exercises jurisdiction, through medium of its State Education Department, not only over the professional requirements, but also over the preliminary education of all such as desire to enter the field of pharmacy. The colleges of this State are thus required to conform strictly to the entrance requirements imposed upon them by the State. From this there is no deviation, cases where students possess 14½ counts, at the time they desire to become students of any one of the colleges of this State, and where such admission was denied, are not at all uncommon. Every applicant must possess at least 15 regents counts, or their equivalent, certified to by the State Education Department. It will be well to state at this time that the graduates of our colleges are still required, after graduation, to pass the State licensing examination, before they can legally practice pharmacy in this State.

It has been said that nothing would prevent the colleges from graduating all who enter their door, with the required preliminary education, irrespective of what knowledge they may possess. This would be a suicidal policy on part of the college, for surely one not properly qualified, could not hope to pass the State licensing examination. The diploma of the college, as such, possesses no value, as far as the actual practice of pharmacy is concerned. Surely no college desires, or could afford to have it said that a number of persons, holding its diploma, were unable to pass the State board examination.

Besides this, there is another very potent factor in the matter, and that is the American Conference of Pharmaceutical Faculties, membership in which conference is only retained by a strict compliance with all requirements the conference imposes upon its members. Some of these requirements are as follows:

"The institution shall include in its course of instruction oral lectures, personal laboratory work, recitations and reviews. This shall exclude work done in absentia.

"The institution shall require of each candidate for graduation not less than five hundred hours given to lectures and recitations, and not less than six hundred hours of laboratory work; such work to begin in a period of not less than fifty weeks, occupying two full years, and at least two months shall elapse between these two years.

"That beginning with the session 1908-09, a satisfactory completion of at least one year of work in an accredited high school or its equivalent shall be demanded, providing, however, that certain states be not subject to this requirement."

All of the colleges of this State are members of the American Conference of Pharmaceutical Faculties.

I will now proceed to enumerate the subjects which are taught at the colleges, not going into details, but confining myself to the principal subjects.

| Lecture Subjects: | Laboratory Subjects: |
|---|---|
| Practical Pharmacy, | |
| Materia Medica, | Chemical Laboratory, |
| Toxicology, | Pharmacy Laboratory, |
| Organic Chemistry, | Dispensing Laboratory, |
| Pharmaceutical Chemistry, | Pharmacognosy Laboratory, |
| Analytical Chemistry, | Microscopical Laboratory, |
| Physics, | |
| Botany, | |
| Physiology, | Besides recitations and reviews in all these subjects. |
| Mathematics, | |
| Posology. | |

Later on in the evening practical demonstrations of the work that can be done by the pharmacist will be given.

At this juncture I wish to call attention to a very important point, and that is the ability of the graduates in pharmacy, not only to prepare accurately and correctly, the various formula of the United States Pharmacopœia and the National Formulary and such formula as the physician may designate, but as well his ability to detect impurities and adulterations in the crude materials from which such preparations are made. He is amply qualified to apply all of the official tests, be they microscopical or chemical in nature.

Now it will be said that while the conditions as herein described, may hold good for the State of New York, there is no evidence that an equally high standard is required in other states. True, but an effort is being made, with every reason to hope for success, to make these higher requirements operative in all parts of the country.

The National Syllabus Committee whose membership is recruited from the following: New York State Board of Pharmacy, State Education Department, American Conference of Pharmaceutical Faculties, National Association of Boards of Pharmacy, Pharmacy Council of the State of New York, and the American Pharmaceutical Association, is actively engaged in establishing a minimum requirement for courses of instruction for the government of schools and boards of pharmacy. Much has already been accomplished in this direction.

Now one word in respect to the character of the examination to which the candidate for pharmacist license is subjected to on part of the New York State Board of Pharmacy. An examination is being held at this time, beginning with to-day, and ending to-morrow, when approximately 120 candidates will have been examined. On the first day the examination in the subjects of botany, materia medica and pharmacognosy, pharmaceutical chemistry, toxicology and posology is held. The second day is devoted exclusively to the subject of pharmacy, theoretical and practical.

The practical work consists of the compounding of prescriptions, the manufacture of a number of galenical preparations and the testing of chemicals and galenical for impurities or adulterations. I know it will be of interest to those present to have me cite a specific instance of this kind of work.

In the manufacture of solution of ferric chloride, nitric acid is directed to be employed, for the purpose of oxidizing the iron into the ferric condition. Now it is impossible to employ the exact quantity of the acid required for the oxidation, but an excess must be employed. Of course the excess is directed to be removed by the application of heat after completion of the oxidation. As the liquor is employed in the manufacture of tincture of iron, it is very important that the liquor be free from even a small quantity of nitric acid. If this is not so, the nitric acid will oxidize the alcohol of the tincture, producing substances certainly not wanted in the tincture.

The detection of nitric acid in this liquor is therefore one of the exercises of this practical examination. Numerous other examples could be mentioned were it necessary.

I cannot close without making clear the point that however able the pharmacist may be to meet the physician's demand, he may still fail to do so, by virtue of lack of that integrity and honesty so necessary in every calling, but as it seems to me, absolutely indispensable in case of the pharmacist.

To sum up, I believe I am well within the truth when I say that at no time has the pharmacist been better prepared to meet the physicians' demands, than at present.

## THE RELATIONS OF THE PHYSICIAN AND THE PHARMACIST.*

By WILLIAM C. ANDERSON, Phar.D.

BROOKLYN, N. Y.

IN considering the relations between different professions and trades we must recognize the fact that there are conditions that should exist, and those which actually do exist.

The conditions which should exist are the ideal ones or those which tend to conserve the best interests of those concerned and give just, consistent, and effective service to the public.

The conditions which too often do exist are those fostered by the selfish tendencies that gain such a controlling power over mankind and blind one to the consideration of all but personal advancement and personal advantage.

In the great daily struggle for position, honor, and wealth, one soon loses sight of that powerful link that binds one to the other, and shows that the success of one must depend upon the operations of another, and it frequently occurs that one who is courageous and strong is pressing to the wall the one who made it possible for him to attain such courage and strength.

In reviewing the different professions and trades and their relations one to the other, we are impressed with the fact that in no instance is the necessity for the most harmonious and cordial relations so great as in that of medicine

* Read before the County of Rockland Medical Society at Pearl River, April 7, 1909.

and pharmacy, for while most professions and trades affect the economy, convenience, comfort and pleasure of mankind and strained relations between them would only affect ordinary things, medicine and pharmacy affect the health and strength, in fact the very existence of man, and strained relations between them may be fraught with the gravest danger and consequences.

There is also greater dependence one upon the other in medicine and pharmacy than in most other professions and trades.

The physician who has selected as his special work in life, one of the noblest and most important professions open to mankind, a profession which requires in addition to most thorough education, and training, the exercise of patience, consideration, sound judgment, and conscientiousness, a profession which goes into the midst of pain, sorrow, and gloom, and changes them into comfort, happiness and bright sunshine, in fact, places its arms around struggling humanity, rescues it from the everlasting gloom of the grave, and sends it forth to enjoy the bountiful beauties, blessings, and comforts of this great world in which we live, in the completion of his noble mission, would stand as helpless as the architect without the builder, the artist without the brush, or the sculptor without his tools, were it not for the profession of pharmacy, which having kept pace with that of medicine, ever stands ready to supply the necessary link which makes it possible for the physician to make effective his great knowledge, and experience, and the public to receive the advantages and benefits that can only be secured through their combined efforts.

The dependence of the physician upon the pharmacist, however, is no greater than the dependence of the pharmacist upon the physician, for the scientific practice of pharmacy is increased or diminished by what the practice of medicine requires of it; consequently the interest of the public as well as that of both professions will receive the greatest protection by a general recognition of the close relations one bears to the other.

There is little doubt that both the physician and the pharmacist recognizes this fact, but neither has done his whole duty in cultivating the co-operation that is so essential to proper and just recognition, the tendency being to criticise rather than confer and meet apparent or real abuses by acts of retaliation.

To my mind the ideal conditions that should exist between the physician and the pharmacist are that the physician should have the exclusive right to examine the sick or injured and determine what remedy should be secured, and that this remedy should be obtained through an extemporaneous, ethical prescription written by the physician over which he shall have complete control, the same to be compounded with absolute accuracy in every particular by a licensed pharmacist. The physician should be accorded the right to recommend to his patient the pharmacist or pharmacists whom he prefers to compound his prescriptions and the pharmacist the right to recommend to an inquiring public such physician or physicians as he may consider most competent and worthy, but in each instance the matter of money consideration should not be allowed to exert any influence, but each be guided by his knowledge of the ability and character of the other.

I would not attempt to dispute the assertion that is often made that ideals are hard to attain, but must contend that efforts to attain such ideals are both worthy and commendable and should be supported by all who are affected by conditions which should and do exist.

Taking these ideal conditions as a guide for the most just and advantageous relations between the physician and the pharmacist, we find that great efforts are necessary in order to change conditions which do exist to or near that which should exist for lack of proper consideration and co-operation has taken each from his proper sphere and among other things there has developed the prescribing pharmacist and dispensing physician, the substituting pharmacist and the non-ethical physician, all of whom should be eliminated or at least modified to a degree consistent with existing circumstances in order that physicians and pharmacists may receive the consideration and benefits to which they are justly entitled and the public the most true and advantageous service.

*The Physician's Prescription.*—One thing that plays an important part in the relations of the physician and the pharmacist is the physician's prescription, its ownership, care and consideration in compounding and character of constituents.

To me a physician's prescription is an order for certain drugs and preparations to be dispensed in a specified form, given by one qualified by education and experience, and licensed by law to perform the delicate and important work of examining the sick or injured, and designating what remedies they shall employ. In my opinion the licensed physician is the only person who has the moral or legal right to examine a person suffering from any disease or affliction, and to prescribe remedies therefor, except in cases of accident or poisoning when temporary relief only, may be given by anyone who may be appealed to.

I believe the physician not only has the exclusive right to prescribe remedies, but that he also should be the sole judge of what his patient shall take, and have control over the destiny of his prescription after it leaves his hands; for when a physician prescribes for a patient, his reputation and honor goes with that prescription and no terms of denunciation are too strong to apply to the individual, who for the sake of

personal gain will jeopardize that reputation and the safety of the patient by deliberate substitution.

It is only natural that there should be difference of opinion as to what constitutes substitution, but it appears to me there is much less opportunity for dispute on this question than on many others, for I believe the physician should maintain the right to order any remedy he may wish, and the pharmacist should recognize his right to do so, and obey his instructions in every instance.

The physician, however, can aid the pharmacist in this respect by using a little more consideration in prescribing, for it does not seem reasonable that each physician should require a different make of the same preparation and their habit of specifying special makes of common things, and then upon inquiry, usually asserting, it makes little or no difference to them, another make will do, leads pharmacists to believe they are not positive in their demands, and the habit of changing his orders in instances of minor importance leads one to make changes in more important instances, without realizing the seriousness of the act.

*Ownership of the Prescription.*—If all cases could be successfully treated with drugs, the unlimited use of which would not have a detrimental effect upon the patient, only selfish reasons could be given for a physician's action in directing that a prescription should not be compounded more than once, and that no copy of it shall be given, but as physicians frequently find it necessary to prescribe drugs, the continued use of which would be detrimental to the patient's health and the physician's reputation, it is essential that the physician shall have, and exercise the right, to direct the pharmacist to refuse to refill or give a copy of any one of his prescriptions. The pharmacist's duty under such circumstances is very plain, for he has no more right to question the judgment of the physician in the refilling of prescriptions than in the drugs and preparations he desired placed therein, but in either instance should obey the physician's instructions in every particular. More than this, the physician cannot ask and it is unfair to expect the pharmacist to offend his customers and interfere with his business interests by attempting to discriminate between prescriptions which should and those which should not be repeated, for the power to prevent such repitition lies with the physician alone, and his failure to take the trouble to give specific directions to the pharmacist, relieves the latter of all responsibility and places all blame for any injury to the patient or physician where it rightfully belongs.

*Counter Prescribing.*—Counter prescribing is such a broad term that it can be made to place the pharmacist in the most disagreeable and ridiculous position by one so inclined, or relieve him of the responsibility for the exercise of other than the most simple and harmless practice by one who desires to do so.

Under the head of counter prescribing it is possible for a pharmacist to practice medicine to an extent that is unjust to the physician, illegal, and dangerous to the public; in fact absolutely criminal. At the same time his knowledge of drugs, the peculiar nature of his business, and his relations to the public makes it impossible for him to conduct his business without answering questions and giving advice in such a way as to be considered guilty of counter prescribing by those who cannot, or will not, recognize his true position.

What is needed at this time is a just and reasonable definition of what shall constitute counter prescribing, as objected to by physicians, and a distinct understanding as to what suggestions and recommendations, as to the use of drugs, a pharmacist can make without being considered a counter prescriber.

I do not believe a pharmacist has a legal or moral right to examine a customer, attempt to determine the cause of illness and prescribe therefor, but that he has a perfect right to give a correct answer to questions in reference to the action of drugs and preparations, and sell those not restricted by law.

*Ethical and Non-ethical Prescriptions.*—Ability to perform certain duties is the most essential requirement in most professions and trades; and while its value in the practice of medicine, and of pharmacy must not be under-estimated, ability may be a dangerous asset for a physician or a pharmacist who has not such character, intelligence and clear understanding of his duties and responsibilities that will enable him to use that ability consistently, conscientiously, and honestly. Consequently the ability of the physician and the pharmacist must be augmented by such careful, consistent, and considerate practices as will maintain the professional dignity and honor of each, and give to humanity the greatest possible help and protection.

The ability of the physician consists essentially of a thorough knowledge of the human body and the functions of its numerous parts, the proper diagnosis of disease and the remedies best suited to combat it.

This ability is usually attained by hard work, careful study and training, and systematic practice; no one part of his ability can be considered more essential than another for his knowledge of the human body, its parts, and the peculiar functions of each would be of little use to him or those whom he might serve, were it not for his ability to determine the cause of the failure of any of these parts to perform the work that is necessary to maintain health, strength and human life.

And still, with all his skill in these respects, he would stand helpless and alone were it not for

his ability to select the remedy that will give the necessary relief or effect the desired cure.

The just and conscientious discharge of his duties then demands that the physician shall be as particular, careful, and sure of the remedies he selects for the treatment of his patient, as he is of his diagnosis and the particular part of the human body the remedy is intended to affect.

Every medical practitioner recognizes the danger of a false diagnosis, and each should recognize as equally dangerous and vital, the use of the wrong remedy or one of uncertainty or of doubtful composition.

To err is only human, still, while much more is usually expected of physicians than of other individuals, and justly so because of the importance and delicacy of their work, and it would be unreasonable to suppose that they are absolutely immune from the general tendencies that surround mankind, it behooves the physician to keep himself as free as possible from errors of every description; for what may appear to one individual as an error of minor importance may impress another as being of a most serious character.

Most of the errors that creep into one's life are fostered by indifference, neglect, the gradual development of habits the continued practice of which blinds one to the fact that errors are being committed, and the attractiveness of the easier way of doing what one is called upon to do.

I do not believe any one will question the right of a physician to order any remedy he may deem best for the patient, and this concession should impress him with the great confidence reposed in him and the necessity of avoiding all tendencies that would cause him to deviate from the straight course of thoroughness, accuracy, and devotion to his noble profession.

In no other profession or trade is an individual given such generous recognition, and unlimited powers as is accorded the physician, and a trusting public is entitled to his attention, his consideration, his best efforts, and the benefits of all his ability and force of character.

The high regard in which most medical practitioners hold their profession should make it possible for the public to receive all to which it is entitled, for those interested in the welfare of a profession or trade are usually capable of eliminating those things which stand in the way of its reputable progress and success. As we review the practice of medicine, we find great progress in surgery and diagnosis, but in the administration of remedial agents, human nature seems to have exerted its full power, and the habit of prescribing compounds of unknown or questionable composition has grown upon the physician to such an extent that the "easy way" has in many instances fostered both neglect and lack of consideration.

It cannot be claimed that no benefits have accrued from this practice, for the extensive development of manufacturing concerns who produce these secret products, the vast amount of money they are able to spend in advertising, and the splendid dividends their stockholders receive, must be an object lesson to the physician and he can truly see what he has done for them.

But what of himself, his patient, and the one who is especially trained to, and stands ready to assist him at all times, the pharmacist.

It is difficult to determine how most physicians have benefited by this practice to which they have become accustomed to such an extent, for with the exception of the slight advantage gained in the time required to write a coined name instead of a number of ingredients or an official title, it would seem the physician has lost instead of gained; for many instances can be cited where he has acted as the greatest advertising medium a secret preparation could have and after introducing it to his patients, loses both profit and reputation.

It is sometimes claimed that the physician in prescribing ready made compounds is relieved of the consideration of doses, incompatibility, etc., but this to my mind is a loss rather than a gain, for sacrificing valuable knowledge or ability through lack of practice that is available must be a detriment rather than an advantage.

The patient for whom secret remedies are prescribed cannot receive all to which he is justly entitled, for when he places himself in the hands of a physician he has a right to expect that the physician is competent to perform the important duties he assumes, and that he will receive the full benefit of his knowledge and experience.

A physician who is not competent to select the remedial agent or agents required for the treatment of his patient, or does not understand the action of those agents has no right to assume such important responsibilities, and one who is competent and has such knowledge but fails to give the patient the benefit of it is not carrying out his part of the contract for which the patient pays.

When a physician has diagnosed a case and decided upon the drug or drugs that should be used to relieve it, the patient is entitled to receive the benefits of the same unless unavoidable circumstances prevent it, yet every physician who has attained the habit of prescribing or dispensing formulas put up in particular styles may recall instances where he has been inclined to suit the case to be treated, to the particular preparation that was most handy or prominent in his mind, rather than select the definite remedies and quantities of the same that were actually indicated.

I can see some reason why a physician might be induced to deviate from the ethical practice of medicine and instead of writing a prescription for the actual drugs and preparations required, the same to be dispensed by a pharmacist, gives or sells the patient remedies he has on hand, or prescribes preparations that are usually beautiful in appearance, attractive to the taste, and recom-

mended most highly by the literature used to advertise them but containing ingredients of unknown or doubtful quantity and quality. The most likely of these reasons is a feeling of doubt as to his ability to obtain the drugs and preparations desired, and lack of confidence in his ability to prescribe in such a way as to prevent undesirable incompatibility and disagreeable looking and tasting mixtures.

The first of these can be easily and quickly dispelled by a glance into the modern drug store and a little consideration of the splendid results of the efforts of organized pharmacists; for there has never been a time in the history of pharmacy that the physician could place such unwavering confidence in the pharmacist as he can to-day. Advances in educational requirements and compulsory college courses have brought an influence to bear on pharmacists and impressed them with the fact that the true practice of pharmacy means more than simply striving for a livelihood, that there is an honored name and valuable reputation to maintain, and as the co-workers with the physician in a field that means so much to all mankind he must hold as a sacred trust, all orders for medicinal compounds, and realize that he is obligated to give to the physician and the public the truest and most honorable service.

The excellent work of the best and most efficient board of pharmacy that ever attempted to safeguard the interests of the public, the physician, and the pharmacist, has aroused the negligent, crushed the disreputable, and encouraged the worthy until to-day it would be a great exception to the rule to find drug stores that are not equipped with practically all standard drugs and preparations of United States Pharmacopœia and National Formulary, purity and strength, and in a position to serve the physician and the public, accurately, promptly, and proficiently.

The lack of confidence in their ability to write correct and effective prescriptions which some physicians display, apparently is due in many instances to a rather weak foundation and failure to improve conditions by actual practice.

Medical schools as a rule do not give therapeutics and prescribing the attention their importance deserves, consequently it is not surprising that the young graduate with the anxiety that naturally comes with early practice becomes an easy prey for the wiles of the ever active detail agent.

The effect of secret remedy prescribing is very detrimental to the practice of pharmacy from both a professional and a commercial standpoint, for the professional practice of pharmacy must be to a great extent what the physician makes it.

If the requirements of the physician are for compounds and mixtures that are prepared by the manufacturing houses the pharmacist becomes simply a mechanical tradesman and has no opportunity to develop his profession and put into practical use the art and science which has cost him considerable money and years of hard work and study.

On the other hand if the physician pins his faith to the drugs of the U. S. P. and the preparations of that work and the N. F. the pharmacist is enabled to bring into practical use all his knowledge and skill, and produce the valuable and gratifying results for which he is especially trained.

It is the general belief in business life that a reduction of profit for the retailer means a corresponding saving to the purchaser, but such is not the case in dispensing secret remedies; for the manufacturer usually holds his secret and price for manipulation at such a high figure that the customer is compelled to pay more than an equal quantity of an ethical prescription would cost; the manufacturer gets the profit, the retailer the reputation of being high priced, and frequently the physician the accusation of being in league with the manufacturer, or criticism for prescribing a patent medicine that could be purchased on the market without seeking the advice of the trained practitioner and paying his fee.

The loss of the pay for the skill and experience that would be utilized in compounding an ethical prescription is not, however, the only loss the pharmacist sustains through the numerous prescriptions for ready made compounds; for a glance at the vast number of partially filled or almost completely filled bottles and other containers of this class of goods that are found in the average drug store, many of which have been ordered but once and will never be ordered again, will quickly prove the amount he has sacrificed in order to be true to his position and ever ready to assist the physician in his work, even though that work may be chiefly of an experimental character.

The accumulation of these containers with their convenient and attractive names that were once popular but soon forgotten is excellent proof of the unsatisfactory nature of most of this class of compounds, and indicates the ease with which some physicians are influenced by interesting advertising matter, and the trained tongue of the detail agent; while the readiness with which the physician turns to the old efficient and reliable drugs of the pharmacopœia whenever the danger point is neared, impresses one with the fact that with all the attractiveness of other methods, the interests of the physician, the pharmacist, and the public can be best and most satisfactorily guarded by the use of extemporaneous ethical prescriptions containing ingredients of known quality, strength and value.

It is often said that necessity knows no rule or law, but the physician cannot consistently use this as an excuse for prescribing secret mixtures, for it was through his own effort stimulated by a desire to raise the standard of his profession by getting away from the uncertainty and doubt of early practices, that the physician compiled and published our standard book the United

States Pharmacopœia, and took a most active part in establishing that work of ethical formulas the National Formulary. Thus through the work of his own constituents aided by the best service pharmacy can give the physician is provided with drugs and preparations of unquestionable value with which to perform his great work of mercy.

These two standards should be his chief guide in prescribing remedies. For while no one who is familiar with his duties and privileges will question his right to prescribe any remedy or course of treatment he may deem proper for his patient, there is a moral responsibility resting upon him, to be consistent in his attitude, mindful of the dignity of his profession, and considerate of those who labor in his behalf, or stand ready to aid him in his work. A physician who condemns secret remedies and criticises the sale and use of patent medicines cannot claim to be consistent when he overlooks preparations the constituents of which he is perfectly familiar with, and prescribes the secret mixtures of some manufacturing firm; one who prescribes nostrums, will not maintain the dignity of a profession that stands for ethical practices, one who does not make himself familiar with and recognize the value of U. S. P. and N. F. drugs and preparations cannot be commended for his consideration of those who labor for him, and one who has no thought of the possible injury his acts may cause those who stand ready at all times to obey his will, can hardly be given credit for appreciating the value of a successful pharmacist who has spent much time and money to be prepared to execute his orders promptly and correctly.

I believe that the first idea of a physician who is called to attend the sick or injured is, and should be, the welfare of his patient, and no other consideration should interfere with his sacred duty in this respect, but the advantages of U. S. P. and N. F. drugs and preparations over secret remedies are so numerous it seems the emergency cases in which the latter are absolutely necessary must be very few.

For instance, the composition of all U. S. P. and N. F. preparations is known, and the physician is familiar with the drugs and quantities of the same which his patient is taking, while with secret remedies, or even those with formula that may or may not be lived up to, or titles which are supposed to, but do not always designate the constituents, he is at a loss to know whether his patient is being benefited by one constituent, and injured by another, doped, stimulated, or hypnotized.

The maker and dispenser of U. S. P. and N. F. preparations is responsible for those products, and they are required by law to be of definite strength and purity; while the manufacturer of a secret remedy is not compelled to answer to any one for its quality, and may change the strength to suit the price of the constituents, use pure or impure drugs as he may desire, or publish a list of constituents and then placing attractions such as appearance, taste, and stability above medicinal activity by "scientific procedure" change the nature of the same.

The physician may prescribe U. S. P. drugs and preparations without endangering his professional standing or commercial advantage, while comment that is frequently heard indicates that the esteem of the public is not increased through the prescriptions for secret remedies which they receive, and the physician loses the confidence of the patient and the fees as well, because of the purchase of these remedies in the open market.

*The Attitude of the Physician and the Pharmacist Toward the U. S. P.*—It is natural to suppose that those who have taken an active part in building up any great enterprise, will keep in close touch with it, and be deeply interested in its progress and success. Yet we may recall many instances where men with the very best intentions, and regard for justice and honor, have been led from the path of right and duty, into conditions that were detrimental to themselves, as well as things they were duty bound to remember and support, by influences that magnify temporary advantages and make one blind to ultimate results.

If the physician and the pharmacist had only the present to consider, and their only object in life was to secure the almighty dollar, which I am sorry to state appears to be the case in some instances, there would be little use in spending time at such meetings as this, or attempting to free each profession from the disagreeable, unjust, and in many instances unwarranted practices, that have crept into them, but I feel that while professionalism must depend to some extent upon commercialism, every physician and every pharmacist who is worthy to be so called, has a higher and nobler aim in life, than the mere accumulation of wealth, and that each holds his reputation, citizenship, position in society and the progress and honor of his profession above all other considerations.

When we consider how nearly identical physicians and pharmacists are in their attitude toward their respective professions, the value of such a foundation for the development of the same, as the N. F. and U. S. P., and the active part each has taken in establishing and strengthening that foundation, the difference in the general attitude of the two professions toward these works, seems strange, and requires careful investigation, as to the cause, and the development of a just and effective remedy. For it must be apparent to all, that while the pharmacist has been using his best efforts to make the U. S. P. and N. F., the power for good it was intended they should be, in too many instances the physician has gradually lost sight of their purpose and value.

The pharmacist has made them the most im-

portant text-books in his colleges, compelled all who practice pharmacy to be familiar with them, required by laws enacted by his advice and through his influence, that every pharmacy shall be provided with the latest editions, and that all drugs and preparations sold, or used in compounding physicians' prescriptions shall conform to their requirements in constituents, purity, and strength, and used much time and money to place himself in a position to give to the physician and the public, prompt, efficient, honest and honorable service.

In the meantime, if we have been correctly informed, physicians have not been encouraging the study of the U. S. P. and N. F. in their colleges, to the extent their importance to the ethical and successful practice of medicine, would indicate, and until very recently, when many awoke to a realization of the unenviable position into which their profession was drifting and the American Medical Association and a number of local medical associations became active, little or no efforts were put forth to stimulate their use among medical practitioners. The latest editions of these works were seldom found in the physician's office, and the older editions were usually found buried under the "literature?" (more commonly known and recognized as advertising matter) of the nostrum manufacturer and samples of his merchandise.

Physicians as a rule have failed to recognize the assistance, true pharmacy conducted under the regulations of the U. S. P. and N. F. is to them, and have not given the support and encouragement to which the pharmacist is justly entitled.

There is much to gain and nothing to lose, through the most cordial relations between the physician and the pharmacist; while jealousy, distrust and antagonism must result in injury to each.

A physician who sacrifices his professional standing for the sake of his income is of little use to scientific pharmacy and one who is unsuccessful in business is of little value to the commercial side, while the higher the professional standing of the pharmacist and the greater his success in the commercial world, the more proficient, prompt, and complete the service he can render the physician.

This leads us to conclude that while conscious of their duty to the public, each should have due consideration for the professional and commercial welfare of the other, and that all organizations representing the practice of medicine, and that of pharmacy, should support every movement for the elevation of their respective professions, greater uniformity in the scientific and just practices of each, and encourage a spirit of cordial good-will, confidence, and cooperation, that will raise all above the little things in life, and enable the physician and the pharmacist to stand before the lime-light of inspection, the true representatives of honored professions that mean so much to all mankind.

*Discussion.*

DR. S. S. BOGERT: Regarding the statements in this paper, there are circumstances governing some of us here in the country to which they cannot be applied. We have to travel around the country with our satchels and it is often impossible to send prescriptions to drug stores, so the same rules which apply to the practice of medicine in cities cannot be applied to the country practice. We necessarily have to carry and dispense prescriptions, almost all of us. In regard to Dr. Anderson's statement that prescriptions should be sent to druggists, in my early days in the city this was the rule. Here in the country, it is the exception. This is not a criticism; it is simply a matter of circumstances.

DR. S. W. S. TOMS: Previous to 1881 there were very few of the so-called proprietary articles on the market. The leading ones at that time were manufactured by John Wyeth & Bro. of Philadelphia. Parke-Davis was then only starting in a small way to introduce proprietary articles. I very well remember in my apprenticeship in the drug store, being put to work to make pills and I remember how sore my fingers were before I got through. These pills were sold in bulk to the doctors who practiced in the community in which this drug store, where I learned my business, was located. I very well remember that these preparations at the end of my apprenticeship were beginning to get a good foothold. Drummers would come and present these preparations to the druggists, and on figuring out the actual saving of time, the cost of material, etc., found that they could actually buy much cheaper than they could make them. The consequence was that the doctors were asked if they had any objection to using a pill with a certain kind of coating and the question then asked was "Are you sure that these pills come up to the standard which you make." Well, we could not say, as we had no means of verifying them, but we were assured by the manufacturers that their methods were so much more accurate in the compounding of these preparations that the argument seemed to be in their favor, the druggists being more likely to be in error. This appealed unquestionably to the doctors. Then drummers from other manufacturers would come along with the same class of pills, I take pills simply as a representative, but with a different coating or a different size or shape, either round or ovoid, each manufacturer at the time distinguishing his pills by some trick of the trade. This was the real secret of these preparations getting into the pharmacists' hands. It was not long before the pharmacist commenced to find out that these manufacturers were selling to the doctors a little cheaper than they were selling to him. Thus the trade lost, as the doctors were practically buying them at the

same time the druggists were. These are the little things that have gradually grown to mountains between the doctor and the druggist. Every doctor knows how many drummers come to him and the conditions that now exist have started in this way. Two-thirds of the prescriptions are written for these secret preparations. It is depriving the druggist of a legitimate practice and in consequence the druggist feels hard toward the doctor.

In the Council Chamber of the American Medical Association a propaganda was instituted to enlighten the physicians on their authority in this respect, showing how they are reflecting on their own reputations. This propaganda is going to have its full force by and by.

Dr. Anderson's remarks, I think, are exceedingly important, and I think all physicians, and druggists as well, have a very great obligation in hearing this paper, and not only should there be a paper, but in every medical society a committee of calm-minded men should be formed to effect a closer relationship between the doctor and druggist, as counter-prescribing has everywhere come to be a very grave and serious matter.

For instance a man gets a cinder in his eye and comes to the druggist. The druggist attempts to get it out, but if he cannot get it out, gives him a wash. A person comes in with a cut and the druggist gives him something to put on it without attempting to antisepticize it, and there are a number of instances of this kind. The druggist is guilty and he knows he is guilty. He is overstepping his mark. These things can all be eliminated by a better understanding and a committee should be formed in every medical society for this purpose. This paper covers this subject very thoroughly and impartially and I hope it will be the means of bringing the druggist and physician closer together.

Mr. H. D. Fink: I am very sorry to have to say that my brother druggists from this county are not represented any stronger than they are! I think the idea brought out in this paper is good. This thing ought to be thrashed out and we ought to get together and do it. As I say, I am very sorry my brother druggists are not better represented.

Dr. R. R. Felter: I am a little in sympathy with this cinder business. I have a factory down in Pearl River and there are a lot of men who get these things in their eyes and I have an expert there to take them out. This, of course, takes this from the doctors. But I have looked at the other side of this question too. A good many of the men there cannot spare 50 cents or anything of that sort and if they can save this it seems to me it is quite an important matter to them. I, as a doctor, am heartily in favor of what has been said in this paper, and I think I can say, I endorse every word of it. At one time I had a little drug store in Pearl River and I know something about these preparations and I know we got prescriptions from time to time and those prescriptions called for some patent article and we used half of the article and the other half was put on the shelf and was still there when the drug store was sold out.

I think if the doctor and druggist can get together, the business can go on legitimately and will work for the welfare of the doctor and druggist and above all for the welfare of the patients.

Dr. G. A. Leitner: It seems to me this afternoon that one very important crime committed by druggists has not been mentioned here and that is the combination of druggists throughout the United States who are manufacturing proprietary articles according to standard prescriptions; for example the Rexall remedies. I see the Blauvelt man here and Blauvelt is a member of the combination that manufactures Rexall. I claim that the Rexall remedy to-day is doing more harm than all the counter prescribing or other crimes committed. There is no question about the efficacy of some of the Rexall remedies. They are made up from standard prescriptions. You can go in with a cough and they have their mixture in Rexall, and you can go down the line from conjunctivitis to an ingrown toenail and they can cover the lot. I know it to be a fact that right in Nyack, right in Piermont and right in Haverstraw that same Rexall business is being boomed at our expense. If we are not allowed to prescribe antikamnia, they should not be allowed to sell Rexall. I think there is another crime being permitted to-day. For example everyone of us have our own favorite little prescription for some particular thing: one man has a little cough mixture that seems to strike the right thing and you are prescribing it right along. After a while you find people coming in saying "Give me B or L's prescription." Now I am not knocking John D. Blauvelt's drug store, which I consider the best drug store in the State of New York. I do not hesitate to say this and everyone here will bear me out. You cannot send a prescription in there that you cannot get, and if they do not have it, they will get it inside of two hours. Nevertheless this counter prescribing is going on everywhere in every drug store in the country.

If the druggist must provide to the person who comes in asking for a remedy for indigestion, etc., let him make a mixture from the U. S. P. formula. But why take Rexall. Simply because he can buy it for less than another man who is not in the Rexall combination, and in doing so injures both his brother druggist and the physician.

Dr. S. S. Bogert: Presuming a person came to your drug store having indigestion and asked you for something for it. Would you be entitled

to prescribe and what would be the proper method?

DR. ANDERSON: The proper method would be not to attempt to prescribe for indigestion. That is what we are trying to get down to. The trouble is that we do not always do this. Then if the druggist should refuse to sell a remedy which he had on hand to this patient and referred him to a neighboring doctor, the doctor probably would hand him some ready-made preparation, when perhaps the judgment of the druggist in recommending or selling a preparation which he had on his shelves and knew something about would do the patient more good. This is where our trouble is and one of the things for us to determine is a distinct understanding as to counter prescribing. Now the only way we can come to an understanding is to get together and discuss matters. I agree with the gentlemen who have spoken and am glad they have spoken in that way.

DR. J. C. DINGMAN: There is no doubt from the discussion that this is a very vital matter to us all and that there are two sides to the question. Each side feels so strongly that it is rather hard to get down to profitable discussion. I think it would be a good idea if Dr. Anderson would outline what to him appears to be a fair and equitable arrangement by which both doctor and druggist could be governed; for him to tell us how much, in his opinion, a druggist can legitimately dispense and what, in his opinion, a doctor can, without injury to the druggist, dispense, and with that as a basis we can go on with further discussion.

MR. EDWARD EGGE: I endorse every word Dr. Anderson states and am very sorry that our profession is not better represented to-day, only three of us being here, but I think this movement would have the hearty co-operation of all, and if we would work for the mutual good of each other we would get along a great deal better.

MR. FINK: Do the physicians really always want us to send them patients for every little ailment and would they not rather have us prescribe ourselves?

DR. J. C. DINGMAN: Are the people themselves the best judges of whether they have an ailment that demands the physician's treatment? How much can we practitioners who have a large country practice dispense, and how much of a stock of remedies can we supply to our patients without interfering with the druggist? I carry quite an assortment of medicine in my grip through the country. Where patients have no means of conveyance and where the treatment is urgent, the druggist probably would have no objection to our prescribing and dispensing at the same time. Supposing our patient should come to our office the next time. Should we furnish him with our stock or should we give him a prescription to the druggist? If we could have an agreement drawn up, something for discussion, I think we could discuss each question in order with more profitable results than rambling on in this way. If this meeting is to better the relations between the doctor and druggist, these relations can hardly be bettered without some distinct understanding between the doctor and druggist. What is the proper way to arrive at that understanding? Should we appoint a joint committee representing druggists and doctors? If we do not do this, this meeting will come to naught. This is just a suggestion. You can do as you see fit about it.

DR. S. S. BOGERT: Primarily there were no pharmacists. The physician was called upon to furnish remedies for the diseases which he treated and ultimately the pharmacist came in as an assistant, putting up the doctors' prescriptions in little offices. Following that they became separate as they are to-day, but the physician primarily had the right to furnish drugs under the law. The druggist has no legal right whatever to prescribe for anything whatever in the drug store. What he thinks he is right in doing is another question. It is his duty to put up the preparations from the doctors' prescriptions.

DR. S. W. S. TOMS: I make a motion that the Chair appoint a committee of three representing the different sections of the county to confer with another committee appointed by the pharmacists to promote better relations between doctors and pharmacists.

DR. J. C. DINGMAN: I second the motion.

CHAIRMAN: Motion has been made and seconded. Carried.

DR. ANDERSON: I assure you that this resolution is most satisfactory to me and I think the passing of such a resolution repays me fully for the trouble of coming here. This is the object of a meeting of this kind and I heartily approve of same and in order not to take any more time I will answer one or two of the gentlemen in conclusion. In reference to the gentleman who makes the claim that originally we had all physicians and no pharmacists, we just as truly can make the claim that originally we had pharmacists and no physicians. In the early times he was a man to whom the people went. The apothecary was really the beginning of the pharmacist. We had in the early days neither the doctor nor the pharmacist, as they are now recognized and it was in order to get away from this uncertainty that the pharmacist and doctor separated and decided to have separate professions and in that separation there was an understanding that the pharmacist was to dispense and the physician prescribe. Now among many of the medical societies to-day throughout the country, a physician will not be admitted to membership if he also has a drug store. At the same time the tendency is to eliminate confusion of the physician and druggist. I think there are a great many practitioners in this section such as the physician who has to go out into

the country, where it is absolutely necessary to carry their own medicine, and I do not see how the druggist can consistently complain of this practice for there are emergency cases even in the cities where the doctors have to carry their own medicine. But there is a way of getting closer together. For the country physician who has to travel out into the country I believe the first idea is that instead of carrying the secret compounds of manufacturing houses he should carry the U. S. P. and N. F. preparations.

Dr. J. C. Dingman: What has been done and what is being done in other places along this line?

Dr. Anderson: My experience is that as a result of such meetings we have a very much better feeling between the physician and pharcist and I know it to be a fact in my own city in particular that the prescriptions of the U. S. P. and N. F. has increased 50 per cent. since the importance of this has been realized. I also know it to be a fact that the pharmacists have a greater appreciation of the injury they have been doing and there is a better feeling generally between the two.

The American Medical Association publish an epitome of the U. S. Pharmacopœia and I am sure it would be one of the very best things that could be done in this organization if you would get some of these books. You could buy them in quantities of 100 at 35 cents each and I would suggest that every physician have one. That is what we have done in Kings County.

Dr. Leitner: I make a motion that we send a sum equal to an assessment of $1.00 from each member, to the widow of Major James Carroll, this sum to be taken from the treasury.

Seconded and carried.

## CONCERNING REFORM IN PROPRIETARY MEDICINES.*

By W. D. ALSEVER, M.D.

SYRACUSE, N. Y.

In discussing the abuse and proper use of proprietary medicines it is not wise for one to attempt to pull the mote out of his brother's eye or for the pot to call the kettle black, for, no doubt, all have sometimes prescribed unwisely. Yet the doctor is a very rare exception who does not honestly desire to use those remedies which in the long run will do his patient the most good. The number of our profession who have personal interest in any medicinal preparation is fortunately very small, and let us hope it will steadily diminish. It is always fitting for us to discuss our therapeutic resources that we may confine ourselves to preparations which are really of value and which we can administer intelligently. Such a discussion is especially timely just now, for the wave of reaction from the therapeutic nihilism of the close of the last century is already well developed; and the merits of many of the preparations with which the market is flooded and which are not to be found in the United States Pharmacopœia or National Formulary have been so thoroughly investigated by committees from the American Medical Association and by other unprejudiced experts that we have come to know the truth about many of these so-called proprietary preparations.

We are daily asked to replace the standard remedies of the Pharmacopœia and National Formulary with an infinite number of new preparations or secret modifications of old and tried ones, disguised with new names, usually without knowing anything of their physiological action and toxicology other than what the manufacturers choose to present to us through their detail men and their literature. Mainly through the wholesome activity of the A. M. A., we have come to know that so many of the claims made have been entirely false, and so much that we ought to have known about the possible harmful effects of these medicines has been withheld, that we are forced to become skeptical of all information furnished us in this way. This does not mean that there are no honest drug manufacturers, but so much has been withheld, exaggerated or falsely stated that we are quite unable to tell truth from fiction until we have the opinion of a disinterested person, qualified to judge, and coming to us in such a way that we know it cannot, before reaching us, have been edited or garbled by those interested financially in the preparation.

That doctors are the most gullible of men is well known. The amount of advertising of stock speculating and wild-cat mining schemes which reaches all of us shows that we are so considered. But most of us can hardly be good business men, for the state of mind necessary for the practice of medicine is not that required for shrewd bargaining. So I suppose doctors will continue to be gullible concerning non-medical matters. But that is no reason why we should not be shrewd and keen about our own affairs. That is no reason why we should trustingly believe all the fairy stories told us, why we should swallow bait, hook and line all that is offered us by the detail men. They are not authorities on therapeutics. They simply tell over again the stories as they learn them at headquarters. Presumably they do not mean to misrepresent, but they are not qualified to advise us on the matters they discuss. Their information, as well as the literature which reaches us, comes entirely from men in the pay of the manufacturers who must make out a good case for the remedy or lose their positions.

A few weeks ago in answer to my question,

* Read before the Syracuse Academy of Medicine, May 18, 1909.

"What is in your remedy," a detail man told me the amount of two or three of the 14 drugs in his preparation. When asked about the others, which happened not to be poisonous, he stated, "You don't need to know about those." I assured him that I did need to know if I was to use his remedy and that it was quite beyond his province to say what the doctor should or should not know. He told me that he knew his preparation and that it was not necessary for the doctor to know more than he had already told me. So it seems we have reached the stage where the practice of medicine should consist only in the making of a careless diagnosis, and then in turning the case over for treatment to a manufacturing pharmacist in some distant place. I think you will agree with me that when a doctor prescribes a remedy of which he does not know the composition or physiological action, except by hearsay from a prejudiced source, that he has deceived the patient who has reposed confidence in him, that he has not earned his fee and that he is guilty of moral mal-practice. The knowledge of pharmacology, materia medica and therapeutics acquired by the physician when a student and even now easily accessible in the books on his shelves is of no use to him if he is to be so easily turned away from it by the glib tongue of a salesman and the plausible literature sent him by an advertising department.

Thanks to some of the members of the A. M. A. and other scientific men who have been willing, unpaid workers in the cause of common honesty and common sense, we now know that some of the proprietary remedies which have been marketed are really new and have such physiological actions as to be valuable additions to our armamentarium, yet the majority of these preparations are semi or entirely secret and are claimed to possess powers or to contain drugs or doses which they do not. This latter class—the majority—are helpful to no one except to their manufacturers. The doctor would get better and quicker results and with much less expense if he rejected this latter class and used instead pharmacopœial drugs. This involves a little more attention to the neglected art of prescription writing and an occasional reference to a materia medica, but the end justifies the effort.

The business end of this question is well presented in the following extract written by a patent-medicine man and published in *Printer's Ink,* one of the most prominent advertising journals in the country. This man said, "But the patent medicine of the future is the one that will be advertised only to the doctors. Some of the most profitable remedies of the present time are of this class. They are called proprietary remedies. The general public never hears of them through the daily press. All their publicity is secured through the medical press, by means of the manufacturer's literature sometimes gotten out in the shape of a medical journal, and through samples to the doctors. For the physician capable of prescribing the precise medicinal agents needed by each individual patient, there are at least five who prescribe these proprietaries * * *. Three-fourths of the prescriptions recorded are for these proprietary remedies and the pharmacist simply opens a package and writes a label * * *. The original bottle is given to the patient. * * * When he feels a trifle run down again he goes to a drug store and buys another bottle, not troubling the doctor. He meets a friend on the street who is not looking well. 'I know exactly how you feel' he says. 'Now just go and buy a bottle of ———. Best thing in the world. My doctor prescribed it for me so it isn't a patent medicine.' In this way the names of the remedies advertised only to physicians get abroad to the general public. * * * The proprietary medicines of the future will be advertised through these channels. The medical papers will reap the harvest and the physician himself, always so loud in the denunciation of patent medicines, will be the most important medium of advertising at the command of the proprietary manufacturer. In fact, he is that to-day."

Doctor Simmons, of Chicago, in commenting on this quotation said, "What I have just quoted should be read by every nostrum prescribing doctor in the country, and, having read it, he should go to some quiet corner and kneel down and pray the Lord to give him a little common-sense."

But all this matters little if doctors do not use these proprietaries. To determine this question fifteen hundred prescriptions which have recently been filled at four of the prominent drug stores in Syracuse were examined and 620 of them or 41 per cent. were discovered to contain remedies not found in the U. S. P. or N. F. Of this 41 per cent. 176 or 11 per cent. have been approved by the Council on Pharmacy and Chemistry of the A. M. A. and are enlisted in their New and Non-official Remedies, a publication with which all doctors should be familiar. We have left therefore 30 per cent. of these prescriptions in which preparations were used which have not been approved by any unprejudiced authorities. This does not mean that all of the 30 per cent. were pernicious. They were not. But many of them were hopelessly bad because they were secret remedies which of course could not be used intelligently by the doctor and for which in nearly every case grossly false therapeutic claims had been made. There were a considerable number of stock mixtures and tablets made by reputable firms, the complete formula of which is on the bottle, and which are objectionable only because of their shot-gun character and because they are not usually the most suitable prescriptions for the individual under treatment. There were also the stock prescriptions concern-

ing which only a part is told and that not always true, and the so-called specialties which in most cases are as secret as Hood's Sarsaparilla or Warner's Safe Cure. When a doctor is prescribing for a patient he might better prescribe what in his opinion is most desirable for that man on that day than to prescribe somebody's stock formula which will fit this patient about like a ready-made suit.

Probably the best way of calling your attention to the remedies included in this 30 per cent. is to mention a number of examples.

Antiphlogistine is delivered to the patient with such an inclosed circular that he is lead to believe that it will do impossible things and this presentation is made in such a way as to lead him to purchase the remedy at the drug store without a prescription and to use it for the purposes suggested. He will probably advise his neighbor to follow his example. All this can be avoided if the doctor will prescribe cataplasma kaolini, U. S. P., a practically identical product the composition and manufacture of which are not secret. Antiphlogistine is a common and harmless example of the large class of proprietaries which we have been asked to prescribe "in the original package only." We have been told that this is to prevent substitution by the druggists but we are slowly realizing that the real object is to present an advertisement to the laity with your and my personal endorsement.

Phenalgin is presented to the doctors with the claim that it is a synthetic compound, that it requires special skill in its manufacture and that it is non-toxic. The facts are that it is not a synthetic compound but a mixture composed of acetanilid 57 parts, sodium bicarbonate 29 parts and ammonium carbonate 10 parts. This analysis makes it plain that phenalgin could be easily compounded by any druggist and that it is toxic. Ammonol is another proprietary of almost identical composition.

Antikamnia is advertised to both the profession and the laity. Hopelessly extravagant claims are made for it. Analyses show that before the Pure Food and Drugs Law went into effect it was not a chemical entity as claimed, but a mixture of acetanilid 68 parts, caffeine 5 parts, citric acid 5 parts and sodium bicarbonate 20 parts. After the law went into effect phenacetin was substituted for acetanilid and the label stated that antikamnia contained 350 grains of phenacetin to the ounce. In England the old formula is still on sale. Inasmuch as the dose of phenacetin is double that of acetanilid, the English antikamnia is about twice as powerful as the American, a fact which might be of value to the American abroad who proposes to continue its use. Also it was found that five grain tablets of antikamnia and quinine, claimed to consist of 2½ grains of each remedy, really contained 19 per cent. of starch. Therefore at least one-fifth of the composition of these tablets was not as represented. Illustrations of these evidently willful misstatements and secret changes in composition are easy to find. Should this not be enough to condemn antikamnia forever, let me add that it sells for $1.25 per oz. and that the same formula would be put up by any druggist for 25 cents per oz. Should our patients discover that we caused them to pay $1.25 for a prescription which was really worth only 25 cents could we make them believe the truth, that our intentions were honest, that we had no financial interest in the transaction, that we had simply been fooled by the detail man.

Bioplasm is claimed to be a cure for locomotor-ataxia and is advised for nearly everything else. It is sufficient to say that its originator died of locomotor-ataxia and that several of its best testimonials have come from a doctor who has for years been incapacitated by the same disease.

Hexamenthylentetramin or hexamethylenamin is a very useful drug which is also on the market under several trade names. If we write for formin we get the same thing and at the same price, 25 cents per oz. If we choose the name urotropin the price is 80 cents per oz., and if we choose cystogen the price jumps to $1.25 per oz.

Gude's Pepto-mangan is a proprietary which is no doubt valuable as an iron tonic. The reason why it is mentioned here is because its manufacturers in their advertisements distorted the "Report of the Commission for the Study and Treatment of Anæmia in Porto Rico" so as to make it appear that the government in this report had demonstrated just the contrary of what was really found; that is they advertised that Gude's Pepto-mangan was found by this commission to be the most satisfactory of the iron preparations used, whereas it was really found to be inferior to all the others. When the Journal of the A. M. A. commented editorially on the report and its findings regarding the efficiency of the various preparations of iron, the makers of Gude's Pepto-mangan wrote a letter to the Journal which contained the following statements: "It is evident that your editors do not read the advertising pages of your journal, or they wish to make a direct slap at one of their advertisers. * * * Had it been written by one of your contributors we would have let the statement pass, and set it down to ignorance, but, coming as it does from your editors, who should be thoroughly conversant with the advertisements you carry, we cannot but feel that it is very unfriendly towards us." Further comment is unnecessary on the reliability of statements and claims made by this firm.

Like so many of the "discoveries" to which our attention is called, the hyoscine-morphine method of producing anæsthesia is not new. It did not originate with Dr. Abbott nor with the Abbott Alkaloidal Company, but was imported

from Europe where it has been in use for about ten years. The special claims made by Dr. Abbott are that he uses pure hyoscine which, he says, is different from the scopolamin commonly sold as hyoscin, and that the cactin contained in his H. M. C. tablet so effects the heart as to make the use of hyoscine and morphine safe. Investigation shows that the leading pharmacologists and pharmacists in both Europe and America agree that hyoscine and scopolamin are identical. The composition of cactin is one of the Abbott Alkaloidal Co.'s secrets. It has been experimented with by independent investigators who report that it has no effect on the heart or circulation. One man took, on two separate occasions, 100 of the 1-124 gr. cactin tablets (Abbott) and could detect no effect on either occasion.

Glycothymolin is very similar to the liquor antisepticus alkalinus, N. F., which can be had for one-half the price of glycothymolin.

Mulford's Casca-Laxative, Clinton Cascara Active, Stern's Kasagra and P. D. & Co.'s Cascara Active are examples of specialties concerning the composition of which we know little. Echitone, Pas-avena, Sanmetto, Phospho-albumen and Gonosan are some of the other secret remedies found in these prescriptions.

Phenolphthalein is a well known chemical which was recently discovered to be a laxative, and which can be purchased in one grain tablets at 30 cents per 100. A flavored, sweetened preparation of it which is claimed to have superior qualities is called phenolax and costs 50 cents per 100, and a similar preparation of phenophthalein called purgen costs $1.25 per 100.

Cellasin was formerly claimed to be a cure for both diabetes and tuberculosis. Later the claims were modified somewhat, but after an unusually careful investigation the Council on Pharmacy and Chemistry of the A. M. A. were unable to verify even the modified claims and refused to admit cellasin to the list of the N. N. R.

Santal-Midy is advertised in the daily papers to "cure in 48 hours," but it is still being prescribed by regular physicians. It is as secret as any patent medicine.

Benzoinol and albolene are proprietaries which could be replaced by petrolatum liquidum, U. S. P. Their cost is respectively eight and four times greater than petrolatum liquidum.

Sodio-salicylate of theobromin costs 60 cents per oz., but if prescribed under its trade name diuretin it costs $2.00 per oz. Similarly adeps lanæ hydrosus, U. S. P., costs 25 cents per lb., while lanolin costs 75 cents per lb. Sulphonethyl-methane costs 50 cents per oz. while trional costs $1.75 per oz.

Thymol iodide costs 40 cents per oz. but aristol costs $2.00 per oz. Gray's Glycerine Tonic is a patent medicine and costs 80 cents per pt. The original formula is, however, known to many people, and druggists will gladly put it up for 35 cents per pt. Hayden's Viburnum Compound and Schlotterbeck's Compound Mixture of Helonin we know little about except that they are guaranteed under the Pure Food and Drugs Law to contain 50 per cent. of alcohol. It is not strange that, with frequent dosage, suffering women soon feel comfortable.

The list of cough mixtures in common use about which nothing or little is known except what the Pure Food and Drugs Law provides for is even in these 444 prescriptions too long to take up. The number of expensive proprietary digestive liquids which are claimed to contain both pepsin and pancreatin is also legion. But all doctors were taught, and scientists still believe, that pancreatin is quickly destroyed by an acid solution of pepsin.

In America Kutnow's Powder is a so-called ethical proprietary which is advertised only to the doctors, while in England it is advertised direct to the laity through the newspapers. Because of these differences in advertising is its use by doctors any more justified in one country than in another?

Salacetin, a secret product of the Bell Mfg. Co., is said to be the substance which is mixed with codein to make that celebrated remedy, Sal-Codia. Salacetin is found not to be a chemical itself but a mixture of three common drugs—acetanilid, sodium salicylate and sodium bicarbonate. Sal-Codia and the rest of Bell's preparations become especially interesting because of the statement recently made by a detail man from another house. He said, "Syracuse used to be Bell's best town but now they market tablets only in packages of 40 and 100 and so have lost trade. The doctors formerly clubbed together and bought 25,000 lots but can no longer do so. Bell got his tablets introduced through the doctors and now he doesn't need the doctors any more. The same thing happened with Bristol-Meyers & Co. in Binghamton. Now tons of Salhepatica are sold yearly direct to the people." I asked a local druggist if he could tell me what was in Bell's Compound Syrup of Codein. He said, "No, I can't and Bell won't. I keep it over yonder with the rest of the patent medicines. I sell about equal amounts of it on prescription and direct to the people." Another druggist said to me "How is a druggist to keep out of the

patent medicine business when the doctors prescribe what they do?" In the light of all this it is hard to blame the laymen for using nostrums.

After a careful study of the proprietary medicine question Edward W. Bok made the following statements to a meeting of doctors, "I give you my word for it that as one result of my investigation of this question there has come to me an amount of evidence as to the unintelligent prescribing of secret proprietary medicines on the part of physicians, that, if published, would tend to cause an amount of unrest and distrust on the part of the public that is mighty unpleasant to think of. * * * Out of 100 prescriptions 40 prescribed at least one proprietary drug or article. Thirty of these were taken and their writers, men of good reputation, interviewed. Only two knew the ingredients of the nostrums they had prescribed. The rest either did not know or, what is even more dangerous, thought they knew when they did not. The physicians are doing just precisely what we are asking the people not to do—not to use patent medicines because they do not know what they contain. If you are going to prescribe patent medicines why should the layman pay your fee as a physician in addition to the cost of the medicine which he can buy himself?"

Many good men tell us that if we will confine our prescribing to U. S. P. and N. F. preparations we can accomplish more and have as elegant preparations as though we used proprietaries. The book entitled "New and Non-official Remedies," which contains descriptions of the remedies which have been accepted by the Council on Pharmacy and Chemistry of the A. M. A. gives us reliable information regarding the remedies which since the last revision of the Pharmacopœia have seemed to be of value. If we will confine ourselves to the drugs and preparations described in these three books we cannot go far wrong. If we will decline to discuss with detail men remedies which do not bear a printed statement of their composition, and if we decline to use others unless they have been submitted to the Council for acceptance, we will not only keep our own skirts clear but will also influence manufacturers to market only ethical goods. It is probably useless for a general practitioner to attempt to "try out" a new remedy. His observations will be so few and they will be made on people with such varying physical defects and modes of life that they will be valueless. If we can by individual and united efforts influence the medical, the religious and the daily papers to refuse medical advertisements which contain untruthful or grossly exaggerated statements we will have accomplished great good. It is our duty to the public as well as better for our own selfish interests to limit the use of secret remedies by any one as much as possible.

## SOME OBSERVATIONS ON THE EXPERT IN PSYCHIATRY ON THE WITNESS STAND AND CERTAIN CAUSES OF INSANITY.*

By H. ERNEST SCHMID, M.D.,

WHITE PLAINS, N. Y.

WHAT position does the psychiatric expert occupy before judge and jury, or a jury without a judge, such as is called a sheriff's jury, when called upon the witness stand to give testimony as regards the mental condition of a person? The answer is, the same as all other experts, namely, that of a counsellor to those who called him. The decision then remains with judge and jury or jury without a judge. It would be a great mistake to suggest any change in this in spite of the fact that it happens quite often that a jury will decide upon the mental state of an individual in question without the least regard to the opinion expressed by the expert.

There is no doubt that this is very much to be regretted, but it is the result of a condition of things which must be changed in time and will then prevent any more recurrences of these unfortunate actions.

This condition of things is due to two important factors:

*One* factor is, the gross ignorance existing amongst the laity as to what constitutes insanity, or, I might perhaps say with more exactness, what symptoms must be present in an individual to consider him insane. No other branch of medicine is so little known or understood by the public. The mystic phantastic views prevailing have not been removed by the wonderful progress psychiatry has made in recent years. And this is not surprising when we consider the difficulty the subject presents even to the close and enthusiastic student of it. We all must have seen that whenever the public take hold of a new advance, a new theory in any department of medicine, they are more apt to distort or magnify its effect to a deplorable degree. I can not refrain from referring to the great subject "bacteriology," for it has produced some deplorable, new specimens of mental aberration, which can well be styled bacteriophobia. I can not make a mistake in believing that there are some here present, who, like myself, have had personal acquaintance with this most annoying addition to our already long list of mental diseases and how it destroys the peace and comfort of an entire household. To correct an error like this, at its very inception, is the serious duty of the family physician.

It is well known then that the most preposterous notions or conceptions of what insanity

* Read before the First District Branch of the Medical Society of the State of New York at Poughkeepsie, N. Y., October 21, 1908.

means prevail among the people. They think that all an insane person says must be wrong or absurd, that each act of his must be the outcome of a wrong thought, that no reasonable reflection can emanate from his brain, that all emotions must transcend all limits and that the more abominable a deed has been committed the more certain was its actor *crazy*. These unjust and untrue views have had, and, I am sure, have still a sad effect upon the social position of the one who has been pronounced insane. He is at once considered unfit to mingle in society, always dangerous, generally incurable, and only fit to be kept in close confinement like a wild beast. From this old-time notion of insane people descends to the present day the fear of the lunatic asylum, which has kept many a poor patient from being sent there and so deprived him of the last chance of recovery.

The layman, who has once seen a gravely afflicted and specially excited and unruly lunatic, can not get rid of the idea that no one can be insane who does not show the same extreme symptoms. I can recall several cases within the last two years where sheriffs' juries, numbering among them just such men, pronounced individuals sane, who did not show any similar deplorable features of mental disturbance, but had been pronounced insane by several prominent alienists and myself. One of these committed suicide soon afterwards and another some terribly immoral act. Through such deplorable proceedings a dangerous individual can be turned loose upon a community or an incompetent man left free to mismanage an estate to the entire financial ruin of his family.

The second factor in the above mentioned condition of things, that is the action of courts so often in entire disregard of expert opinion, lies in the incontrovertible truth, that physicians take the witness stand as experts in mental diseases, who know either nothing at all or very little of psychiatry. It is in fact only of very recent date that the medical colleges give any instruction in this important specialty. Only in lunatic asylums and perhaps sanatoria were mental diseases observed and treated. Although some colleges have at last added to their faculty a lecturer in psychiatry, great benefit can not accrue from it to the students, because the clinical part, more important in this than in any other department of medicine is wanting, asylums being generally far from the location of the medical college. But, furthermore, a great error was committed at once by many of these experts, because they took the stand with the preconceived idea that their duty consisted in deciding all about the person in question, or, even worse, that they must use their utmost endeavor to clear the same from all accusations and charges. They had not learned the lesson, that they were to be simply impartial helpers of jury and court and had nothing whatever to do with the result of the case, and must not be influenced by any personal feeling for the individual in question. If all experts were known to take such views, and if they would make a special effort to testify in language easily understood by judge and jury, leaving out, as much as possible, technical terms, or at least, if such can not be fully avoided, explaining them, their advice would be heeded far more than is often the case now.

But let us consider for a moment how physicians are made examiners in lunacy. By simply applying to a judge and stating that they have been in practice a certain length of time, and yet they may never have paid the least attention to any instruction in alienism. Is not this almost a criminal act? From this state of things, no doubt, spring often the different disagreements between expert witnesses in the same case. From this likewise arise the doubts entertained by the laity as to the high-enough state of psychiatry, to trust to its exponents the decision in doubtful cases of lunacy. We must always bear in mind that many milder forms of mental disease are not recognized by the general practitioner, but diagnosed as belonging to the class called *nervosity*, or perhaps hysteria. Left alone under such supposition or simply treated in a perfunctory way as simple neurotics, they may go on from mild to grave till perhaps they commit some criminal act such as setting a house on fire or perpetrate some shockingly indecent act and thus damage the fair name of the family. Any physician, who does not in such a case call in a competent specialist, deserves the greatest condemnation. It has often struck me as very curious that old practitioners, who never could have heard at college any lectures on psychiatry (for there were none in their college days) had from sheer and naturally limited experience, even without books on the subject, built up for themselves a system in the examination of mentally diseased persons and also a treatment of the same, keeping them out of the asylums where they should be. They are then the ones who adhere unwaveringly to once formed notions or belief. One of the most unfortunate is their *overrating* the influence of *heredity*. So it has occurred in court that they were advising the excusing a criminal for the *sole* reason that *insanity* has existed in his family, although he himself may never have shown any evidence of it whatever. This subject of heredity must be treated very carefully. The matter of inheritance of insanity is much like that of tuberculosis, only not one-fiftieth part as grave. It is an inheritance of a predisposition, but the more new sound blood is mingled with such as is tainted by inheritance, the less important grows this feature. As long as no evidence of the inheritance shows itself in the offspring so long can it not be introduced in a legal case as extenuating evidence. Unfortunately, the press has sometimes gone so far in this matter as to place "disease of the mind" and "hereditary incubus" on a par; of course, meaning that one

who has the misfortune to number amongst his relatives a case of insanity, is already of diseased mind. Even experts have gone so far in this same belief in the immense weight of heredity, that they have not deemed it necessary to analyze the entire person and case, but felt it sufficient to demonstrate the "hereditary incubus" and some bodily marks of degeneracy. This, of course, is simply worthless. Heredity, though of some value, is not of as high a value as all this and as many believe. To declare its damaging effect as present, when it is not shown in any pronounced disturbance of the mind is positively wrong, is absurd. The consequences of alcoholic excess or of syphilitic infection upon succeeding generations are often far more serious. It is a very difficult matter to deal with this hereditary influence in the most scientific manner and to do it full justice. The *degree* of relationship is alone of importance. None can say that insanity in a cousin is of as much moment as if it occurs in the parents. It is of great interest to read of the observations made as regards hereditary incubus amongst the perfectly sound. In Munich this was done and these were compared with those made on the insane. The percentage among the latter were 77 per cent. and the former 67 per cent. This shows but a small difference. It appears so utterly reasonable to acknowledge, that it is of vast difference in importance when the *sole* and *only* representative of an entire generation is insane, or when an entire generation, numbering many, contain only a single insane representative. Marriages between persons of sound mental health or between one sound and one unsound or both unsound must be viewed in various ways. Here we must remember what I mentioned above, namely, that the influx of new, sound blood tends to erase the hereditary influence more and more in spite of Nordau's pessimism. Of course, where both parents are unsound we may expect to see unsound children, imbeciles, epileptics and in every way neurotics. And yet not always. A very comforting point is, that such marriages often prove sterile or the offspring die young. It is wonderful to see the difference in information we obtain from the relatives of a person with hereditary incubus, when it is desirable to establish the amount of responsibility for a crime committed by the sane or when it is to find out the qualification for marriage. The latter question is to be looked at in various ways. As long as one to be married has already shown signs of psychic abnormality it becomes more serious, and still more so if other members of the same family are confirmedly insane, and yet I have seen remarkable instances where no ill effects came from such marriages. I have in mind one case in Baltimore where a gentleman of perfect soundness of mind, with no hereditary incubus, married a woman who had three insane sisters and who herself had several times shown mild attacks of melancholia. Of her children two became insane, a third one was considered "peculiar" and two only remained perfectly well. One of these two married and in time became the mother of four children. Her husband was a sound man, but became a free drinker after the first two children were born. There were two boys and two girls. The boys are fine specimens, the girls fairly so. A curious thing happened in connection with the elder of the girls. She showed early very grave nervous symptoms. To my utter astonishment and horror I saw how the father managed her by great severity, using corporeal punishment whenever she became unmanageable in her nervous attacks. But it had the desired effect, the young girl learning to control herself. She is now some fifteen years old and appears fairly well. The mother, though having had to undergo the severest trials of mind and body, losing her beloved husband and becoming impoverished after a life of luxury, has never shown the first symptom of an inherited taint.

It is much harder to find out an unevenness of mental development in children than in adults. Yet it will show in some ways. You may, for example, find an early talent for music or painting with general weakness of the intellect, you may discover an abnormal coolness toward the nearest of kin, you may notice a depressed state of mind without apparent cause, or reversely great excitement and abnormally long continued dwelling upon indifferent matters.

Again you can see this unevenness of mental development in a child, when it is easily tired out, has periodic attacks of temper, is unconquerably naughty, especially in telling lies, and on investigation you may discover that there exists hereditary taint. In such cases it is your duty to admonish the parents to be more than commonly painstaking with their children and make it your strongest point that they must not push their mental development, but rather let their education be as gradual as possible and not abreast with that of other sound children.

The nightly bed-wetting and sleep-walking, the sudden crying out in sleep, the frequent sick headaches, the short convulsive attacks and faintings in early infancy, the *abnormally early* or *late* awakening of the sexual desires, the early masturbation, the tendency to become delirious at the slightest indisposition or at no visible cause at all, these must be considered as indications of an inherited predisposition to nervous affections, in fact, to nervous degeneracy.

This knowledge in the history of a case under examination is surely of vast importance to the examiner.

Then notice bodily infirmities, such as abnormal formation of the skull, the receding forehead, the want of development in the posterior portion of it, all asymmetric showings, the frequent occurrence of various neuralgias, defective muscular state, nystagmus, inherited changes in the fundus of the eyes, the so-called infantilismus, *i. e.*, a

check in development out of the infantile state, or rather a check to general development. All these are of moment, but only so when associated with abnormal psychic development, otherwise we find peculiar hairy growths, abnormal formation of genitals or ears or extremities occur among a large number of sound individuals and specially in the succeeding generations of syphilitic progenitors. It, however, shows that an acquired degeneracy like this by syphilis can become inheritable, bequeathed to the offspring. To this and to the dreadful inheritance which comes from alcohol we are obliged to pay the greatest attention, because by both syphilis and alcoholismus generation after generation can be ruined in body and social position.

I can not forbear to say a word here about physicians directing patients to use any kind of alcoholic preparations, *i. e.*, spirituous liquors or wines. I am sure this is often done, when no need for them exists, from a thoughtless routine habit of prescribing. Worst of all to me is the directing its use for children who are simply weak, with the object of strengthening them. This I consider almost criminal, for the weak child may be so from a grave inheritance or psychical abnormality and is on this account easily fatigued, excessively irritable and perhaps from being the offspring of an alcoholic parent.

The benefit from alcohol is only for the very aged, and then only if taken in small quantities, best with the meals, and after the days' work is over, as a means of setting the heart free.

I am sure that scarcely one of us, who is not a total abstainer, realizes the important fact that it is dangerous for the offspring to have a father, who, though he was never drunk yet was it his habit to take a good many drinks scattered through the waking hours. It is an undeniable truth that alcohol must always be counted as one of the plainly visible causes of mental disease.

It is a rather remarkable statement that psychoses after head injuries or after great loss of blood, or after severe labors, are comparatively rare. Yet it is really so and the same can be said of bodily diseases, especially the infectious, of great bodily exertion, of continual overwork and loss of night's rest. Masturbation is not to be classed with the causes of insanity, but rather is it often one of the first symptoms produced by mental disturbance. Nevertheless, it is every physician's duty to warn, in tactful way, every masturbator against the disgusting habit.

Mental overwork is often charged with the production of mental disease, I think wrongly so. It occurs generally in the second half of a man's life, and the work's being poorly done is charged to the overwork done. But we must take this with circumspection, for it will be most generally found that the poorly done work is simply the first indication of the beginning of "paresis," and hence in the original statement cause and effect have been exchanged one for the other. I am of the opinion that insanity has never been produced by mental overwork. The causes for mental disease the laity so often speak of are mostly of no account at all. It is really ridiculous to hear "that a young girl has become insane from unrequited love, that men have suffered the same from business worries and excitement, that melancholia has been caused by sad experiences and self-reproaches, that religionists succumbed from overdoing religious duties, that sexual excesses or the want of sexual pleasures were causative, and that hypochondriacs were the victims of wrong medical treatment." These and more causes are cited by relatives when they are questioned as to the previous histories of patients. The true causes they have forgotten. How difficult, therefore, so often the office of the inquiring physician regarding the patients brought to his notice. Plain cases of mental disease, of course, are readily recognized, but the milder and such as have some features in common with other forms of insanities, these are the ones difficult to diagnose. They occupy places upon the boundary line between health and disease, which is so often blurred, so to speak, and can not be accurately defined. Here we find a large group of individuals, who show one or several abnormal psychic conditions in mild, or again, in strong colors, alongside of perfectly sound and healthy traits. These oscillate at times strongly between apparently perfect health and marked ill-health. They are generally of the degenerate class. One of the most remarkable men belonging to this class was a Mr. S., whom I had known for years, and on account of whose will I had to go to Colorado a few years ago to do my best endeavor to show that the testator was unable to see the injustice of it. He left $100 to each of his three children and gave the rest for an institution, though the children were good and needed the money. He was not a man who should have been kept in an institution because he could attend fairly well to the last, to his business, but he had degenerate views of things. Unless an expert had studied his case thoroughly, he might have given an entirely wrong opinion.

The trouble is that no unfailing and generally valid signs of psychic disease in many mild cases exist, and that hence a sharp boundary line between health and disease can not be drawn. No expert should be willing to decide a case as insane upon one single abnormal symptom. His analysis of the case must be of the entire mental composition.

It is to be regretted that the old mistaken formula, so to speak, still exists, namely, that insane criminals as long as they can tell right from wrong, are punishable, which leaves the defects of the emotions and the compelling impulse (too great for any will power to oppose) entirely out of consideration. Emotional diseases of insanity exist alongside of intelligence and judgment. Therefore, it is an important matter in examination of the patient to test his capacity of judgment. This, of course, requires

experience and tact and the knowledge of how much to expect in this line. And you must examine the judgment of a man according to his environment, a farmer differently from a writer and a lawyer from a mechanic. And you must be aware that one can be very weak-minded and yet be a good arithmetician, which you can even find in perfect imbeciles. Memory can be bad and yet judgment good. Do not omit the possibility of a weak-minded person having learned certain things from constantly hearing them, and question him on matters outside of these to test his judgment. As long as you have a weak-minded person in the same environment, he may never show anything wrong to those who know him, but he can be made use of by unscrupulous people, who can influence him readily, thereby robbing him, and he may finally make a wrong will.

I mentioned above emotional diseases and I will now add a few words regarding two most prominent ones of this class, melancholia and mania. In both of them *intellectual* force may be undiminished while the course of thought is changed.

It is wonderful how in each one of them, but especially in melancholia, patients try to disguise their symptoms. They find only that such and such symptoms are noticed by examining physicians and try to conceal them. The victim of melancholia, therefore, will endeavor to appear gay and happy so that he may not be put under such close guard as to deprive him of the chance of killing himself, for suicidal impulses are most prominent in melancholia. It is therefore necessary not to believe a word the patient himself says but look for the objective, bodily signs of melancholia, which are *dilated pupils, rapid and small pulse* with contracted peripheral arteries, *frequent and shallow respirations,* at times interlarded with *deep* and *moaning* inspirations.

While speaking of the practice of this just mentioned class to try to make themselves out well, it occurs to me to allude here to those who want to appear insane and who are generally found among criminals. Most of them give up the fraud when they find the examiner is expert. But some simulators are hard to discover and should be kept under observation in an asylum. Years ago I was called by the court to give an opinion on the Sleepy Hollow murderer, who was under my care in the county jail. I had full opportunity to watch him, but finally put him under ether to watch him coming out of it. I think I was the first to use this means of diagnosis.

To return to the subject of melancholia, I will endeavor to give a clear and short description of it. It is a state of grave depression out of which a sombre conception is born of his own condition, which means to him that he has committed sins in former years and that hence he has terrifying apprehensions for the future. He is determined to discover the causes for his depression and so he makes out that all acts and experiences of his past life have been of very bad character and decidedly reprehensible. Things that were altogether harmless when they happened, he recalls as grave failings, which grow worse and worse in his sight so that he finally accuses himself of most heinous sins. Matters which, when they happened, he had considered of no moment at all, rise up now and cause him the most vivid anxiety. To try to talk him out of this only excites and makes him worse.

With some of these sufferers all bodily motion is performed slowly and so is speech and so is the act of thinking. Hence, it is often difficult for them to speak. Here it is where a physician might make the mistake of a wrong diagnosis, saying that it is a case of *dementia,* or if it occurs in middle age, that it is a case of *paresis.*

But you can also find some patients with melancholia, who show just the opposite symptoms, namely, a very lively agitation, which, however, is really an excitement caused by their great state of fear (of course without cause). These are the ones I referred to above as endeavoring to escape being confined in an asylum and thus depriving them of the chances of suicide. Of course, you must look then for the above mentioned signs, and not trust to the opinion of relatives, who will tell you that there is not the least chance of any suicide because (mark this) suicide is against all their relatives' principles. This sad disease changes the strongest principled man. Its terribly compelling power of fear and anxiety can not be resisted by any moral or religious condition and by no sort of philosophy. Suicides occurring now and then even in the best arranged and controlled institutions among these sufferers. What could there be done at home to put a barrier against it? It has been reported that a patient strangled himself under a bed cover, while his attendant sat in the room with him.

A patient who tried suicide once, unsuccessfully, should immediately be placed in an asylum. If the family refuse to do this no physician should continue to attend such a case. Even mild cases should be sent to the asylum.

It is curious to find, when asking patients where their sensation of great fear is located, that they will generally point out the cardiac region or the entire chest, and rarely other parts of the body.

We must be careful not to call a state of great depression one of melancholia unless we are certain that it is not a mere phase in a recurring or *depressed* mania or a mere symptom of an organic disease of the brain such, for example, as *senile dementia* or *dementia praecox* or paresis.

*Hypochondriasis* also may resemble it. This is indeed cognate to melancholia, but I think does not show the above mentioned *signs* of melancholia. The hypochondriac suffers from headache, pressure upon the head, stomach and heart.

*Mania,* the other emotional disease spoken of above, shows an abnormally happy state, elevated feelings of self-importance, great desire to talk, with ideas vanishing as quickly as uttered. Sometimes it is mistaken for intoxication, but wrongly so, in this way: The maniac wants alcoholic stimulants on account of his disease, but it is not the effect of alcohol. These cases can not be treated at home, for to try to control them makes them more excited and hence dangerous. They are of such great self-importance that they won't listen to any one at home, but once in the asylum they are the mildest patients to treat and the least dangerous to others.

The prognosis of mania is absolutely good, but it is bad policy to give an opinion as to the length of time of an attack, and, besides, there is a great possibility of its recurrence just as there is in melancholia. Hence, neither patients should ever be allowed to marry.

One more point and I close. These cases have been mistaken for neurasthenia, especially of the manio-depressive class, a sort of mixture of mania and melancholia and yet not entirely such. You will find that neurasthenic patients often show similar symptoms; a feeling of being no good in the world, of being of poor productivity; a want of energy; and then again a change from all this so, that the lassitude and disinclination to action makes place to really active excitation; and from phases of tiredness and apathy to those of greatest fear. They also have at times hypochondriacal symptoms and wrong and almost hallucinatory notions. With these you can produce good results by auto-suggestion and suggestion, whereas the melancholiacs pay no attention to them.

From all this it is proper to conclude that an emotional disease can exist without a disturbance of the intellect and hallucinations, or to express it more clearly, without deception of the senses. There is with it simply a disturbance of the working capacity of the mind.

## ACUTE AND CHRONIC NEPHRITIS IN THE YOUNG.*

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THE president of this association, in his letter asking for a paper on the above subject, requested that the effects of the different infections, including influenzal toxins, on the kidneys of the young be given especial consideration. Clinical experience re-inforced by the recorded observations of others forms its foundation. Its object is simply suggestive; there is no pretension to the new and it falls far short of the exhaustive.

The exact way in which the infectious diseases influence the kidneys of the young is still obscure. They seem to exert little or no irritating effect upon these organs in some individuals except perhaps, a passing congestion or slight irritation. Apparently these persons possess great resistance to renal irritants, preserving ample elimination during severe and prolonged infectious processes. Others, from hereditary or acquired predisposition, show evidences of renal disturbance during mild infections. If the process is severe, prolonged, or frequently repeated, an acute or chronic nephritis may be awakened.

The irritant, or combination of irritants, exciting an inflammatory process cannot be identified in each case. Acute congestion alone, readily excites an inflammation in these susceptible cases. If often repeated, or if the congestion becomes chronic, permanent structural changes and renal insufficiency may result.

Bacteria may act as direct renal irritants. This may occur during the process of excretion, or as an embolic infection. Early invasion of the kidneys with virulent germs may excite a rapidly fatal inflammation. If pyogenic, small abscesses may form and coalesce into larger ones.

Infectious destructive metabolism constitutes a third source of irritation. The kidneys acting as the sewerage outlet of the blood, are called upon for additional work in eliminating the products of excessive tissue waste. The demand for this increased renal function occurs at a time when bacteria and their poisonous products, together with blood stasis, are interfering with their working capacity. That these broken down tissue substances directly irritate renal tissue seems probable from Stengle's experience and statement regarding the destructive action on renal cells of the poisonous products of leucocyte disintegration that sometimes takes place during X-ray treatment of leukemia. Thirteen minutes exposure over half or more of the spleen, in one case, would be followed in four to six hours by a trace of albumen in the urine, fourteen minutes made the patient decidedly toxic. Later he could stand a longer exposure without the slightest evidence of intoxication. These early exposures were accompanied by a very decided progressive drop in the leucocytosis, without any appreciable diminution in the size of the spleen, which would tend to prove, in his judgment, that early direct splenic applications destroyed only those lymphocytes circulating in the blood. The irritating and destructive effect on renal cells of these products of leucocytic disintegration, he says, has been demonstrated post-mortem in a few cases in which death has resulted directly or indirectly from a toxemia during X-ray treatment, and that it has been satisfactorily proved that all renal complications which have arisen during the treatment have resulted from over-taxation in the elimination of waste products and have not been due to direct X-ray exposure. Metabolic waste, then, seems to be a proved renal irritant.

Bacterial toxins and endotoxins, generated during the course of infectious diseases, prob-

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ably vary in their power to incite or aggravate acute or chronic nephritis. Their effect may be that of simple contact, or an entrance into the metabolism of the renal cells. In some instances an intense inflammatory reaction may be rapidly excited in others a more insidious process.

Carelessness in diet, exercise, or exposure, during the progress and convalescence from infectious diseases increases renal congestion and overtaxes the powers of elimination. It is frequently the last straw in the combination of irritants.

The type of nephritis generated in the young, by the infectious diseases, is either exudative or productive. The exudate of serum and leucocytes may be absorbed with the subsidence of the inflammation, in the first instance, if death does not occur from the severity of the process. In the productive form, common as a sequel to scarlet fever, there is proliferation of glomerular epithelium, connective tissue cells, and endothelium lining the capillaries of the malpighian tufts, combined with inflammatory and degenerative processes in the parenchymatous cells lining the urinary tubules. It exists as an acute or chronic process and tends to permanent structural impairment and incapacity. The involvement of all the renal elements, tubular, glomerular, and interstitial, in the inflammatory changes has given it the name diffuse. The terms parenchymatous, glomerular, or interstitial nephritis, simply indicate where histological changes are most prominent.

The influence of influenzal toxins in causing or aggravating nephritis in the young, should receive more attention. These products are probably but mildly irritating to renal tissue during the acute febrile period. Leube estimates that less than 10 per cent. have albumen as the result of its infectious products. Stern concludes from his investigations that the influenzal toxins do not have a very serious effect upon the kidneys during the height of the febrile stage. That at most an acute renal congestion takes place which rapidly subsides with the elimination of the toxins. He estimates that in about two to four per cent. a catarrhal or glomerular nephritis may take place, that rarely an early invasion of the kidneys with virulent influenzal bacteria may rapidly convert a simple renal congestion into a more serious nephritis, and that infrequently at the close of the febrile period an acute diffuse nephritis may ensue.

The most marked irritating effect of this infection is upon the kidneys of young people with marked predisposition to renal disturbance. This hypersusceptibility may be hereditary, acquired, or more commonly a combination of the two. The evidence of this excessive renal sensitiveness is to be sought in the physical, chemical and microscopic examination of the urine. Persistent low gravity, while taking a full diet, constant or intermittent albuminuria, the latter being easily produced by trivial causes, should always excite suspicion and lead to watchfulness during the course and convalescence from influenza or any infectious disease. The fact that heredity is a predisposing factor, seems to be established. Years of continuous clinical observation and urinary examination through several successive generations of the same families, is apt to lead to this conviction.

The manner in which heredity exerts its influence may and probably is not understood. The organic chemistry of the cells making up the renal parenchyma may be too easily aroused into those excessive or abnormal activities constituting inflammation. Again the renal circulation may be too easily disturbed. If ordinary influences, as chilling, diet, exercise or nervous upset, cause renal congestion unduly, as revealed by urinary examination, then infectious diseases, including influenza, need to be carefully watched lest their products arouse a true nephritis.

Acquired predisposition, as well as true nephritis, may quite possibly begin during intra-uterine life or at any time during the subsequent developmental period. When predisposition exists as an inheritance, accentuated by accidental acquirements, then epidemic influenza can, and does excite a dangerous and fatal nephritis. I have seen a child of seven, predisposed by known hereditary and acquired influences, nearly lose his life from acute parenchymatous nephritis, excited by an attack of grip and associated disturbances.

Pregnancy, in young women, hyper-sensitive to renal irritants, disturbs circulation and metabolism of the kidneys to an extent that often interferes with efficient elimination. Poisonous influenzal products are extremely dangerous in these cases and are immediately responsible for a large number of fatalities from the purely nephritic toxœmias of pregnancy, or may be the exciting or one of the causes responsible for cases of nephritis originating during intra-uterine life. That as early an origin as this takes place, seems probable in some cases. A child under my care, recently died at the age of twelve from chronic diffuse nephritis. The clinical history, carefully obtained from family and nurse, leads me to think that it had an ante-natal beginning due to maternal conditions during pregnancy. Children who have had an attack of renal inflammation with apparently complete recovery, seem, in many cases, more susceptible to kidney congestion and irritation in subsequent years. I have watched for a long time, a number of cases of children and young adults who have formerly had an attack of nephritis, either primary or secondary, and have reached this conclusion. Severe infections, as pneumonia, typhoid, or scarlet fever, are very prone to excite a dangerous and frequently fatal nephritis in these cases. If prolonged or oft repeated it may quite possibly set up insidious proliferative ana-

tomical changes causing renal insufficiency later in life.

Stern, while investigating evidences of kidney insufficiency in connection with life insurance, concludes that post-influenzal nephritis, is more common than formerly supposed. The influenzal organisms remain in the body for a long time and immunity is but slowly and imperfectly established. Relapses, re-infections, or chronic influenza, results in chronic renal congestion. This latter state of prolonged blood stasis in the kidneys is regarded as a common cause of chronic nephritis.

Young people, suffering from latent, an active, acute, or chronic nephritis, need to be guarded carefully during the prevalence of grip, lest an attack of the disease awaken latency into an active, progressive inflammation, on the one hand, or stimulate the active disease into a rapidly fatal process.

Nephritis in childhood and youth is too frequently overlooked, or the diagnosis made too late for the best interest of the patient. Some cases develop and progress insidiously with slight or no clinical phenomena and are finally discovered in routine urinary examinations. In diffuse nephritis, especially of the glomerular type, anasarca, serous effusions, high tension pulse, and hammer-like closing of the aortic valves excites suspicion and leads to prompt diagnosis. Toxic symptoms may be attributed to nephritis, if known to exist, or to an associated acute or chronic infectious process. I have seen a healthy child taken suddenly ill in the night and attributed all the symptoms to epidemic influenza, which the child undoubtedly had, yet he was suffering at the same time with an unsuspected attack of acute parenchymatous nephritis as was demonstrated later by similar toxic symptoms in the absence of grip, but confirmed by urinary examination. Headache and vomiting in a tuberculous child, with bad family history, has led to a suspicion of developing meningitis. They were late symptoms of nephritis of several weeks duration, at the least, and the child in a few days died from uremic convulsions. Endocarditis, in children with mild rheumatic polyarthritis, or subsequent to throat infection, may so prominently attract attention, that a co-existent nephritis may be overlooked in the absence of thorough urinary examination.

The toxic manifestations of uremia in children, are headache and vomiting, sudden in onset, and frequently followed by convulsions. The differential diagnosis is often difficult between the symptoms of true uremia, if such a condition exists, and the nervous and other toxic symptoms of a co-existing infectious process. I have seen a fatal coma, seize with startling suddenness a young man apparently progressing favorably through a course of typhoid fever. He was known to have had nephritis as a child. I had attended him a year or two before for acute parenchymatous nephritis excited by an attack of mumps, and from which he apparently made a good recovery, as judged by urinary examination. Acute renal inflammation was again promptly aroused at the beginning of the typhoid infection, and he suddenly went into a comatose condition and died. Death was undoubtedly due to some powerful nervous toxin. Repeated experience with death from unquestioned and uncomplicated uremia in advanced cases of chronic nephritis leads me to feel that the fatal coma would not have occurred in the absence of renal insufficiency.

Nephritis, as far as the histological changes are concerned, can only be diagnosed accurately at autopsy. Urinary examination is an imperfect guide, albumen and casts may be present from simple congestion with degeneration of tubular epithelium, or a true inflammation may exist without their presence. The diagnosis of renal irritation is made from the chemical and microscopical examination of the urine. Renal insufficiency is diagnosed from the physical condition of the patient, plus the physical, chemical and microscopical urinary examination.

We should strive to diagnose nephritis in its incipiency. This can best be done by the family physician, if he is willing to spend sufficient time in thoroughly acquainting himself with the history and physical condition of his patient. Urinary examinations must be made at intervals in health as well as during and subsequent to infectious processes. All children having kidneys hyper-sensitive to renal irritants should be cared for early in life to guard against renal damage.

Treatment in the future should be more prophylactic than in the past. All causes of disturbed renal function or irritation should be guarded against, as far as possible, especially in those showing predisposition to, or a bad family history of nephritis, in successive generations. They should be carefully watched for a considerable time subsequent to infectious diseases, as these are the most common cause of acute nephritis in the German army, if Homeyer's conclusion is correct after an investigation of the subject for the twenty years period, from 1884 to 1904. Carter of Texas also regards carelessness in recognizing and treating infectious diseases, together with indiscreet eating, as responsible for the prevalence of kidney diseases in that region. Renal congestion should be minimized by rest in bed, and at times by dry cupping. Toxic symptoms may be relieved by elimination. Hydro-therapeutics and hot air are useful. Anemia, frequently present in the nephritis of children, needs some form of iron, Basham's mixture is useful. Calomel, morphia given hypodermically, atropin, digitalis, apocynum, potash salts, have their place but must be used with discretion. Some of these if carelessly used may only add poison to a patient already

toxic from combined infection and defective elimination, and they not only do no good but become an added danger.

In conclusion I regard an early diagnosis of nephritis, or a predisposition to it in the young, of more importance than an absolutely accurate diagnosis of the anatomical changes, although we should strive to estimate correctly the latter. I also regard prophylactic treatment to be of vastly more importance than corrective. Both must be employed. To be successful means early, persistent and painstaking study of each individual and the individual needs at different stages and under varying conditions. We must know the family, the individual, the history, and the environment. We must attempt to discover the condition and environment of the mother during the intra-uterine life of the child. The effect of diet, exercise, posture, etc., must be ascertained in health. We must strive to measure the influence of infectious processes upon the kidneys of each child.

With accurate knowledge thus obtained we may have the satisfaction of accomplishing much good. The consciousness of thorough work enables us to bear the disappointment of unavoidable failures.

## ESSENTIALS IN THE DIAGNOSIS OF DISEASES IN CHILDREN.*

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THE day is past when any physician should regard himself as competent to treat diseases of children without a proper training. We do not any more, when in doubt, refer the cause of infant's complaints to teething, neither do we ascribe the vague pains of older children to the process of growth. But as the younger children, especially those under five years of age, are unable to give in words any idea of their sensations, how is the physician, without much loss of time, able to learn the exact nature of their illnesses? In this respect the practice of pediatrics differs widely from that of general medicine, where the physician becomes accustomed to rely for a primary basis of diagnosis upon the subjective symptoms of the patient. It is here that the study of diagnosis becomes all important as the key to the successful management of disease. All will admit that we must first have knowledge of the nature of the disturbance of health we are to deal with, which being granted, the question of treatment becomes one of individual choice and experience. For after all, our knowledge of therapeutics is not yet firmly fixed upon a scientific basis, and nowhere in the entire study of medicine can we cultivate and train our powers of accurate diagnosis to the same extent as in the study of the diseases of children. This is easily explained, for the very reason that the little patients cannot give expression in words to their subjective sensations, the physician is compelled to use his most acute powers of observation and this in combination with an intimate acquaintance with physiology and the natural history of disease, will eventually make him familiar with the clinical picture, which is for the most part easily recognized.

To illustrate the reference made to the importance of first making a correct diagnosis, treatment being a matter of individual preference, let me direct attention to an attack of dysentery in a child. Here we are guided in formulating a diagnosis of the acuteness of the attack, the appearance of the stools containing blood and mucus, accompanied by tenesmus, rise of temperature, and perhaps vomiting. We depend upon the microscope showing the ameba or bacillus to confirm the diagnosis. We know that the pathological features are an inflammation eventuating in an ulceration of the mucous membrane of the lower portion of the large intestine, together with a primary intoxication from the toxin produced, followed by secondary septic infection. The indications for treatment that will readily occur to us are to combat the further growth of the micro-organisms, relieve the local inflammation, and eliminate the toxin from the system as rapidly as possible. The first indication may be met by the administration of either small doses of corrosive sublimate, 1-100 of a grain, or 1-20 of a grain doses of calomel, or frequent drachm doses of a 5 per cent. watery solution of carbolic acid. The mercury salts also have the property of stimulating the hepatic function and circulation, and by so doing relieve the inflammatory process in the lower intestine by a direct derivative action through the portal circulation. An increased amount of toxin is also destroyed in the liver. Large doses of ipecac may have the same effect upon the liver, and when combined with naphthalin or bismuth, acts similarly to the mercury salts; that is to say have a combined local antiseptic and hepatic antitoxic action. Intestinal irrigations of hot salt solution helps to reduce the number of germs and by local action upon the small blood vessels of the mucous lining also aids in reducing inflammation. It also tends to the elimination of toxins by increasing urinary secretion. Here we obtain simliarly therapeutic results by giving either small doses of mercury or large doses of ipecac, bismuth, or naphthalin, or the mechanical use of rectal irrigation—but it is always the same disease that we are attacking.

If this point as regards the essential importance of diagnosis in the successful practice of medicine be true, then it becomes a matter of first value to consider the various elements that go to the formation of a diagnosis and to regard their due value in the diseases of children.

* Read before the Medical Society of the County of Westchester at White Plains, September 15, 1908.

Physical signs, while always valuable in adults, vary to such a wide degree in infants, and even in older children, from those we find in adults, that we must exercise great care in their true interpretation. We will always be greatly aided in this by giving close attention to the cultivation of a habit of thorough careful observation for the purpose of synthetic formation of diagnosis. This means rigid inspection, which if performed in a systematic manner, aided by palpation and the further use of the microscope and laboratory as confirming aids, we will scarcely need to know much of previous history or subjective symptoms. We all know how misleading these latter often are in the adult, tending to require the most complete physical and scientific examination in order to be corroborated or disproved.

Hence in studying the diagnosis of the diseases in children it is not so prerequisite to ask many questions, except those of a leading character, of the mother or nurse, for where the power of using the faculties of sight and touch, aided by the hearing, is highly cultivated, we soon become so familiar with the clinical picture of each disease we meet, that we may often readily recognize it without going into an analysis of the details of its composite features. This necessarily requires patient study on the part of the physician but in the end is a great saver of time.

In the order of usefulness and importance of the elements of diagnosis of diseases of children I would name: First, inspection; second, physical signs; third, temperature; and fourth, palpation, urinary analysis, blood examination, bacterial culture, serum reaction, electrical responses, and the ear speculum, and ophthalmoscope. The use of such instruments of precision as the sphygmograph, sphygmomanometer, dynamometer, esthesiometer, laryngoscope (?), test meal analysis, etc., are of little worth as aids to diagnosis in children, except in those beyond ten years of age.

If all these means mentioned are used much time would of necessity be consumed. But complete and faithful inspection (not omitting the use of the tongue depressor), together with auscultation and percussion and the use of the rectal thermometer (the bulb of which for meeting the precocious ideas of older children should be colored red) will quickly enable us to decide if further investigation is necessary. This is true even in disorders of the digestion, where a few brief questions as to previous methods of feeding and living will confirm or not our diagnosis. And even here we will often find that unless our questions are direct and to the point, mothers will not admit that their ideas of diet can do harm. This brings me to dwell upon the great importance of a thorough inspection omitting nothing, taking nothing in the mother's statement for granted. Have the child stripped naked except for the shoes and stockings and these also where rheumatism or joint troubles are suspected. It enables one to gain a better information of nutrition than from the face and limbs only. Observe the position held of the various parts of the body in assuming different attitudes, the conformation of the head and limbs as in rickets, the eyes for measles or pertussis, the nose for diphtheria or pneumonia, the play of the chest and abdomen, manner of respiration, expression of the face, character and quality of the cry, voice or cough, appearance of the hair, skin, extremities, nails, mouth, throat, teeth, and ears. By this time much may be learned. Examine the genitals. While lying on the back upon a hard surface watch the region of the stomach for peristalsis in hypertrophic stenosis of the pylorus. Do not fail always to inspect the diapers or stools. Then employ auscultation and percussion, but be careful to do this before using either the thermometer or tongue depressor, as crying would negative the result. Percuss the abdomen as well as the thorax, and palpate the abdomen, head, chest, and limbs, and if necessary make digital exploration of the rectum. Where abdominal pain is evident we may be able to feel the swollen appendix. We should learn "to have our eyes in the tips of our fingers." Palpation should be done gently, with an expert touch which will give the best results in mapping out the abdominal organs.

In this connection it must not be forgotten that a knowledge of the natural history of disease will be of great aid in completing the diagnosis. A summer cough will arouse suspicions of pertussis, if fever is present the long duration of the attack will point to either typhoid, malaria, influenza, or tuberculosis. Location of residence and season of the year will assist in confirming or eliminating malaria. Diarrhœa in summer will point to germ infection of food and the depressing effect of heat upon the nerve centers, while that occurring in winter is more likely due to influenza infection or improper methods of feeding.

In forming a diagnosis of diseases of children, let me suggest that it is well always to think of the commonest ailments first. These in children are digestive disorders, catarrhal complaints, and the eruptive fevers. In studying the diagnosis of the digestive disorders we are often compelled to go outside of the mother's statements and seek for certain signs, some of which are to-day classed in the text-books as disease entities. The latter statement is true of catarrhal affections also. I prefer to group these signs or manifestations under one head and regard them as an integral part of the common disorder. For instance, an acute affection like an aphthous ulcerative stomatitis, gingivitis, frontal headache, or persistent vomiting are all unerring signs of an acute or subacute gastric

indigestion. Children do not as a rule complain of pyrosis, cardialgia, epigastric pain after food and such other symptoms of gastric indigestion as we find in the adult. Then again there is a long train of signs embracing disturbances of sleep, night-terrors, change of disposition, loss of appetite, dark rings under the eyes, fainting spells, or attacks of dizziness with palor, lanquor, forgetfulness, icterus, enuresis, prolapse of the rectum, entozoa, vulvo-vaginitis and constipation taken in connection with abdominal pains, mucous stools or sudden attacks of mucous vomiting, and a peculiar appearance of the tongue, where it is stripped of epithelium in patches that points unmistakably to chronic intestinal indigestion. It may be here stated that appendicitis in children has been regarded by some authorities as being either caused by or dependent upon this same condition. Of course this is a trouble more properly concerning the surgeon, but the general practitioner will often be called upon to form an early diagnosis. As many of us know, appendicitis may, in the symptom of pain and its location, deceive us and be confused with either an intussusception, a pneumonia or a pleurisy. The first will be decided by subsequent bloody stools and perhaps stercoraceous vomiting. In pneumonia or pleurisy even with rigidity of the abdominal rectus muscles, the rigidity will be more demonstrable in the upper third of the rectus, and in pneumonia there is, moreover, the pulse respiration ratio which may be regarded as characteristic.

The same grouping of catarrhal manifestations that are frequently met at the present time, since influenza has gained a foothold in the land, will greatly simplify diagnosis and treatment also, when we recognize their infectious origin. I refer to dry bronchial coughs, with either fine or coarse dry rales associated with pharyngitis, tonsilitis, rhinitis, post-nasal catarrh, or a laryngitis as belonging to influenza whether in a mild or severe form of that disease.

Great aid to correct and ready diagnosis in the diseases of children will be obtained from the study of the inherited diathesis or constitutional tendencies and the natural history of disease. Children born of gouty or rheumatic parents are far more liable to disturbance of intestinal digestion than other children and manifest it often by an eruption of eczema or urticaria. In close relation to these eruptions is the herpetic diathesis, where an herpetic eruption is frequently observed extending from the lips and skin in a straight line back along the tongue to the soft palate and tonsils. This is important to be remembered by the family physician as in young girls the appearance of herpetic vesicles and sores about the vulva are not of infrequent occurrence and might easily lead to unjust suspicions or even degrading errors of diagnosis. Syphilitics and alcoholics are well known to be highly susceptible to the development of tuberculosis. The history of tuberculous parentage in this respect is trite; likewise the evidence of rachitis. In tuberculosis children differ largely from adults, in the presentation of clinical signs. In the early stage of the disease a slight continuous rise of temperature with perhaps slight wasting will often be the only signs, as the infection may be limited to a few foci in lymphatic glands or bone structure. A favorite location is in the bronchial glands at the root of the lungs following a prolonged attack of bronchitis complicated or not with pneumonia infiltration, or an attack of measles or pertussis. Here of course evidences of such conditions may be looked for by signs of compression of an area of lung tissue, and of dullness in the interscapular region near the spinal column when the glands are enlarged. But when the lymphatic affected is not very large such signs will not be found. The tuberculin reaction test or the Calmette ophthalmic test might then be used as a confirmatory measure. Meningeal symptoms following anywhere within two or three months after a pulmonary catarrh are highly suspicious of a tubercular infection, while those occurring within a short period of time after a trauma are more reasonably to be attributed to the simple form. In either case we have the Kernig sign most remarkably demonstrated. Of course those cases which present meningeal symptoms during an attack of influenza or purulent otitis-media will be easily diagnosticated, but those of cerebro-spinal meningitis and epidemic infant paralysis in the initial stage may in rare cases be confusing. So likewise those cases which are a rare manifestation of rheumatism.

Mention was made of the grouping of certain manifestations and symptoms, as a great aid in the recognition of disease conditions in children. This may, in my opinion, very properly be done in those cases which are to-day being classed by specialists as disease entities, whereas, in truth, they are only a portion of the entire whole. For instance, all forms of nocturnal restlessness attended with or without enuresis are attributed to adenoids. These, if present in any large size, are no doubt contributing factors to the disturbance. But in my judgment they are not the main factors, as they themselves are a product of the deteriorated condition of tissue nutrition, *the direct result of repeated catarrhs induced by altered nutritive changes in the process of disturbed digestion.*

Then again, the presence of intestinal worms. These of themselves cause irritation symptoms, but are only a complicating factor of the general condition, which is a precursor of their presence. The idea which I wish to convey is that the removal of either adenoids or intestinal worms will not benefit the general disturbance for any length of time, though they may in the one case benefit obstructed nasal respiration and so prevent prospective deafness, or in the other case

may avert the danger of migration of entozoa to other organs. Hence it is of great importance to recognize the fact that attention paid to the condition of disturbed digestion, which here is mainly intestinal, will accomplish far better results, *unless there are present marked signs of necessity for urgent relief.*

Another disease to which children are far more subject than is commonly supposed is articular rheumatism. Here the clinical picture of the disease is in striking contrast to that which is observed in adults, and this in a large measure explains the reason why it is so often mistaken for other complaints, or entirely overlooked. Children may suffer from rheumatism and yet not show the ordinary clinical signs of joint trouble as we are accustomed to see it in adults. In the vast majority of cases only slight pain in the limbs between the joints is complained of. The main attack is more frequently spent upon the heart, and the concomitant signs are more frequently manifested in either disordered gastric digestion or slight erythematous eruption affecting chiefly the limbs and hands, or a urticaria and subcutaneous fibrous nodules the size of a millet seed or larger lying over the forehead or along the elbows and tendons of the wrist and fingers. There may also be present an attack of pleurisy or the previous history of one, or a diffuse pharyngitis, or a tonsilitis, or the history of frequent attacks of the same. These of course, with the exception of fibrous nodules, are to be regarded merely as suspicious signs pointing toward articular rheumatism, as are likewise anemia and frequent headaches. But if we test the saliva, which is normally alkaline, with a strip of blue litmus paper and find the reaction acid, we may be pretty safe in deciding that we have articular rheumatism to deal with, even though there be no involvement of the joints. The presence of subcutaneous fibrous nodules will almost always disclose some valvular impairment of the heart. In patients over ten years of age we may reasonably expect to find the joints involved. In infants artificially fed, pain and swelling about the joints may resemble articular rheumatism, but in all likelihood is due to scurvy, the swelling being the effect of a subperiosteal hemorrhage.

A few words in regard to the differential diagnosis of digestive disorders. An acute attack of vomiting with malaise and rise of temperature, with thickly coated tongue and mawkish breath will invariably indicate the stomach as the organ involved; while a history of loss of appetite or capriciousness in eating, abdominal pain, peevishness, restless sleep, constipation, habitual or intermittently with loose bowels, and perhaps intercurrent attacks of vomiting attended with a rise of temperature for two or three days will indicate a chronic disturbance which can, with certainty, be located in the intestinal canal. It may be safely stated that children under thirteen years of age do not suffer with chronic gastric indigestion.

In regard to eruptive fevers, such as measles, rötheln, scarlet fever, etc., there are certain signs that are worth consideration as aids in making a differential diagnosis. In the first place it is not always to be expected that the signs and symptoms of these diseases will in every case be typical. Many times the disease is so undeveloped or abortive as to puzzle the most skillful physicians. For this reason the minute whitish blue spots on a red base seen on the buccal mucous membrane opposite the molar teeth, first described by Kopelik, are, when present, of valuable aid in determining the recognition of measles. So also is the characteristic mottled eruption on the soft palate, both of which signs can be found two or three days before the appearance of the eruption on the skin. The appearance of the soft palate in scarlatina is entirely different, as here the redness is diffused, and in rötheln there are no Kopelik spots, though the soft palate may bear a close resemblance to that seen in measles. Here we have the dark red papules of Forcheimer, but these, even when profuse, do not occur before the eruption on the skin. Of more value in rötheln (especially the morbilliform variety as distinguished from the scarlatina form variety) in differentiating the disease from measles, are the enlarged lymphatic glands running along the outer border of the sternocleido-mastoid muscle which can be detected, at times, a day before the general eruption and always with the first appearance of it. We should also remember that there is no diazo-reaction of the urine as there is in measles. Occasionally certain cases of scarlatina are so slight, so far as the eruption and rise of temperature are concerned, that they may be overlooked entirely. Such cases often are not recognized until a later attack of violent desquamative nephritis occurs. Here it is wise to inquire as to exposure, more especially if there is a painful pharyngitis or tonsilitis present together with the white strawberry tongue. It would be well also to take the pulse as Trousseau placed much reliance upon its rapid action in scarlatina. Under all circumstances such cases should be carefully watched and the urine examined at least twice each week, for six weeks. As to the differential diagnosis between varicella and variola, I think the manner in which the eruption appears in each case the best guide. In variola the fever disappears with the appearance of the eruption, which is usually complete in one day, while in varicella the eruption comes out in successive crops on several days, while the fever continues at a moderate degree; moreover, the vesicles form much quicker in varicella than in variola. In variola the eruption is chiefly upon the face and hands, at least is most profuse, while in varicella it is most profuse upon the trunk of the body.

Diphtheria is a dangerous disease in children, where it is often necessary that a true diagnosis should be made promptly, and yet many times cases will occur where it is the part of wisdom and good judgment to defer a positive diagnosis until a bacteriological examination by a reliable expert can be made, otherwise much unnecessary alarm may be caused. All cases of exudation upon the tonsils are now known not to be diphtheria. Where the exudation, however, is found outside of the tonsils there is, in my opinion, little room for doubt. Follicular tonsilitis, herpetic sore throat or membranous tonsilitis, and mycosis of the tonsils all closely resemble diphtheria in certain of its forms and should always demand a bacterial culture.

The deep and diffuse redness of the mucous membrane forming the base of the exudation, and the attending pain should always excite grave suspicions of diphtheria rather than of the simpler affections just mentioned.

A diagnosis of malaria should never be made until the plasmodium or its effects is found in the blood, and typhoid can be determined nearly always as early as the fifth day of the disease, by the agglutination test. The diazo-reaction may by exclusion be of assistance in the mean time.

In regard to the diagnosis between pneumonia, the lobar or croupous variety and pleurisy, the only other lung disease that is likely to be confused with pneumonia, the general symptoms or syndrome of pneumonia is characteristic, namely, that of an intense degree of infection by the specific poison of the disease. The onset is sudden and the subject appears very sick, collapsed or "dopey." The relation of the respiration to the pulse, which is normally one to four, is reduced to one to three or two and a half. So characteristic is this clinical picture that a tentative diagnosis may be safely made before the physical signs of a consolidation can be found. In primary pleurisy, which by the way is quite common in infants, while the physical signs resemble closely those of pneumonia, so that the one may easily be mistaken for the other, the clinical picture is entirely different. The patient, if over two years of age, can walk about, although the temperature may be high and the respiration painful. At all events the sitting posture may be easily maintained, which is not the case in lobar pneumonia, where the little patient cannot even hold the head up. In broncho-pneumonia this is not so markedly the case, though it is possible that both varieties are produced by the same germ, only perhaps modified or attenuated in virulence. An exploratory puncture with a small aspirator when used not before the end of one week will decide the diagnosis in a most positive manner, between a primary pleurisy with effusion and a pneumonia, provided always that due precaution is taken to see that the instrument is in good working order before using, and that the puncture is made skillfully over the point of greatest dullness and that the needle is not pushed in too far.

Another affection of the respiratory tract where a correct diagnosis is likely to be confused and which is of common occurrence in infants is croup. True it is that croup is only a symptom, just as convulsions frequently are, that is to say, it is a laryngeal cough and a manifestation of trouble in the larynx. What is now known as true or membranous croup is *laryngeal diphtheria;* it is attended with no rise of temperature and very little spasmodic dyspnea. There is rather a muffling of the voice or aphonia, than the ringing cough which latter is heard only at the onset if at all. False croup or catarrhal laryngitis or spasmodic croup is frequently mistaken by the mother and physician also for true croup. It is always attended with a rise of temperature, the onset is sudden during the night and there are frequent violent attacks of dyspnea from spasm of the glottis. True croup begins gradually during the day time or, if at night, not with an attack of sudden dyspnea. When there is doubt use a bit of clean absorbent cotton wrapped on the end of a probang or gum catheter and insert it into the larynx for a bacterial culture. Laryngismus stridulus, which is a manifestation of rickets, more rarely of an enlarged thymus gland, is also occasionally mistaken for croup. It is a true spasm of the glottis or a holding-breath spell ending with a croupy inspiration. It is usually associated with carpo-pedal contractions. A croupy cough and voice may also be due to a foreign body lodged in the glottis or just above it. A careful and gentle digital exploration should always be made where such a condition is suspected. In cases of difficult respiration, especially where the head is thrown back for purposes of easier breathing, the finger should be employed to explore the posterior pharyngeal wall for phlegmon or abscess.

As to the rarer forms of disease occurring in infants and children, such as lesions of the nervous system, blood diseases, cardiac lesions, and the rarer forms of skin diseases, the time is too short to enter into the subject of complete differential diagnosis.

Infantile paralysis is to be recognized by its sudden onset attended with a rise of temperature and affecting certain groups of muscles only, together with now and then complete symptoms. Cerebral paralysis is hemiplegia with many symptoms the same as those observed in the adult, except that a well marked convulsive seizure usually precedes the recognition of the paralysis. Both of these forms of paralysis may accidently be preceded by a fall which is likely to be attributed as the cause of the disease. This is only possible in the case of a hemiplegia.

Hysteria is a nervous affection that is quite common in infants and children and is always of

absorbing interest to the physician. It is often due to an adherent prepuce of the penis in boys and of the clitoris in girls. This is sometimes complicated with masturbation which has the irritation of the adherent prepuce for the primary cause. There are very few stigmata of hysteria to be found in children like those to be found in adults, and the diagnosis is to be made mostly by exclusion. Many of the odd habits of children belong to hysteria and may be regarded as being a mild form of the disease. Chorea is readily recognized and should be regarded as a manifestation of rheumatism when not due to fright or imitation. The latter form is more of an hysterical character.

Blood diseases are diagnosed by the microscope and hemaglobinometer.

The commonest forms of skin disease in children are eczema and urticaria. The diagnosis of these in rare forms belongs to the dermatologist, but it may be said that they are to be regarded as local manifestations of disordered digestion occurring in subjects of either a gouty or rheumatic diathesis or tendency. It should not be forgotten that there are various forms of urticaria and that the papular variety will often cause hesitation in its correct recognition. Repeated crops with intense itching and occasionally the persistence of its presence will furnish aids to its correct diagnosis.

In what I have said, a large field in the diseases of children has been covered in apparently a superficial manner, but it has been for the purpose of showing that after a due familiarity with the subject has been attained, the correct appreciation and recognition of each true disease in infants and children is not a matter of such difficulty as at first might be supposed.

## FRACTURE OF THE SKULL.*

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IN considering the subject of fracture of the skull it is essential that we take into account the traumatic lesions of the brain which so often accompany it, for it is to these injuries that we must direct our attention with even greater care than to the fracture itself.

We must remember that the skull is composed of two parts, of unequal size, spoken of as the vault and base.

The *vault* is globular, thick and very elastic—especially in the young—while the *base* is irregular in form, thin in places and perforated at many points for the passage of blood vessels and nerves.

The direction of the fracture, in those occurring at the base, is determined not so much by the force producing the injury as by certain bony ridges which present themselves. For instance: We find the petrous portion of the temporal bones on either side and the ridges bordering the sphenoidal wings. Experience shows that fractures of the base almost invariably run between these pillars.

The vault varies greatly in thickness, in different individuals, and is composed of a thick outer and a thin inner table of compact bone, separated by the soft and spongy diploe. The *function* of the skull being almost entirely that of protection of the brain and its membranes from injury from without, and the fact that this function is so little interfered with after recovery following its fracture, makes us study and treat these cases from the standpoint of injury of the brain rather than of skull fracture. A thorough knowledge of the nature and extent of a fracture, however, will assist us materially in estimating the *degree of injury* to the brain.

Most of us have frequently seen cases of extensive fracture of the skull with few or no symptoms, and again we have seen death follow what appeared to be a very simple fracture. *The same* violence which in one case produces fracture of the skull may in another case cause fatal injury of the brain without fracture.

For the study of cases of fracture of the skull they are best divided into two principal classes, viz.: (a) those of generalized contusion of the brain and its envelopes, with or without fracture, and (b) circumscribed fracture, with or without localized injury of the brain or meninges. There are other forms met with, however, which are a modification or combination of the two important classes.

In the *first* group—that of generalized contusion of the brain—the fracture is usually fissured and extends to the base of the skull, and hæmorrhages, either deep or superficial or both, are always present.

In the *second* group, the circumscribed variety, we usually find a compound localized depressed fracture, the membranes torn or not.

The first group is caused by some violence which acts broadly upon the skull, changing its shape by reason of its elasticity. The question as to whether or not a fracture of the skull is produced by this depends entirely upon the degree of violence and the elasticity of the skull; in the second group—the localized variety—the force is more or less consumed by fracturing the bone at the point of injury, with little or no change in the contour of the skull, and consequently no material effect upon the brain as a whole. In this group belong most of the fractures produced by blunt, pointed or edged instruments. These may simply cut through the outer table and depress the inner, or may produce an opening in the skull, usually without any fissuring. If the instrument be relatively small and the blow but moderately severe the inner table may be so overbent in the change of contour of the skull that it splits away from

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the diplœ and is broken, the outer table springing back to its place without being fractured, but if the force is very great the bone is broken entirely through and the fragment remains more or less depressed. In all fractures of the cranium produced by external violence (in which both tables are fractured) the internal table is always more extensively broken than the external one. Conversely, when the force acts from within—as from a bullet wound—the external table is more widely broken than the internal.

By far the majority of fractures of this class occur in the vault, but if the vulnerant body acts through the mouth or orbit, the nose or lower jaw, fracture of the base is the result. The group of fractures caused by a force acting broadly upon the skull embraces almost all fractures of the base, and are known as "fractures by contrecoup." This fracture by itself, like "circumscribed fracture of the vault," is alarming only when accompanied with injury to the brain substance. The theory of the production of these fractures is that the violence acting broadly on the vault of the skull diminishes the diameter in the direction of the violence, and increases that at right angles to it, causing breaking of the bone at some distance from the point of impact, those at the base being due to the resistance of the spinal column acting through the occipital condyles. This same resistance may also produce what is spoken of as "ring fractures" in a person falling from a height and striking on the feet or buttox. Fracture of the base from direct violence is met with occasionally and is due to injury through the mouth, nose orbit or glenoid forsa.

The most common injuries of the contents of the cranium are laceration and contusion of the brain, tearing of arteries, sinuses and nerves and extravasations of blood on the surface or into the substance of the brain. While the dura is sometimes torn, it is only in cases where the fragment of bone is driven inward with great violence.

Duret attributes the hæmorrhages from the pia to rupture of small vessels caused by pressure of the cerebro-spinal fluid and to the change in shape of the skull. Rupture of the larger vessels, such as the middle meningeal artery, occurs between the dura and the skull, and operative interference offers great relief. Laceration of a cranial nerve is extremely rare, but hæmorrhage into the sheath of a nerve is more frequently seen. I shall later report a case in which the fifth, sixth and seventh nerves were completely torn through, the patient recovering with total paralysis of the structures supplied by them.

The repairative processes following fracture of the skull differ, depending upon the presence or absence of infection. The repair of the fracture is chiefly effected by the diplœ, the pericranium and dura assisting only to a slight extent; therefore we seldom see an overgrowth of callus following these fractures. Large openings in the skull are seldom if ever closed with bone but fibrous tissues usually forms a sufficient protection from external pressure. While depressed fragments usually heal in the position in which they are left, we now know that the brain can accommodate itself to a marked diminution of the cranial capacity, and it has been shown that this diminution can amount to 2 cubic inches in the adult skull before showing permanent symptoms of general compression.

Depression of the bone in the motor area causing paralysis by its local pressure upon the cortex must, of course, be removed. It is now considered very improbable that functional disorders, such as epilepsy, are produced by these depressions.

Generalized contusion of the brain is usually fatal and kills in the same manner as apoplexy.

Compound fractures usually heal kindly where infection is prevented, and the fatal results in these cases are due to severe brain injury or sepsis.

*Prognosis.*

The prognosis of basal fractures is extremely uncertain; indeed, often no definite conclusions can be reached until after the lapse of a number of hours.

Prognosis of fractures of the skull is the prognosis of their complications and sequelæ. Unconsciousness, especially if coming on late, is dangerous. Study of the temperature is of great value, as by its persistent depression we gauge the amount of primary shock; a little later the amount of hæmorrhage can be estimated; and still later its progressive rise indicates the degree of meningeal or cerebral injury. The late results of fracture of the skull, occurring in the vault, especially where trephining has been performed, are good; but occasionally such symptoms as dizziness, headache, deafness or a tendency to excessive use of alcohol have been observed.

*Diagnosis.*

Diagnosis of fracture of the vault can usually be made, as it frequently follows a blow from a relatively small body and the fracture is compound. In such cases the fragments can be seen or felt. In other cases the scalp must be opened and the skull explored for fissures, and also the possibility of fracture of the inner table taken into account. The symptoms of unconsciousness, increase in temperature, irregularity of the pupils etc., must carefully be considered.

Diagnosis (of basal fracture). The most reliable diagnostic points in basal fracture are:

(1) The escape of brain substance, blood or serum from the skull.

(2) Functional disturbance along the course of cranial nerves.

(3) Ecchymosis at a distance from the seat of the initial injury.

(4) Hæmorrhage into the cavity of the orbit.

(5) Emphysema above the orbit from fracture of the ethmoid bone.

Great care must be employed to distinguish between the area of infiltration of blood with its abrupt border, giving the examining finger the sensation of a depressed fracture at its margin, and the really depressed bone. This uncertainty can often be cleared up by gradually increased pressure over the locality, when—if the swelling is due to extravasated blood—it will yield slowly under the finger, and the bones beneath will be found level.

*Or,* if a long needle is introduced down to the bone and passed gently over its surface the level of the bone can be easily ascertained.

*Treatment.*

The treatment of these fractures is governed entirely by the diagnosis. That of the base and generalized is medicinal and expectant. When the fracture occurs in the vault and is compound the loose fragments of bone should be removed and perhaps the fissure in the bone followed and enlarged for some distance, and the parts thoroughly disinfected before the wound is closed or drained.

Where the bone is depressed that portion should be raised, and if the dura is torn the edges should be united with catgut sutures and the wound closed unless there is free bleeding, in which case the wound should be packed for a few hours and then closed. In cases where large pieces of bone have been removed foreign bodies are sometimes used to fill in the opening. These consist of thin sheets of celluloid, rubber tissue, gold foil, etc.

Brewitt in the *Arch. fur. Klin. Chir.,* Vol. 79 P, reports 38 cases in which the fragments of bone were replaced with 36 good results and two deaths.

It is often safer to allow bullets to remain in the brain than to subject it to the probability of infection and laceration from prolonged probing and handling of the parts. I will later report a case to illustrate this point.

In the other class of fractures—those which have been designated fractures with generalized contusion of the brain—the fracture almost constantly extends to the base of the brain, which is usually severely contused with the production of numerous hæmorrhages in its substance or on the surface. While these cases are not necessarily fatal they are much more serious than cases of fracture of the vault only, and the symptoms are correspondingly greater. The chief symptoms of this variety are unconsciousness, more or less complete, slight increase in temperature and irregularity of the pupils.

Hæmorrhage from the ear is usually due to fracture of the petrous portion of the temporal bone, but may be from rupture of the membrana tympani, or injury of the external auditory canal.

A watery discharge from the ear after basal fracture is common and is an important symptom.

Eochymosis occurring at other than the seat of injury is very significant, the most common location being behind the ear. This does not usually occur for 26 to 48 hours after the accident, and when found present is almost pathognomonic of fracture of the base. The conjunctiva of the eyeball and lid is also frequently the seat of these hæmorrhages.

If the middle meningeal artery has been torn the symptoms appear from one to eight hours after the injury and gradually increase in severity, causing stupor, localized paralysis, slow pulse, etc. For the relief of this condition immediate operation is demanded and recovery is usually the result. Paralysis of cranial nerves is rare, the facial being most commonly affected, and the abducens next in frequency.

Kohler observed in 48 cases of fracture of the base that facial paralysis occurred 22 times and paralysis of the sixth nerve only twice.

Battle recorded out of 168 cases tearing of the olfactory nerve in two cases, paralysis of the sixth nerve five times, paralysis of the facial 15 times, of the auditory 14 times, blindness from extravasation of blood in the optic nerve sheath eight times.

Unconsciousness occurring in persons who have been the victims of accident or injury should be most carefully studied. It is inexcusable for one to assume that because the odor of alcohol is detected the case is one of simple intoxication, for the patient may be suffering from one of many other conditions associated with loss of consciousness and delirium. I will not try here to differentiate these conditions but mention as chief among them, Unconsciousness from Apoplexy or Uremia, Coma from opium poisoning, Hæmorrhages, Pachymeningitis or Alcoholic Coma.

A case illustrating the point of the advisability of sometimes leaving a bullet in the brain is the following:

CASE I. A. H., age 14, was shot on September 21, 1907, in the frontal bone one inch above right eye. The ball took a downward course and passed through the frontal lobe of the brain, striking the sella turcica. The patient was brought from Tonawanda in an automobile to the hospital in Buffalo. I saw him about four hours later. He had no paralysis or other symptoms and was perfectly conscious. A probe passed through the bullet hole entered the brain for some inches and operation was performed about six hours after injury. On opening the scalp blood clots and gray matter spurted out from the hole in the skull, and I enlarged the opening to one inch in diameter. From this opening again came blood clots and brain substance, and I found that the bullet had been shatered into a number of fragments. Four of the pieces I was able to find and remove, at least half of the ball remaining in the brain. The ball had torn the frontal lobe from the cortex to the sella turcica, leaving a hole in the brain two and a half inches long by one inch in diameter.

The wound was packed with gauze and drained for thirty-six hours and then allowed to heal.

From the time of the acident until the completion of his convalescence the patient suffered not even so much as a headache, and no signs of paralysis or other trouble ever developed. He has remained well ever since.

Referring to the case I spoke of in my paper, in which the fifth, sixth and seventh nerves were torn, I will report the following:

Case II. J. S., age 23, was hit on the head on August 26, 1907, by a spile, while it was suspended in the air. He was knocked down, but not rendered unconscious, although he told me later that he had no remembrance of anything that happened for one week after the injury. No marks of any description could be found on his head, not even a scratch. He bled very freely from both ears, nose and mouth. He was sent to the hospital in an ambulance and fracture of the base of the skull diagnosed. The right side of his face was paralyzed with partial loss of sensation; the right eye anæsthetic but clear. After ten days the eye became red and the sight diminished in acuteness. This condition gradually became worse, the cornea ulcerating and the sight being entirely lost. On November 28th I removed the eye without general or local anæsthesia, the patient experiencing no pain. Hearing in the right ear was practically nil. The right membrana tympani was entirely lacerated. Upon inserting a probe into the nose the cribriform plate of the ethmoid was found fractured and the fragments displaced, so that it was difficult to pack the cavity.

The 5th nerve (trifacial sensory) was torn through, as shown by loss of sensation in the lower eye-lid, cheeks, lips and side of nose.

The 6th nerve (abduceus) was also torn, as shown by paralysis of the external rectus muscle, and

The 7th nerve (facial motor) was severed, as shown by paralysis of the muscles controlled by it.

I think we may conclude from the study of these findings that in this case we had a fracture of the base beginning in the temporal bone and extending through the sphenoid and including the ethnoid.

I have never been able to find a case reported where all of these three nerves were served in the same individual.

A case to illustrate the extent of fracture which may occur, and yet no serious symptoms develop, is the following:

Case III. E. L., age 30, was struck by a piece of structural steel and knocked to the ground from a scaffold twenty-five feet high, striking on his head. He was unconscious immediately and remained so until about three hours after the skull had been operated upon.

Upon examination of the scalp a fissured fracture was found, reaching from the glabella to the inion, while extending from this fracture, at a point immediately in front of the ear, was a second one which ran down into the base as far as could be explored, the total length of the two fractures being fifteen inches. The two halves of the cranium could be moved so as to bring them at least one-half inch out of line, and the entire cortex was covered with a blood clot. These fissures were enlarged the greater part of their extent and the blood clots scraped out with the sharp spoon. The scalp was closed save for a small opening for drainage.

Six months after leaving the hospital I saw the man who reported being in perfect health, other than feeling a slight dizziness if he assumed an upright position too suddenly upon arising in the morning.

(A couple of years after he was caught in a belt, while working in St. Catherines, and killed—his ill luck following him.)

## DISTRICT BRANCHES

### FOURTH DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Third Annual Meeting, Normal Hall, Plattsburg, July 8, 1909.

BUSINESS SESSION.

The following officers were elected for 1910: President, D. L. Kathan, Schenectady; Vice-President, G. C. Madill, Ogdensburg; Secretary, F. J. Resseguie, Saratoga Springs; Treasurer, G. H. Oliver, Malone.

SCIENTIFIC SESSION.

Address on "Organization," D. C. Moriarta, First Vice-President of the Medical Society of the State of New York.

"The Diagnosis of Tuberculosis," H. S. Goodall.

"Management and Care of Tuberculosis," E. R. Baldwin.

Discussion of the above papers opened by J. B. Ransom.

President's Address—"Physiological Liberty; Race Betterment from a Medico-Economic Viewpoint," W. C. Thompson.

"Tuberculous Diseases of the Eye," J. W. Sterling, Montreal.

"Habits and Diet in Paroxysmal Neuroses," H. M. Hicks.

"Some Surgical Aspects of Tuberculous Lesions," E. A. Vander Veer.

Discussion opened by G. C. Madill.

"Cancer of the Intestines; its Early Diagnosis," I. S. Haynes.

"Uterine Fibroids," J. A. Sampson.

Discussion opened by C. G. McMullen.

Next meeting to be held at Schenectady, date left to Executive Committee.

## COUNTY SOCIETIES

### MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS

Regular Meeting at the Matteawan State Hospital, Fishkill Landing, July 14, 1909.

BUSINESS SESSION.

The following resolutions passed by the Council of the Medical Society of the State of New York were adopted:

*Resolved*, That on and after July 1, 1909, no member of the Medical Society of the State of New York shall receive the directory, the New York State Journal of Medicine, nor be entitled to malpractice defense until his county and State assessment has been paid.

*Resolved*, That in order to encourage increase in membership for the year 1909, all members who are elected between October 1, 1909, and December 31, 1909, and who shall pay during that period their State assessment, may have the same credited to 1910, provided that they request it. All whose assessments are so credited shall be entitled to malpractice defense for 1909, but shall not be entitled to receive the directory or the Journal for 1909. State assessments so credited shall be immediately forwarded by the County Treasurers to the State Treasurer.

Chapter II, Section 8, of the by-laws was repealed in compliance with the request received from the State Society.

SCIENTIFIC SESSION.

"Prolapsing Kidney; its Pathological Significance and Correction," Emery Marvel.

"Clinical Features of Tumors of the Breast with a Consideration of the End Results," Ellsworth Eliot.

"The Remissions of Paranoia," A. T. Baker.

"Diagnostic Signs of Syrungomyelia," R. F. C. Kieb.

## MEDICAL SOCIETY OF THE COUNTY OF ERIE.

REGULAR MEETING HELD AT THE UNIVERSITY CLUB, BUFFALO, JUNE 21, 1909.

BUSINESS SESSION.

Meeting was called to order by the President.

Minutes of the meetings of the Council held May 3d, June 4th and June 21st were read and approved.

A list of those members in arrears was read by the Treasurer.

Dr. J. H. Grant, Chairman of the Board of Censors presented a report of the work done since the last meeting and stated that in his work as Chairman of the Board he had been ably assisted by the advice and co-operation of Mr. Chas. E. Doane, Counsel for the Society.

Recommendations made by the Council as to an outing to be held by the Society was, on motion of Dr. Stockton, referred to the Council with power to arrange for such an outing.

Resignations were accepted of Drs. Edwin Janes and Albert R. Satterlee, both having removed from the State.

The following resolutions received from the Council of the Medical Society of the State of New York were received and placed on file:

*Resolved*, That on and after July 1, 1909, no member of the Medical Society of the State of New York shall receive the directory, the NEW YORK STATE JOURNAL OF MEDICINE, nor be entitled to malpractice defense until his county and State assessment has been paid.

*Resolved*, That in order to encourage increase in membership for the year 1909, all members who are elected between October 1, 1909, and December 31, 1909, and who shall pay during that period their State assessment, may have the same credited to 1910, provided that they request it. All whose assessments are not so credited shall be entitled to malpractice defense for 1909, but shall not be entitled to receive the directory or the JOURNAL for 1909. State assessments so credited shall be immediately forwarded by the County Treasurers to the State Treasurer.

Twenty-three applicants were elected to membership.

Dr. Stockton stated that his attention had been called to a statement in the press to the effect that the Corporation Counsel had asked the Board of Health to present an ordinance relative to the distribution of medicines, and he moved that the Council be instructed to confer with the Board of Health relative to the proposed ordinance regulating the distribution and sale of medicines throughout the city.

Dr. Ullman, Chairman of the Auditing Committee, stated that at the request of the Treasurer and with the sanction of the Council, an auditor had been employed and had found the accounts correct.

At the close of the meeting a collation was served, over 70 members being present.

## THE MEDICAL SOCIETY OF THE COUNTY OF CATTARAUGUS.

REGULAR MEETING, COUNCIL CHAMBER, CITY BUILDING, OLEAN, JULY 8, 1909.

BUSINESS SESSION.

The meeting was called to order at 2.30 P. M. by the President, Dr. W. W. Jones.

Five new members were elected.

Moved by Dr. Morris and seconded by Dr. Lake that the Tri-County Meeting be held at Rock City in September.

SCIENTIFIC SESSION.

"Diagnosis of Extra Uterine Pregnancy," J. E. K. Morris.

"Milk as a Factor in Public Health," Walter D. Cowell.

It was moved, seconded and carried that the paper of Dr. Cowell be published in the Olean *Herald*, Olean *Times* and *County Republican*, the expense to be paid by the Society.

In the evening an address was given by W. G. Bissell, of Buffalo, on "Water," under the auspices of the Olean Medical and Surgical Club.

## MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

REGULAR MEETING HELD AT ALFRED, JULY, 8, 1909.

BUSINESS SESSION.

A motion to join with the Cattaraugus and McKain County, Pa., in a tri-county meeting was lost owing to its conflicting with the District Branch Meeting.

In compliance with the request of the State Society, Chapter II, Section 8, of the by-laws was repealed.

SCIENTIFIC SESSION.

"Renal Calculus," S. S. Mackenzie.

Discussion, L. C. Lewis.

"The Treatment of Tuberculosis," John Conway.

This latter paper discussed very fully the treatment of tuberculosis and especially the best way to carry out sanitarium ideas in the home. It was followed by a discussion by all the physicians present.

After the meeting the members and their wives were entertained at dinner by the President, Dr. E. W. Ayars.

## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

All books for review should be sent to the business office of the Medical Society of the State of New York, 17 West Forty-third Street, New York,

PRINCIPLES OF PHARMACY. By HENRY V. ARNY, Ph.G., Ph.D., Dean and Professor of Pharmacy in the Cleveland School of Pharmacy, Department of Pharmacy, Western Reserve University, Cleveland, Ohio. With 246 original illustrations. Philadelphia and London. W. B. Saunders Company. 1909. Price: Cloth, $5.00 net; Half Morocco, $6.50 net.

TRANSACTIONS OF THE THIRTY-NINTH ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA held in Richmond, Va., October 20-23, 1908. Capitol Printing Company, Richmond, Va. 1909.

TRANSACTIONS OF THE FLORIDA MEDICAL ASSOCIATION, held at Pensacola, Fla., April 7, 8 and 9, 1909.

THE OPHTHALMIC YEAR BOOK, vol. vi. Containing a Digest of the Literature of Ophthalmology with Index of Publications for the year 1908. By EDWARD JACKSON, A.M., M.D., Professor of Ophthalmology in the University of Colorado; GEORGE E. DE SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania; THEODORE B. SCHNEIDEMAN, A.M., M.D., Professor of Ophthalmology in the Philadelphia Polyclinic. Illustrated. The Herrick Book and Stationery Company, Denver, Colo. 1909.

TUBERCULOSIS, A PREVENTABLE AND CURABLE DISEASE. Modern methods for the solution of the tuberculosis problem. By S. ADOLPHUS KNOPF, M.D., Professor of Phthisio-therapy at the New York Post-Graduate Medical School and Hospital; Associate Director of the Clinic for Pulmonary Diseases of the Health Department; Attending Physician to the Riverside Sanitarium for Consumptives of the city of New York. etc. New York. Moffat. Yard & Company, 1909.

## DEATHS.

EUGENE BEACH, M.D., of Gloversville, N. Y., died July 8, 1909.

M. S. CALDWELL, M.D., of Far Rockaway, N. Y., died July 6, 1909.

ALBERT M. CURRY, of Brooklyn, N. Y. died July 26, 1909.

ANDREW J. DOWER, M.D., of Brooklyn, N. Y., died July 10, 1909.

GERALD GARRIGAN, M.D., of New York City, died July 4, 1909.

GEORGE HEYWOOD, of New York City, died July 30, 1909.

CLAIR S. PARKHILL, M.D., of Hornell, N. Y., died July 20, 1909.

FREDERICK C. ROBINSON, of New York City, died July 4, 1909.

# NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

ALGERNON THOMAS BRISTOW, M.D., Editor
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## EDITORIAL DEPARTMENT

### THE WARDERS AT OUR GATES.

THE small communities of Revolutionary days had little to fear from disease brought from over sea. Their perils lurked within the fastnesses of the forest and the dangers incident to the conquest of a vast and savage wilderness. Even as our population increased and villages grew into towns and cities replaced towns, as long as the sailing ship was our only means of transportation across the blue water, the epidemics of the tropics seldom gained a foothold on our shores. But when by the power of steam the leagues of salt sea shrank into a short journey of a few days the menace of the tropics became very real. Yellow fever scourged our Southern states with a whip of scorpions. The Asiatic horror knocked at Northern gateways, and when the United States ceased to be provincial and became a world power and a colonizer, the shadows of many and strange diseases crept athwart our hearthstones.

The plague, that gaunt and hungry spectre which for centuries, ghoul-like, had fed on the bodies of the dead, gained a foothold on our Western shores. All the resources of science are powerless to meet these perils unless fortified and given directions by the power of organization. It soon became evident in the case of the plague, that history was repeating itself and that considerations of local business interests were leading to denial and concealment. Twenty-five years ago New Orleans made most strenuous protest when the National Board of Health, then in existence, stated that yellow fever was prevalent there. The local Board of Health admitted the existence of a "remittent fever of bilious type", but Mayor, health officer and local press like a pack of hounds bayed at the heels of the National officials. It was "bad for business" to have yellow fever in New Orleans. Other communities were quarantining against the Southern city. As a result of the dispute, through the influence of Southern Senators, the National Board of Health was refused any further appropriations and died a decent, if not a violent death. The same scenes were repeated not very long ago on our Western shores. Communities of business men made excited and hysterical denial when it was discovered that the curse of Asia had gained a foothold on this continent. To whom could the country turn with confidence at such a juncture? Local Boards of Health were entirely swayed by business considerations. Every community in the land was imperilled, because one city denied the existence of plague, since to acknowledge it would be "bad for business."

Fortunately this country is not without its warders of the gates. For many years they have kept valiant watch against enemies from without and traitors within our coasts.

The Marine Hospital Service, as it has many a time in the past, again stepped into the breach. Uninfluenced by considerations of local self-interest, it aroused the public conscience of the communities affected though not without a struggle, and battled against the common foe. If the people of the United States are unaware of the great, the almost incalculable value of the Marine Hospital Service, the medical profession is not ignorant on the subject. Yet even the medical profession is strangely ignorant of the remarkable character and scope of its work. There is no department of preventive medicine which the men of this service have not illumined with their work. We are accustomed to think of research work as something which is the appanage and prerogative of laboratories connected with a university, but no better nor more brilliant work has been done anywhere in this line than by the Marine Hospital Service both

at home and in the tropics. If we read the titles of its publications we shall at once be struck with the scope and variety of the work. From the diseases of the tropics, of which as a profession we are greatly in ignorance, to those diseases peculiar to the Northern Hemisphere, such as tuberculosis and typhoid fever, all alike have been investigated. The publications of the Marine Hospital Service constitute the best evidence of the value of the organization and the quality of the work which is of the highest order. At present the first, indeed the only efficient line of defense which this country possesses against epidemics originating from without, is the Marine Hospital and Public Health Service of the United States. The Medical Department of the Army has its own particular function, which is to conserve the health of the officers and men of the service. The Medical Department of the Navy has also its peculiar and limited function.

The Marine Hospital Service is in truth the warder at the gate, and exists for the protection of our whole nation. It stands a most watchful and faithful sentinel at many a post of danger. When the roll of its members is called, answer by proxy must be made for many a silent form "dead in the field of honor." Nor do the gallant soldiers who perish by steel and lead and the shock of arms better deserve the historic response. The men of our profession, our brethren, who perish by the touch of pestilence, have that rarer quality of fortitude which a great captain has called "five o'clock in the morning courage." And they have paid the price. Their calling is considered so hazardous that insurance companies refuse them as risks. They are placed in the same class as workers in high explosives. The country at large and congress understand little of this great work and this great risk. Most people think of the Marine Hospital Service as a body of gentlemen in natty uniforms who board all incoming ships to see that undesirable emigrants are not admitted to our shores, but of the real scope and value of the work of this important branch of the government, most people know nothing and the medical profession far too little. How many people, for instance, know that important as this service is to the country, indispensable in fact, that its members are not on a parity so far as rank and pay is concerned with the Medical Department of the Army and Navy, yet, as has been observed, the services of the Marine Hospital Service are rendered in the interests of the whole country while the other government medical services, have particular, special and limited functions. It is not strange that the men of the Marine Hospital Service should feel the injustice of such discrimination. Their work is of the highest character. It can not be paid for in dollars. Ruskin says that all great work is meant to be done without remuneration. A philosopher may think thus, but there is no occasion for congress to come to a similar conclusion. The least that can be done in plain justice, however, is to equalize the pay of the three government medical departments. This can be done by bringing the salaries of the Marine Hospital Service to a parity with those current in the Medical Department of the Army and Navy. It is not to our credit that the inequality which at present exists should have continued so long without protest. Simple justice requires that it should continue no longer.

A. T. B.

## FREDERICK A. COOK, M.D.

As this JOURNAL goes to press the lay papers of the country are filled with the marvelous accounts of the discovery of the North Pole by a medical man and a member of the profession of the State of New York. The discovery of the Pole ranks among the highest achievements, and that it should be made by a medical man is especially interesting to the profession.

Dr. Frederick A. Cook, of 670 Bushwick Avenue, Brooklyn, graduated in medicine from New York University in 1890. In 1895 he joined the Medical Society of the County of Kings. In 1896 he resigned on account of removal from the State. He was reinstated in 1901 and in 1906 was made an honorary member of the Medical Society of the County of Kings. A card sent to his address last spring by the Medical Directory of New York, New Jersey and Connecticut, published by the Medical Society of the State of New York, was returned with the data to be found in the Directory before he went north but omitting the office hours, showing that he was not in active practice at that time.

That medical men are playing an important part in various rôles in the world to-day is well known, and in all expeditions of exploration the surgeon has always been a prominent and useful member of the party. Many know of the excellent missionary work that has been done by Dr. Grenfells in Labrador among the Eskimos and the people with whom Dr. Cook, Peary and others have had to deal, and his friendly influence has no doubt been of value to these explorers who needed the help and assistance of the native inhabitants.

To go from the Pole to the Tropics is a long way, but the medical profession can also recall with pride that but for the work of Gorgas and other medical men the Panama Canal might still be a dream rather than almost an accomplished fact.

W. R. T.

## Original Articles.

# A BRIEF CONSIDERATION OF THE RELATIVE VALUES OF THE FOWLER AND CLARK POSITIONS.*

By H. B. DELATOUR, M.D,
BROOKLYN, N. Y.

THE value of posture is generally recognized as being of some value in the treatment of abdominal conditions. Two postures have been described; one by Clark of Baltimore, the other by Fowler of Brooklyn. In the Clark position the patient's head and trunk are lowered, while in the Fowler position the direct opposite, or the elevation of the head and trunk, is secured. The Clark position, to a large degree, has been lost sight of by the surgeon, while the Fowler position is being generally recognized as a very valued adjunct in the treatment of peritoneal inflammation. While these two methods of treatment apparently are in direct variance of each other, a careful study of the original articles will show that they have many points in common, that they are both based on the same physiological principle, and both, if carefully selected, have a useful place in the post-operative treatment of intraperitoneal conditions.

J. G. Clark (Bulletin of Johns Hopkins Hospital, April, 1897), describes, at length, the various reasons for the adoption of the position he advocates. It was Clark's desire to eliminate drainage in cases of abdominal operations which led him to advise the elevated pelvic position. He says, "The greatest safety lies in closing the abdomen without drainage, *except* in cases of *purulent peritonitis* or in operations when there has been extensive suturing of the intestines.

"Escape of pus during an operation, oozing of blood or serum, extensive raw areas in the pelvis, are usually supposed to indicate the necessity of some form of drain; on the contrary, these are the cases which should be left to the care of the peritoneum, as demonstrated by a comparative study in our series of 1,700 cases of abdominal section of a hundred cases each of similar pelvic inflammatory affections, drained and undrained. The undrained cases presented by far the best results.

In an article (1889) by Lande the statement is made that it is not the principle but the methods of drainage which are wrong. Clark would reverse this statement by saying that it is not the method but the principle which is wrong. Zweifel claims that the subject of drainage should no longer be considered in surgical treatises, but should be relegated to medical history.

The chief objections to drainage of dependent pockets in the pelvis or abdomen through an abdominal opening are, first, fluids are frequently not removed, but on the contrary are pent up by the gauze drain; and second, instead of removing infection, the gauze or tube may be the means of introducing it from the outside into the degenerated fluids."

To overcome the dangers of dependent pockets and dead spaces in the pelvis, Clark suggests the elevation of the patient's body after operation to a sufficient height to start the flow of collecting fluids from the pelvis towards the diaphragm, and thus promote the rapid elimination by the normal channels of exit from the peritoneal cavity, of infectious matter and of vital fluids which may stagnate in these pockets and form a culture medium for pyogenic microorganisms.

Although it would appear at first sight that this method of drainage is opposed to sound surgical principles, he offers proof from a review of recent literature bearing upon the function of the peritoneum under normal and pathological conditions, sustained by the clinical report of three cases, that it is not only a safe but may be a life-saving measure.

Clark gives a review of the literature bearing on the function of the peritoneum under normal and pathological conditions, of which the following is a summary:

"1. Under normal conditions the peritoneum can dispose of large numbers of pyogenic organisms without producing peritonitis.

"2. The less the absorption from the peritoneal cavity the greater the danger of infection.

"3. Solid sterile particles, such as fecal matter, potato, etc., are partly absorbed and the remainder encapsulated without the production of peritonitis.

"4. Death may be produced by general septicemia, and not by peritonitis, where large quantities of organisms are taken up by the lymph streams.

"5. Irritant chemical substances destroy the tissues of the peritoneum and prepare a place for the lodgment of organisms which becomes the starting-point for peritonitis.

"6. Stagnation of fluids in dead spaces favors the production of peritonitis by furnishing a suitable culture medium for the growth of bacteria.

"7. The association of infectious bacteria with blood clots in the peritoneal cavity is especially liable to produce peritonitis.

"8. Traumatic injury or strangulation of large areas of tissue are strong etiological factors in the production of peritonitis when associated with infectious matter.

"The accumulated evidence of all investigators proves beyond question that the peritoneum, under normal conditions or even when greatly handicapped by disease or artificial conditions, is capable of overcoming the invasion of comparatively large quantities of pyogenic bacteria."

*Read before the Society of Ex-Internes of the Methodist Episcopal Hospital, Brooklyn.

After a thorough consideration of the mechanism of absorption of fluids and solid particles in the peritoneal cavity, especial attention is called to the following:

"1. Large quantities of fluids may be absorbed by the peritoneum in a remarkably short time. (Wegner.)

"2. Minute foreign particles are carried from the peritoneal cavity through the diaphragm into the mediastinal lymph vessels and glands, and thence into the blood, by which they are transmitted to the organs of the body, especially those of the abdomen, and later appear in the collecting lymph glands of these organs. (Muscatello.)

"3. The leucocytes are largely the bearers of foreign particles from the peritoneal cavity. (Muscatello.)

"4. There is normally a current in the peritoneal cavity which carries fluids and foreign particles towards the diaphragm, regardless of the posture of the animal, although gravity can greatly favor or retard it. (Muscatello.)"

Clark advances the following argument in support of his postural method of drainage:

"1. Stagnating fluids are prevented from collecting in dead spaces in the pelvis; second, infectious organisms are quickly carried into normal areas of the body where they are destroyed before they can increase in numbers; and third, toxic substances elaborated by the organisms are diluted and prevented from expending their irritant effects on a wounded area.

The method which I desire to offer is briefly as follows: At the conclusion of an operation all fluids and debris should be removed as far as possible by sponges, after which the abdominal cavity should be thoroughly irrigated with normal salt solution until the fluid comes away clear.

When the irrigation fluid is all sponged out, 500 to 1,000 cc. of salt solution should be poured into the peritoneal cavity, so that when the patient is elevated after she is returned to the ward the artificial current may be started at once towards the diaphragm, thus supplementing the normal current.

After the introduction of the salt solution the omentum and intestines should be replaced in an orderly way and the abdomen closed.

As soon as the patient is returned to her room, the foot of the bed should be elevated about twenty degrees, which gives sufficient inclination of the posterior pelvic wall to assist the flow towards the general peritoneal cavity. This posture should be maintained for twenty-four to thirty-six hours, after which the bed may be lowered.

Leaving the salt solution in the abdominal cavity is not a novel procedure, as it has been done in a large number of cases by other abdominal surgeons who have made favorable report of its use.

*This postural method* of drainage is offered as a *prophylactic measure* against post-operative peritonitis, but *not* as a *curative* measure after the peritonitis is established.

It should therefore not be employed when an operation is performed for the relief of purulent peritonitis or for inflammatory conditions associated with general peritonitis, as for instance some cases of appendicitis."

George R. Fowler (*Medical Record,* April 14, 1900), in a paper entitled "Diffuse Septic Peritonitis, with Special Reference to a New Method of Treatment," says, "The peritoneum is virtually an enormous lymph sac, and therefore peritonitis is lymphangitis. The absorbents of the structure of the peritoneum are represented by the lymphatics, and the protection which these afford against infecting agents by exudative material thrown out (thrombo-lymphangitis) to act as a defensive barrier by blocking the lymph channels serves to preserve the life of the subject, on the one hand; while a failure in this respect, either because of the enormous and overwhelmingly rapid increase of septic material and the large size and number of channels necessary to destroy or obstruct, on the other hand, permits the destruction of the organism. Hence rapidly proliferating bacterial invasion means more or less absorption, perhaps sufficient to destroy life, before proper protection has been afforded in the manner mentioned. Or, on the contrary, a slow proliferation permits the formation of exudative barriers to the extent of arresting further absorption and saving life.

The bacterial fluid present in a case of peritonitis is a transuded fluid, which, in the process of transudation, forces the endothelial cells from the peritoneal lymphatic surfaces; the desquamated cells, together with leucocytes and other cell-forms, floating about in the fluid. In cases of recent origin flakes of lymph are also present in the fluid. Patches of a coagulated albuminous substance, the result of the exudation of an albuminous fluid from the lymph channels, and of fibrin from the blood (fibrinous exudate), appear as a soft, reddish-gray substance more or less adherent to the peritoneal surfaces, and here and there bridging over the spaces adjacent coils of intestine, through the medium of which they adhere together.

The infecting agents also present in the fluid are invaders to be gotten rid of or prevented from proliferating and exerting their baneful effects, through the medium of the larger leucocytes, or macrophages of Metchnikoff, which migrate to the peritoneal cavity for this purpose. In order to effect their purpose these must come in contact with the microbes, either investing the latter to imprison and sterilize them, or checking their movements by simply adhering to them. The presence of a large quantity of fluid in the cavity of the peritoneum must necessarily interfere greatly with this contact between the leucocytes or macrophages and the invading

and proliferating bacteria, since the contact, under these circumstances, must be more or less infrequent and of an accidental character. It is now believed that one of the functions of the omentum is to bring about this contact by its movements in the peritoneal cavity causing the bacteria to adhere to its surfaces, where they are readily attacked by the leucocytes. This view is supported by the clinical fact that whenever a focus of infection exists in the peritoneal cavity, there are more than likely to be found omental folds, reaching out, so to speak, for the bacterial intruders and becoming adherent to the peritoneal surfaces adjacent to the focus (during the process).

Not all of the reigons of the peritoneum possess the physiological power of absorption to the same extent, for the reason that certain anatomical differences preclude this. For instance, the portion possessing this in the highest degree is the region of the diaphragm, where large lymph trunks are present, the open mouths or stomata of which stand ready to take up and transport to the system at large whatever fluid with its contained pus, blood, bacteria, or toxic products of the latter, may present itself. The size of the lymph trunks and stomata in this region is such as to prevent their early or rapid obliteration through thrombo-lymphangitis, and hence the organism may be destroyed through the widespread distribution of septic material before this can occur. This is particularly true of that portion of the reigon of the diaphragm known as its central or tendinous portion.

The region in which the anatomical conditions favoring rapid absorption exist in the next highest degree is the intestinal. Here there likewise exist large lymph trunks and stomata, but not to the same extent as are found in the reigon of the diaphragm. These are, however, sufficiently numerous to render this reigon a dangerous area of absorption.

Turning now to the remaining region, namely, the pelvic, we find that the non-absorptive character of the peritoneum is apparent. Microscopical study of this portion of the peritoneum reveals the fact that, while it is rich in capillary lymphatics, large lymph trunks and stomata are comparatively absent. The smaller lymph vessels of this reigon become much more rapidly obstructed, and hence absorption from this reigon proceeds very slowly, and finally ceases altogether, the arrest being coincident with plugging of the capillary lymph vessels with lymph thrombi, the result of infection and consequent inflammation of the lymph vessels themselves, aided by pressure from without, the latter resulting from peri- and paralymphangitis. This cessation persists until the toxic properties of the contents of the pelvic cavity are either destroyed or neutralized, when absorption is resumed through some, but not all, of the vessels. Many of the latter remain permanently closed. The latter circumstances correspond to the clinical fact that in some patients many attacks of peritonitis result in the formation of chronic exudates, due to the inability on the part of the absorbents to remove the latter, at least for a long time.

It is likewise probably true that a certain immunity is conferred upon the peritoneal structure of the pelvis through previous attacks. And inasmuch as invasion of the pelvic cavity may readily occur through fecal stasis in the adjacent rectum in both sexes, and through the open mouths of the fallopian tubes in the female, it is fair to assume that a certain degree of immunity or non-susceptibility is possessed by the peritoneum in that region through the permanent closure of its lymphatics, which is not shared by that in the other regions.

Reasoning from the facts above set forth the practical surgeon should be able, in support thereof, to bring to bear evidence that the pelvic peritoneum is less liable to become the seat of danger in cases of septic invasion of the latter. He should be able to show, first, that the pelvic peritoneum possesses a certain degree of non-susceptibility to bacterial invasion; second, that when this does occur the spread therefrom is sufficiently slow to permit of the formation of exudative barriers protecting the more susceptible enteronic and diaphragmatic areas; and third, that the occurrence and retention of large quantities of septic fluid in the pelvic cavity do not give rise to the symptoms referable to the system in general characteristic of the presence of such fluid in the cavity of the peritoneum. In support of this contention that these requirements are successfully met by clinical experience, the following is offered:

It has long been noted by surgeons that septic inflammatory processes when confined to the most dependent portion of the peritoneal cavity remain quiescent and without urgent symptoms for quite a period of time, as compared with a like condition of affairs existing in that portion of the peritoneal cavity situated above the pelvis."

Using the above facts on which to base his theories and the histories of a number of cases of septic peritonitis, Dr. Fowler proposed, what has been described by him, as the elevated head and trunk posture to facilitate drainage into the pelvis. In concluding this article he says:

"If asked what, in my opinion, is the best general line of treatment for diffuse septic peritonitis as found to exist upon opening the peritoneal cavity, I might hesitate to express myself as being either for or against eventration or disembowelling for purposes of methodical cleansing; as well as the employment of peroxide of hydrogen solution, or the use of large quantities of decinormal saline for purposes of flushing out the peritoneal cavity. But there are two points upon which I would not hesitate to speak with confidence, namely, the employment of the elevated head and trunk position, and drainage of the pelvic cavity at least by means of

properly placed and protected glass drains. I offer this as a method preferable to Clark's position, which is the exact reverse of this treatment, and I do it with the full knowledge of the alleged anatomical and physiological reasons advanced in support of the last-named method. Clark's position certainly does not empty the pelvic cavity of septic fluid, for the extent to which the patient must be inverted to accomplish this is incompatible with safety, or with his comfort to say the least, since practically he must be placed standing on his head. It is fortunate for those patients who have recovered under this treatment (and I might have said, in spite of this treatment) that this is true."

In comparing these two articles we see that the writers both base their views on the same physiological fact, viz, the greater power of absorption at the diaphragmatic pleura. Clark desires to facilitate this action while Fowler in his posture tries to lessen it. That both are correct in their views is due to the fact that they are dealing with entirely different pathological conditions. Fowler's criticism of Clark, as above quoted, is entirely erroneous, as Clark distinctly states in his article that he does not advise his position in septic cases.

Personally I believe Clark's position in suitable cases to be just as valuable as is Fowler's in the cases to which it is applicable, and I have employed it in many cases with satisfaction.

In clean appendicitis cases with a large quantity of serum in the abdomen it seems only rational that the sooner this can be absorbed the less danger there is of its becoming infected, and it has been demonstrated that the natural flow of the lymphatic current toward the diaphragm can be hastened by the elevated pelvic position.

It is not necessary to so elevate the hips that the contents of the pelvis can be spilled into the general cavity, the principle is to assist the normal current of absorption.

The advantages and uses of Fowler's position I need not enlarge upon as all of you are familiar with them. There certainly is room for question as to all cases that have been reported as general septic peritonitis being true cases for many operators consider the cases where there is a general sero-floculent exudate as one of septic peritonitis. This as we all know is not true and such cases if not drained take care of themselves with no development of abscess.

Where this fluid is septic and the patient already suffering from the absorption the elevation of the pelvis and the consequent rapid absorption of the septic fluids might overcome the patient and cause death.

It is a curious fact that in the many cases of so called septic peritonitis treated by the elevated head and trunk position there are so few cases reported in which abscess has subsequently developed. If all these cases were as septic and as generally inflamed as claimed it would not be possible for simple drainage of the pelvis to cure them.

There is more in the Fowler position than the simple gravitating of the fluids to the pelvis. The real action is in the slower absorption of the septic fluids and the giving the system a chance to dispose of the dose of poison as fast as it comes along.

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## A BRIEF CONSIDERATION OF THE SUBJECT OF INTERNAL SECRETIONS AND ANIMAL-THERAPY.

**1—Introduction. 2—Historical Word. 3—Schedule of the Better-established Facts. 4—Commentary from Clinical Experience. 5—Examination. Function Methods of Administration and Discussion of Practical Points Looking to the More General Use of these Agents.***

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### 1. Introductory.

YOU will, I trust, take my presentation of this subject as an expression of interest and not any assumption on my part of special qualifications.

We hear much of certain general topics, as Antiseptics, Bacteriology, Physiological Chemistry, Serum Treatment, etc. Here we find another fairly distinct and modern field that has relations with Heredity, Development, Etiology, Therapy and even Immunity, and that not only promises much for the future but may now be regarded one of the topics of the day. Important contributions are appearing at a rate that outruns ordinary powers of assimilation.

All I shall attempt is to present as clearly as possible a few simple phases of the matter, with a short review from the practitioner's side. Though less scientific this may be quite as instructive as more detailed reports. For many years I have made some use of these preparations, including one time with another about all the main forms, and in a variety of what seemed the most indicated neuroses. Hence on the clinical side I can often speak with a degree of experience, and perhaps contribute my mite to progress.

One of the first qualifications for any useful consideration of what one of our members terms, "A subject so tainted with charlatanism." is the cultivation of an extremely conservative and even skeptical spirit. We must not accept anything where personal interest or beautiful imagination plays a figure. Better hold some point in abeyance than take any further chances. On the other hand such an amount of doubt and distrust exists, that it is often difficult to per-

* Read before the Medical Society of the County of Kings at Brooklyn, April 20, 1909.

suade our fellows to make use of really indicated preparations. We all need more definite and accepted rules of guidance. In the long run the essentials must rest on a sure physiological basis.

Most of my use of these agents has been in private practice, perhaps thus lacking some features of exactness that are possible in institutions. Other remedies had to be included. But, if the adding of one of these agents brings results that with the same accessories have not otherwise been observed, then it is logically warrantable to attribute the result in some way to the new factor. Hospital cases are usually under surroundings more favorable than at home and not as well followed up. And hence it is not unreasonable to view my own cases after all as the more decisive.

## 2. Historical Word.

While in some of its phases the use of animal-products in treatment dates back indefinitely, Brown-Sequard, then an ex-American, is generally credited with the introduction of Organotherapy. Though he had published studies on the adrenals as far back as 1856, the first of his series of communications on the effects of injections of testicular juice was made to the Paris Société de Biologie in June, 1889. He was perhaps overcome with enthusiasm, at any rate the matter had to shape itself somewhat before conservative minds accepted it as a basal principle in practice.

Hammond foresaw the scope of its possibilities (*New York Medical Journal,* 1889 and 1893) but, with his Columbian Chemical Co. rushed ahead too fast in an attempt at commercial advantage.

Perhaps the first thing in this line by a Brooklyn man was the paper on Thyroid Treatment of Myxoedema by the late Dr. J. C. Shaw, read before this Society in 1896.

The work of Abel of Johns Hopkins (1887 et seq.) on Epinephrin deserves mention.

Takamine for an American house was the first (barring the less certain Iodothyrim of Baumann, about 1859) to isolate a definite and accepted chemical body (adrenalin) as the essential principle from one of these structures (*Therap. Gazt.,* 1901, Apr.). And, in fact, though now duplicated by several firms and even prepared synthetically, it still remains the only case where this has been as satisfactorily done.

Aldrich appears to have been the first (Am. Physig. Soc., 1908, Jan., *v. Am. Jrnl. of Physlg.,* XXI) to determine the differing physiological activities of the two genetic and anatomic components of the Pituitary, a discovery that has since been confirmed.

Finally we must mention the colossal work of Sajous, that has done so much to bring the whole subject to our attention, advance our knowledge and stimulate research.

Many other more or less important contributions have been made in this country, and of late in increasing amount. Therefore, we can claim a fair share of credit for American workers, in the general development of this field.

## 3. The Schedule.*

The one here offered can of course make no claim to completeness. It is merely an attempt to visualize some of the more important and better-established facts, and save that much time in the reading of the paper. To complete the outline, and for comparison, other animal tissues, secretions and excrements, including the blood-forming organs, have been added in separate groups. Surgical and miscellaneous indications do not fall within its scope.

Doubtless some better or combined system of classification can be devised. But, for practical purposes, a simple and intelligible schedule is best.

The items listed can easily be crossed out or added to as knowledge grows. There is, in addition, the vast amount of unestablished claims for those preparations, especially on the therapeutic side. Some few of these claims may prove to rest on a degree of merit, but too often they are only the talk of visionaries or mendicants.

In constructing such a schedule an inequality of statement arises because in some places the facts fall into generalizations, while at others they have to be enumerated in detail. Where a questionable point is included, it is generally followed by an interrogation mark.

## 4. Clinical Commentary.

It is chiefly of the first group that I shall speak.

The athyroid troubles need no verification.

The dermatoses will be considered by one of the discussers.

As to the various neuro-rheumatic affections, including arthritis deformans, for which thyroid is now recommended. I can only say that after the acute stage and exacerbations have run their course and the condition has become one of quiescent injury, I have failed to see much benefit. There is good clinical testimony however to the value of thyro-therapy in the active stages of various forms of chronic rheumatism.

### *Lethargic States.*

In sporadic narcolepsy and abnormal sleepy states the use of thyroid I have found very satisfactory. When any of us are sleepy we are very apt to yawn; one large purpose of this simple act is to push out some of the thyroid secretion into the system as nerve-stimulant of some kind. So that here our therapy is merely giving natural aid.

Case.—Young man of 18 years, seen in March, 1894, with Dr. Applegate. For some

*For Schedule, see end of article.

time he had been subject to peculiar attacks of narcolepsy. These recurred about once a month and lasted two days to a week. On correction of habits and the use of thyroid he went over eight months free. Then from neglect of these measures he had his first recurrence.

In suitable cases since then, not clearly epileptic, there has been a good result. Recently Dercum (*J. Am. M. A.*, 1909, I, 727), has suggested a like course, though partly for the psychic impression. Not all the good need be attributed to the use of thyroid, as usually some correction of the patient's irregular life contributes.

On the other hand the tendency of many depressed and exhausted persons to crave long hours of sleep will only do well, if at all, on this plan when reinforced by adjuvants. A recent case illustrates a common limitation in this direction. A man of years, suffering from block of cerebral vessels, continued persistently dull and apathetic. Though his blood-pressure was not high, the attempt was made to increase his neuro-activity by small doses of thyroid. The effect was, however, directly contrary to desires. The pressure sank despite any available vascular tonic, and the man passed into a limp and profound stupor suggestive of approaching dissolution. On discontinuance of the thyroid he shortly regained the progress he had previously made. In contrast with this is a later case. This was somewhat similar, except that this man had a high arterial pressure. With him the effect of mild thyroid-medication has been particularly satisfactory.

The use of thyroid in forms of infantile convulsions I have already written about (*Jrn. N. & M. Dis.*, 1902), and need not consider further.

The reduction of weight on administration of thyroid you are all sufficiently familiar with, as well as its risks. It should never be carried on as a systematic plan except in carefully selected cases, and then very slowly and with interruptions.

As to the ex-ophthalmic goitre a new suggestion comes up about once in so often. A late one is that it depends on dysthyroidism, *i. e.*, a disproportion or disproportionate increase in the supply of the thyroid constituents. Another is that it is a co-ordinate affection, as the thymus is so commonly also enlarged. The general conclusion, however, still favors hyperthyroidism as the cause.

About as definite is the next count, forms of nervous instability. Here fall the cases of incipient and partial Graves disease and allied states. These have been attributed to hyperexcitability of the sympathetic system, secondary to the thyroidism (a play of words that does no harm).

In the genital sphere a number of cases of precocity, physical and mental, have been associated with full soft thyroids. In cases of this class (precocity, especially sexual) there is merely a presumption that the plump thyroid and hyperthyroidism is the cause, it may almost as well be a co-ordinate phenomenon.

The general depressant effect of thyro-therapy has been mentioned, and is doubtless familiar to many of you. It is a specially risky thing to give in conditions of melancholia, despite some successes, as it naturally enough aggravates suicidal tendencies.

That the thyroid has growth-stimulating qualities is gradually gaining recognition. Of course ever since it was first successfully used for myxoedema, it has been evident that one of the casual results there was a lifting of the inhibition on growth, but this figured as a negative rather than positive effect. In my 1902 paper I noted that in the mildly-rachitic convulsive children growth was improved by the prescribing of thyroid. This effect has so long been a standard observation with me in the case of a great number of backward children that I have not kept track of figures of late. In general it has been the body-weight that has increased, and not to any such marked degree the height. Hence the gain may have been largely due to an effect on the soft tissues, and only incidentally on the osseous. Whether the normal child responds at all in this manner I have no knowledge. But physically backward children are about as constantly stimulated in growth by the use of small doses of thyroid as are adults reduced in weight. Still, where there is no special indictation I now naturally think first of pituitary for this purpose, and will recur to the matter when considering that gland.

An observation of one of our members (Dr. McNaughton) belongs here. He has long noted that after an attack of pertussis, the recovered child not infrequently takes on a special spurt in growth. While this, of course, might be due to some stimulation of the pituitary, it lies nearer to attribute it to action on the thyroid by either the adjacent laryngeal irritation or the coughing or both.

While the influence of the thyroid on immunity is as yet largely a matter of the laboratory, I can perhaps give a relevant observation from practice. All children giving evidence of a thyroidism (and recovering with use of thyroid) are specially susceptible to poisoning by mosquito bites. This is so commonly the fact that I now seek it as a verification of the nature of their condition. Such children, if in a mosquito region, are covered all summer on all their exposed parts with the severest effects of such bites, dermatitis indurations, pustules, etc., effects not seen in their comrades or even their own brothers or sisters. My own interpretation is that their hy-

pothyroidism brings with it a loss of resistance to the irritative and poisonous effects of the bites. As they improve under treatment, just to that extent do they become the equals of their playfellows in non-reaction. As a corollary I might suggest that if you have charge of any child with this peculiarity just try the preventive value of small doses of thyroid.

Of the various anti-thyroid preparations it may as well be granted that in practice no one of them really fills its supposed purpose. Either may prove useful on occasion, but the value of each must be tried out by itself.

In conditions of erythism suggesting incipient basedow, I have found one or the other of these or two combined, to give some satisfaction, at least symptomatically. It is in these so-called functional or neurasthenic conditions, if at all, that present preparations of this class have a field.

It was natural to hope that, as might be inferred by the schedule, those anti-products might also be advantageous in various states of nervous irritability, excitement, etc. And in fact an occasional success transient or lasting inclines one to have some regard for them here. But, a considerable experience in this line fails to bring clear indications. Their field then is in the lighter conditions of special type sometimes figured as neurasthenia.

### *Pituitary as a Growth-Stimulant.*

It is only in undersized or backward children and youth that I have experience here (not real dwarfs or midgets).

A frail choreic girl of 14 years, seen a year since, had made little or no recent advance in growth. On pituitary, with some accessories for the chorea, she in three and a half months gained a couple of pounds in weight and over an inch in height, the chorea of course disappearing.

Again a year since, a slightly rachitic boy of two years, after a period of cessation of growth, increased from 25 to over 30 pounds (*i. e.* over 20%) in six months on the somewhat irregular administration of pituitary, besides recovering in all ways and keeping up his good progress since though at a slower rate. In fact when growth is once started up in this way it usually keeps on satisfactorily.

In 1905 a somewhat choreic boy of 13 years and of scanty physique received pituitary, besides at times arsenic and accessories. Although his growth was said to have been at a standstill previous to this, he gained two inches in height and 10 pounds in weight in the next eight months. In another ten months, on somewhat irregular continuation of the pituitary, he made a further gain of three inches in height and 11 pounds in weight, when the father began to inquire anxiously for agents with the opposite effect. This record for a year and a half, of five inches in height and over 20 pounds in weight (having been under 56 inches and 70 pounds at the start) is as good as any of which I have the figures.

Two of the cases noted suggest the special value of pituitary in chorea and also a way of choosing between that gland and thyroid for accelerating growth. It has been known for more than half a century that strychnine is often used in chorea. We now know in explanation that the arterial pressure averages low in chorea. Hence in the choreic underling as in all cases of low pressure the pituitary would be in order, while for other indications in youth and in ample vasatonus thyroid would be the choice.

In a number of other cases the pituitary has served well for this purpose, but these must suffice. With some it fails, and one such class can be specified. Clinically I long since found that pituitary had no power to aid growth in cases due to luetic heredity. A possible reason can now be assigned. We know the tendency of this dyscrasia to favor narrowing of the blood-vessels. To give such cases any digitalis-like agent must be unphysiological. A minute quantity of thyroid will be better adapted and does at times seem slightly helpful.

My experience suggests also, as might be inferred from what was said above anent thyro-therapy, that pituitary is more active in stimulating osseous growth especially in the long bones, while thyroid does relatively more for other tissues, and this harmonizes with previous facts.

It must be more difficult to increase development after adult life is reached, although acromegaly shows that this may not be impossible.

It is natural and easy for the doubter to say that these and similar cases were at the usual age for progress, or that adjuvants and accessories did the trick, or that they are mere culls. The very negations, however, satisfy me that the observations are trustworthy.

Such agents as iron, calcium and stimulation of the diaphysis-line in growing bones can also be employed as in the past, and probably have more effect when used with pituitary.

### *The Thymus.*

There is as yet no clear interpretation of the purpose of this gland. It has figured as a fetal blood-maker, as a lymphoid organ (whatever that may mean), as playing a part in the bone-growth, as related to sexual development, as an early substitute for the thyroid, as antagonistic to the adrenals, or as a physiological negative in post-uterine life. Perhaps because it subsides about the time the muscular system becomes full-fledged, and because

it has frequently been found the seat of neoplastic enlargement in cases of myasthenia gravis, it has also been looked upon as specially concerned in muscular development. There is probably nothing in this, no constancy in even the myasthenia finds, as Tilney has shown. And in two unrelated cases of the family form of muscular dystrophy, treated the past winter (one in a youth and the other in a woman of forty years), trials of dry thymus failed to make any impression (if not doing positive harm), though other lines of treatment did some good.

Nevertheless, because of its mechanical relations and of its participation in certain states, the thymus has a more than mystic interest. Methods of treating status thymicus are as yet inadequate.

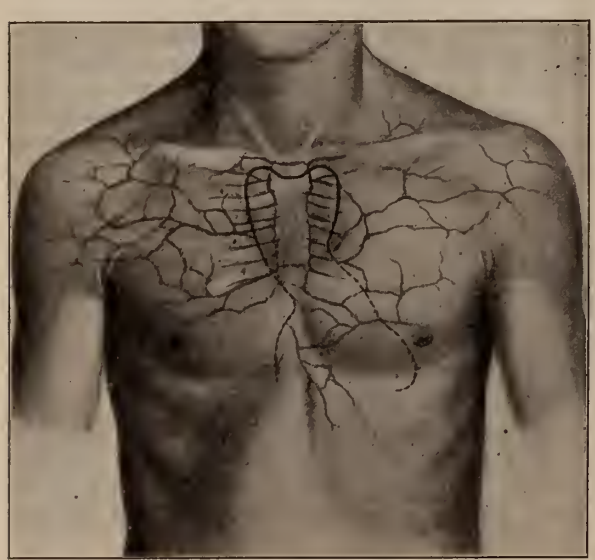
### 5. Examination, Function, Methods of Administration, Discussion.

Physical examination of these glands.

Any direct examination of these in the first group is as a rule only practicable in the case of the thyroid and thymus.

The latter, if of much size, can sometimes be palpated as to the portion above the sternal notch, although my experience indicates that this is very exceptional. Nor does it prove to be any more accessible when reclining or during expiration.

Or it can be outlined by gentle percussion over and about the manubrium. That this gives accurate and trustworthy information was demonstrated in a recent case of myasthenia gravis where the autopsy shortly after such a delineation showed that it did not deviate a quarter of an inch from the actual condition. In three recent consecutive cases of enlarged thymus, while it was possible nominally to outline its lower border, the area of relative dullness was found to merge over by a kind of isthmus into the regular cardiac area (as may be seen in the accompanying illustration). The percussion note is not by any means absolutely flat, but only partially so compared to the adjacent pulmonic resonance.



As the organ tends to subside early in life, it is only in pathological conditions that it is usually demonstrable. When persistent or large it can be made out by the X-ray.

There is another and little recognized phenomenon that occurs in some cases of large thymus. This is an enlargement or distension of the veins over much of the front surface of the chest, not so much over the manubrium and upwards as radiating down and outwards. The translucent quality of the skin in this class of patients lets the venous markings shine out with a clearness not normally seen in the young. Doubtless this appearance is secondary to compression of the internal mammary veins, as very likely may occur with any mediastinal tumor, with the consequent opening-up of a considerable area in this collateral field. It is comparable to the caput medusæ about the umbilicus, from block in the portal system. There is one feature of this thymus form, however, that may serve to distinguish it. On exercise, hurry and excitement an ample venous plexus of this kind may appear all across the front of the thorax as far as the shoulders and even to below the free border of the ribs. Sitting quietly a sufficient time has the opposite effect, allowing them practically all to disappear. Consequently there can be no absolute rule about finding this appearance, except that it must be more common and more easily called forth the larger the thymus. These vessels are not all turgid and prominent like varicose veins of a leg. In size they vary all the way from uncertain faint veinules up to good vein-trunks. Common is a larger one or a trend on each side out to the prominence of the shoulder. All of these incline to show a somewhat irregular course with many branches and connections, when the plexus is prominent. A small branch on each side may find its way up over the clavicle. While they may show the dark venous color, we are far more apt to find them merely shimmering through a favorable light, of course aiding inspection. Per contra, other individuals of like age, but free from thymic suspicion, show nothing of this or merely slight markings within the range of the normal.

A goitrous thyroid of course anyone can recognize. Lesser changes are more difficult. It is at the isthmus that the thyroid is most accessible to direct palpation. We can feel it by pressing gently against the half-firm subjacent tissues, or often if thick and narrow we can seem to roll the isthmus like a plastic fold under our finger-tips. By practice we can make out the state of this portion very satisfactorily. Sometimes we can make sure that

there is but a rudimentary if any isthmus. Again we can determine that it is broad fairly thick and soft. Or, we find that a faint one gradually changes as time goes on, becoming thick and apparently ample. Therapeutic doses of thyroid have so commonly given results corresponding to what might be expected from the condition of the isthmus, that I now place considerable value on this digital examination. True, it gives us only a limited index of the whole gland, but one that is most useful. The size of collar worn, measurements of the neck above and below the prominence of the larynx, careful inspection, as well as palpation out from the isthmus are of some value in determining physically the lobes of the organ. Together these methods aid us materially in comparing the size of the whole viscus with the normal. Occasionally the X-ray may help here also.

It is very desirable that we perfect our methods of physical examination in all these cases with regard to size, location, texture, etc. But, granting we know the size and consistency of a gland, these do not tell us with certainty the work done by it. Consequently to an extent we still have to draw our conclusions backward, as to the physiological or quantitative activity of these glands in the concrete case, from the clinical evidence, on the basis of experience.

### *Physiological Elements of These Glands.*

It is becoming evident that each of these glands is made up of two or more elements of some physiological dignity, (circulatory ferments, enzymes, oxydases, etc.). For the thyroid a thyreo-globulin and a thyreo-proteid have been differentiated.

In the case of the pituitary they are even anatomically distinct. According to Pemberton & Sweet the posterior or neural pole of the hypophysis has the element that affects the pancreas as well as the blood-pressure. The major anterior (epithelial or glandular) is the portion presumably "concerned with somatic growth."

The ovary is said to furnish "two or more internal secretions," though this claim is only proven for some periods of its activity.

While a strong argument is made in favor of an internal secretion from the testicles and its existence is attested by as careful a man as Dixon, I must venture the opinion that no actual proof, either in fact or logic, has so far been offered. If we recognize that the testicles both use and secrete material,. to some extent even in youth, and that if intact they generate both reflex and psychic influences. we must grant that the case of a special internal secretion from these organs, however probable, is far from being proven.

The pancreas supplies intestinal ferments as well as internal secretion.

In the case of the suprarenals the medullary portion supplies the adrenalin, while the cortical or major part of the gland is thought to be "the power behind the throne" in the development of the reproductive organs and sexual characteristics.

In at least some of these glands there appears to be a physiological antagonism between the primary and other constituents, as *e. g.,* between the adrenalin and the cholin of the suprarenal bodies.

There has been a kind of mythological or fanciful view that each of these organs was for an exclusive and limited purpose. The thyroid for the nervous system, the parathyroids at one time for something else, but now for calcium metabolism; the pituitary for somatic growth; the thymus for the muscular system; adrenals for the circulation, langerhans cells for sugar metabolism, the spleen for the metabolism of iron, etc. There is enough of both truth and mnemonic convenience in these specific attributes to make them worth retaining, provided we remember that they are but imperfect generalizations. While it is natural in the young growth of this science to thus think of the subject in terms of the anatomically separate glands, the outlook now speaks for physiological units of activity that but partially conform to anatomical divisions. We have, for instance, the chromaffin system of cells, supplying adrenalin, not all of which cells by any means are in the suprarenal bodies. This brings us to the next head.

### *Valence or Interdependence.*

One of the peculiar and most difficult sides of this subject is the interrelation, equivalence, and antagonistic action of these organs, and which I suggest can be conveniently summed up by the chemical term Valence. The recent article of Falta (*American Journal of Medical Science,* 1909, April), or on the sexual side, the earlier one of Guthrie (*British Medical Journal,* 1907, II), treat this matter very entertainingly. Some of these structures also change greatly from fetal to adult states. Whether this phase indicates a headship or one dominant gland, as is claimed, does not alter the fact.

We may instance the similar action on the circulation, of the pituitary and adrenal extracts. And also their similar anti-secretin action on the pancreas.

Again, the thyroid may in some children cause an increase of growth, while in the adult it regularly causes a reduction of weight. This holds even when the dose in the child is proportioned to that in the adult. We find also a growth-stimulating quality in both pituitary and thyroid, at least in selected though not necessarily identical cases. A second coincidence of these last two glands is furnished by the frequence with which in acromegaly some of the symptoms of either Graves' disease or of myxoedema may

appear. On the other hand, as regards pulse and arterial pressure, these same two glands are in opposition.

A further illustration under this general head, though of a different type, is furnished by the so-called status lymphaticus. It is a condition that has been found so dangerous to tunnel workers, that applicants for such jobs are specially examined on this point. This will be taken up by one of the discussers.

For the most part these phases are not sufficiently determined or are too intricate to admit of formal presentation here. These and their interpretation may possibly be taken up by the next speaker.

This theoretical side of the subject promises a rationale or philosophy of medicine that will require the best talent for its mastery, and will establish medicine well at the head of the practical sciences.

*Methods of Administration.*

Barring the rare attempts by the rectal route, there are two general plans, either (a) by the mouth; or, (b) hypodermically or intravenously.

By the mouth we can give either the fresh tissue, or a dry preparation, or some glycerine, alcoholic or similar extract that may be supposed to be equally effective and at the same time easier of preservation, or, finally, some solution of the active principle.

Hypodermically we are limited to either solutions of the active principle, as adrenalin, or to some approximate solution or suspension of the active material of the tissue.

The more efficient hypodermic method is here of limited application, at least for general practice. To be a widely available method it is necessary for the most part or in the majority of patients that we be able to succeed by some form of administration by the mouth. In occasional cases or for brief periods of study, notably in institutions, the hypodermic plan can be resorted to,—but it is of the wider general use of these agents by the profession that we are here speaking.

*Duration of Treatment.*

This varies with the condition. In case of the practical absence of a gland. a substitute may have to be continued during the life of the individual.

In the case of the pituitary and apparently the thymus, where the leading function may be somewhat transient, the substitute need only be kept up until the object is accomplished.

In other and recoverable forms I have had on occasion to keep it up over three years. Often, fortunately, far shorter periods suffice.

As to the ways of inciting or restoring the proper adequacy of a gland, at least three may be mentioned. One consists of general hygienic measures adapted to the case. Another is the administration of like animal gland, partly to tide over temporary inefficiencies, and partly to allow the weak gland a chance to recuperate and develop. In theory there may be a third way, to give the activating principle or some gland that is known to have a stimulating influence on the weak one.

*Some Principles in Dosage.*

This has reference to dry preparations. The size of dose should be proportioned to the body-weight of the patient. The amounts usually recommended are for adults and should be suitably reduced for children.

It should also be remembered that in many cases we are not seeking to supply the system with the full amount that it requires (as is presumably often the case in general therapy), but only with enough to help out a defective gland. Rarely the whole gland is wanting, and then a fuller dosage is in place ("substitution therapy").

For the thyroid I long since found that, aside from exceptional cases, half a grain to a grain, or at most a grain and a half, one to three times a day, was better than more. And it is satisfactory to see Sajous' recent statement to the like effect. Any change in weight gives us a close control, a guide to what we are accomplishing.

To offset any depressant effect of thyroid, or where the pulse is rapid, a little strophanthus suffices very well. Sometimes a small amount of adrenal acts well as such an adjuvant, though strophanthus usually answers fully, besides being cheaper and safer. French and other observers have recommended arsenic for therapeutic thyroidism.

With pituitary, for older children I do not go above half a grain to at most a grain, and for younger or slight persons correspondingly less. In acute infectious diseases Revon and Delille gave as high as six grains a day, and that amount is recommended by the manufacturers. We should soon be able to get the growth-part free from the neural or adrenal part, and thus reach finer results.

The initial dose of parathyroid is given as a tenth of a grain. But beginning with that, I have never seen any effect from considerably larger doses. Of course this does not refer to its use hypodermically in tetany. While its curative action when thus used appears now well proven, it is also claimed that the same good result can be secured by the administration of calcium lactate by the mouth.

Of the dry adrenal gland a half grain is quite enough until sure that a grain or more is desirable.

Of thymus I know no good, but have given it up to four and a half grains or more at a dose.

Blood-pressure determination has become an indispensable aid in the selection and dosage of many of these preparations.

*Polyvalent Extracts.*

At least two American firms attempt products that may be so classed, *i. e.,* combinations of several glands. But, from the peculiar facts above noted under Valence, it is clear that this stands on a par with what is termed polypharmay or shotgun-prescribing. Personally I have been unable to see any benefit from their use, or in fact any effect unless as food. Some of our best men however find them beneficial. We may at any rate conclude that their value is as yet not proven, and that any clear indications for their use are lacking.

*Commercial Uncertainty.*

The usefulness of these products depends on the reliability of the preparations offered in the market, *i. e.,* on the knowledge and responsibility of those who prepare and handle them. As one of our dermatological members say: "Some preparations of thyroid are no good, while others are violently active." This is not a matter of honesty, but of wide range in method. And this brings us to the next heading.

*Standardization.*

The large number of firms in the field and the vastly larger number of products clamoring for recognition makes the need of standardization imperative. This is practicable for adrenal products. And efforts are being made to do this for thyroid (Hunt & Seidell, *J. A. M. A.,* 1908, L. I). Various other extracts are or have been advertised as standardized; but at most this usually proves to be only an estimation proportioned to weight of tissue used.

*Cost.*

This is often so heavy as to constitute a serious draw-back, although varying greatly according to the article required. This also handicaps extensive studies. There are few hospitals that permit their use, unless occasionally a little thyroid. And even private patients shrink from the large cost of such prescriptions, the more as they usually are to be continued for some time. Ordinary prescriptions that easily run up to five and six dollars or more seem high, even though worth it, as the boy said of the butter. Some of the figures here almost raise us to the dignity of our surgical friends.

An increased demand may bring down prices somewhat, though the conditions of supply and manufacture prohibit any great reduction. And as the demand grows there are, or will be, attempts to supply poorer articles. Expense is the great problem or limit of modern medicine. Give us an absolutely free hand in fair season and there are few conditions we can not cure or at least tide along in very good shape.

*Suggestion.*

These facts bring up the question of supply. If there arises any considerable demand for these agents, there will be a need in the large centers, of some convenient economical and strictly trustworthy source of supply for fresh material of various kinds.

If in the case of any one of these tissues there be any virtue in a dried article, an extract or solution, then very certainly there must be at least as much in the fresh article, and often far more.

Consequently, for reliability and the reasons given, it might be highly desirable to have some undertaking for securing these tissues from local abattoirs, and further to have a careful system of inspection, much after the pattern of the work done by our milk commission. Some such scheme offers a practical solution of many difficulties, wherever the demand is large. It at the same time would make us relatively independent. Even this plan, however, could hardly furnish the more expensive anti-preparations nor altogether meet the prospective requirement for isolated elements where more than one occurs in the same tissue.

*Finally,*

There are many other interesting features of this theme, a couple of which may be mentioned in closing.

The causes of the inadequacy of these glands are obscure, aside from inheritance. accident, including shock and fright, and acute infections. The lymphatism type, I believe, I have seen develop in more than one series of instances, on the basis of too active sexual life in the parents. Furthermore, in most of these forms there appears to be a noticeable tendency for the same state to recur in the offispring of those who have shown peculiarities in the primary development of these glands.

As to their general influence on heredity, it is clear that much of the differing physical make-up of individuals is to find at least a relative explanation in the activities and relations of these peculiar organs. This side awaits more definite facts.

There is another matter of importance. This knowledge is leading to improvement in the use of other and older remedial agents. We may instance the application of calcium salts in tetany, or the warning that the digitalis-group may favor arteriosclerosis.

And besides this last principle, there is the question of the action of our other remedies through some effect on these glands.

You may come to the snap conclusion from all these queries, criticisms and uncertainties, that the prospect in this line is poor. But, recall that all these difficulties once existed in only less degree for botanic therapy. And just as they have been more or less overcome there, so will they be here, if the object is worth it and necessity urges.

# SCHEDULE OF INTERNAL SECRETIONS AND ANIMAL THERAPY

| | *Gland or Agent.* | *Supply.* | *Result, Associated Condition, or Indication.* |
|---|---|---|---|
| I. DUCTLESS GLANDS AND INTERNAL SECRETIONS. | (A) Thyroid (Iodothyrin or Thyroglobulin plus Thyroproteid. | 1. Athyroidism (Athyreosis). | (*a*) Cretinism.<br>(*b*) Myxœdema.<br>(*c*) Cachexia thyreopriva (surgical).<br>(*d*) Pituitary Hypertrophy (follows Thyroidectomy). |
| | | 2. Insufficiency (Hypothyroidea, Thyreoaplasia. | (*a*) Pachydermatoses (Ichthyosis, Scleroderma, Psoriasis, Pityriasis, Etc.). Adiposis dolorosa (?)<br>(*b*) Some Chronic Arthrites.<br>(*c*) Sluggish and Sleepy Conditions; Lessened Irritability of the Sympathetics.<br>(*d*) Forms of Infantile Eclampsia.<br>(*e*) Thyroiditis. Dysthyroidism. Thyroidotoxin Effects. |
| | | 3. Hyperthyroidism (Hyperthyreosis). | (*a*) Reduces Weight in Adults (by increasing nitrogen and phosphorous metabolism).<br>(*b*) Exophthalmic Goitre.<br>(*c*) Nervous Over-activity (Insomnia, Excitement, Etc.), now attributed to hyperirritability of the Sympathetics. |
| | | 4. Relation to Genital Sphere. | (*a*) Enlargement of Thyroid at Puberty, during Menstruation, and in Pregnancy.<br>(*b*) Suppression of Menses, often followed by Goitre (disappearing on return of menses).<br>(*c*) Sexual Infantilism usual in Myxœdema.<br>(*d*) Arrested Genitalia after early Thyroidectomy.<br>(*e*) Precocity in some early Hyperthyroids. |
| | | 5. Opotherapy (Feeding). | (*a*) General Depressant (Pulse and Circulation).<br>(*b*) Relieves Athyroidism and Hyperthyroidism.<br>(*c*) Increases Weight in some backward Children.<br>(*d*) Undefined Immunizing Qualities.<br>(*e*) Recommended for Obesity, for Colloid Goitre, and in Puerperal Eclampsia.<br>(*f*) Antithyroid Preparations for Hyperthyroid Conditions. |
| | (B) Parathyroid Glandules. | 1. Parathyreopriva. | (*a*) Tetany (as from Parathyroidectomy).<br>(*b*) Restlessness; Insomnia; Flushings; Numbness; (?) |
| | | 2. Insufficiency (Hypoparathyreosis). | (*a*) Perhaps Rickets, Osteomalacia, Achondroplasia (?)<br>(*b*) Doubtful relation to Paralysis Agitans (?)<br>(*c*) Parathyroiditis. |
| | | 3. Opotherapy. | (*a*) For Tetany. Subcutaneous Injection of Parathyroid Nucleoproteid (useless by mouth). |
| | (C) Pituitary. | 1. Insufficiency. | (*a*) Dwarfism, if inadequacy congenital.<br>(*b*) Low Arterial Tension and Fast Pulse.<br>(*c*) Sexual Retardation (in the Young). |
| | | 2. Enlargement. | (*a*) Gigantism, Acromegaly (Somatic Overgrowth).<br>(*b*) Amenorrhœa, Atrophy of the Genitals (or Sexual Infantilism in the Young), and Impotence.<br>(*c*) Develops in Castrated Animals.<br>(*d*) Mechanical (on adjacent Cranial Nerves). |
| | | 3. Opotherapy. | (*a*) Causes Arterial Hypertension.<br>(*b*) Has an Anti-Secretin Action on Pancreas.<br>(*c*) "Has a marked influence on the Uterus."<br>(*d*) Increases growth (of many backward Children). |

| | *Gland or Agent.* | *Supply.* | *Result, Associated Condition, or Indication.* |
|---|---|---|---|
| I. DUCTLESS GLANDS AND INTERNAL SECRETIONS (*Continued*). | (D) Thymus and Parathymus. | 1. Absence, Atrophy, Aplasia, Fibrosis. | (*a*) Normal after Infancy (or at Puberty).<br>(*b*) Premature Subsidence accompanied by defective Nutrition (as Marasmus, Rickets) (?)<br>(*c*) Where Thymus absent, Splenectomy promptly fatal. |
| | | 2. Hypertrophy and Persistence (Status thymicus). | (*a*) Thymic Asthma, Laryngismus stridulus. Glottis Spasm (in children, mechanical).<br>(*b*) Thymic Death (mostly in operations).<br>(*c*) Status lymphaticus, Lymphatism.<br>(*d*) Possible Relation to Leucocythæmia and Leukæmia.<br>(*e*) Common in Graves' Disease (Basedow-thymus). |
| | | 3. Tumor of. | (*a*) In many cases of Myasthenia gravis. |
| | | 4. Opotherapy. | (*a*) Rickets (?)<br>(*b*) Muscular Dystrophy (?) |
| | (E) Adrenals (Adrenalin). | 1. Insufficiency, Hypoplasia. | (*a*) Arterial Hypotony.<br>(*b*) Bronze or Addison's Disease (in bilateral Affections of Adrenals). |
| | | 2. Superadrenalism. | (*a*) Follows Degeneration or Atrophy of Ovaries or Testicles. |
| | | 3. Solutions (Adrenalin). | (*a*) Act locally as Vaso-constrictor, Hemostatic, Astringent, and Myotic. |
| | | 4. Adrenal Cortex. | (*a*) Controls Sexual Development (?) |
| | | 5. Opotherapy (Feeding). | (*a*) Digitalis-effect on Heart and Circulation.<br>(*b*) Induces Arteriosclerosis (?)<br>(*c*) Has Anti-secretin Action on Pancreas. |
| II. SEXUAL GLANDS (Ducted). | (A) Testicles (Leydig's or Interstitial Cells). | 1. Absence (Castration). | (*a*) Eunuchism (if lost before puberty).<br>(*b*) Superadrenalism (including Pituitary Hypertrophy). |
| | | 2. Smallness (Hypoplasia). | (*a*) Part of Status lymphaticus. |
| | | 3. Opotherapy. | (*a*) Asserted Aphrodisiac and Neuroregenerator (?) |
| | (B) Ovaries. | 1. Absence.<br>2. Hypoplasia. | |
| | | 3. Opotherapy. | (*a*) Increases Metabolism in the Castrated or Spayed, but not in the Normal. |
| | (C) Mammæ. | 1. Absence. | |
| | | 2. Opotherapy. | (*a*) Recommended in Fibroids, and for Disorders of the natural and artificial Menopause (?) |
| | (D) Prostate. | 1. Absence.<br>2. Hypertrophy. | |
| | | 3. Opotherapy. | (*a*) In Atrophy of Testicles, and in Hypertrophy of Prostate (?) |
| | (E) Parotids. | | |
| III. OTHER GLANDS AND PRODUCTS. | (A) Langerhan's Cells (Pancreas). | 1. Impairment or Destruction. | (*a*) Pancreatic Diabetes and Its Sequels. |
| | | 2. Opotherapy. | (*a*) For Diabetes mellitus. |
| | (B) Excrements. | 1. Asafœtida.<br>2. Musk.<br>3. Castoreum. | (*a*) Nervine. |

| | *Gland or Agent.* | *Result, Associated Condition, or Indication.* |
|---|---|---|
| III. OTHER GLANDS AND PRODUCTS (*Continued*). | (C) Digestive ferments. | Pepsin, Ingluvin, Bile, Etc. |
| | (D) Hormones. | Secretin, Peristalsis-Harman, and other activating Agents. |
| | (E) Other Extracts. | Brain, Cord, Muscle, Kidneys, Heart-Muscle, Placenta, Stomach, etc., have been essayed, but, like the Pineal Gland, Carotid Body, Glomus coccygeum, and Parasympathetic Bodies, have no established status. The Placenta contains adrenalin (or something akin to it). Precocious muscular development has been twice observed in tumor of the Pineal Body. |
| IV. HEMOPOIETIC OR BLOOD-FORMING ORGANS. | (A) Spleen and Accessory Spleens. | |
| | (B) Bone Marrow. | |
| | (C) Hemolymph Nodes (Spleenolymph and Marrowlymph Glands). | |
| | (D) Lymphatic Glands, including Tonsils. | |
| | (E) Liver. | |
| V. BLOOD, SERA, VACCINES, LYRIUS, ETC. | | |

## A YEAR'S EXPERIENCE WITH RUBBER GLOVES.

**By RUSSELL S. FOWLER, M.D.,**
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ON March 1, 1906, I decided to employ rubber gloves for one year in all operations, to determine, first, whether the use of gloves made any difference in the number of infections; second, whether one could develop a good tactile sense in using gloves; third, whether the hands of the operator were kept in better condition with less liability to infection; fourth, whether wounds must be made larger in order that the visual sense might aid the tactile sense; fifth, whether one could become so expert as to make as quick manipulations with gloves as without.

*Number and Character of Operations.* From March 1, 1906, to February 28, 1907, I performed 714 operations, 609 of which were at the German Hospital; 71 at the M. E. (Seney) Hospital (one month's service); 34 in private houses.

Of these operations 62 were on the head and neck; 33, thorax; 48, upper extremity; 245, abdominal cavity (appendix, 113; uterus and adnexa, 53; hernia, 45; stomach, gall bladder, etc., 34); 137, female genitala, other than laparotomy; 41, rectum and anus; 49, genito-urinary (male); 58, lower extremity; 41, miscellaneous.

*Infection.* Such infections as have occurred were in cases in which an infection was already present in the skin of the patient, or in which, as while removing an acutely inflamed appendix or tube, the appendix or tube inadvertently came in contact with the wound edges, or where the fingers after having handled such infected tissues were later inadvertently brought in contact with the wound. This tallies with our experience before the use of gloves. I have never yet had an infection in a clean case in which I alone touched the wound either with or without gloves.

*Tactile Sense.* During the first few weeks of the use of rubber gloves the tactile sense was very bad; later, as experience increased, it became better, but could never be compared favorably with the delicate feel of the bare finger tips. I was relieved when the year was up. The first

operation done with permanganated hands was an appendicitis with abscess in which the appendix formed part of the abscess wall. With gloves I would never have been able to enucleate the appendix without entering the peritoneal cavity, while with the bare hand I was able to confidently enucleate it.

*Condition of the Hands.* In eleven years previous experience without gloves there was never infection of a hang nail even, with one exception, when an anatomical tubercle developed on the back of the right hand. This was probably due to a stiff brush puncturing the skin and a subsequent inoculation with pus from a case of tuberculous peritonitis. In those eleven years hardly a day passed without a preparation of the hands for one or more operations, and during this time there was never experienced more than a slight roughness of the skin, and this only occasionally, with our regular method of preparation of the hands. This may be due in part to a naturally oily skin and to the after care of the hands. Wearing gloves made no noticeable difference in the condition of the skin.

*Size of the Wound.* My experience has taught that the size of the wound when gloves are used must be materially increased in order that the visual sense may help the tactile sense. This is particularly true in appendices with adhesions, and in the inflammatory conditions of the female pelvis. On the contrary, in my previous experience without gloves it was possible to safely enucleate appendices and appendages through small incisions and with confidence. Fine lines of cleavage can not be followed up with the gloved finger without the aid of some time in the procedure of the eye.

*Rapidity of Operating.* Previous to the use of rubber gloves my quickest appendectomies were five, seven and nine minutes for complete operation and wound closure, the average time for cases limited to the appendix being ten to twelve minutes, the Dawbarn method of dealing with the stump of the appendix being employed, which takes somewhat longer than the simple ligature and amputation, but which I consider preferable for reasons which need not be entered into here. With gloves the quickest appendectomy was twelve minutes, the average being fifteen to twenty minutes. Other operations were proportionately prolonged. Moreover, the use of gloves adds greatly to the dangers of quick operating, as the gloves are slippery and too much pressure may be used in grasping a slippery appendix and rupture may ensue. This accident has not happened with me but I have greatly feared it.

*Conclusions.* Judging from my own experience I should say that goves do not reduce the number of post-operative infections; the wound must be somewhat larger to allow of at least occasional visual direction; the tactile sense is decidedly interfered with, nor does the continued use of gloves educate the tactile sense anywhere near that of the bare hand; in my own case there was no difference as regards the condition of the skin of the hands; manipulations are rendered slower and in some cases decidedly dangerous; the length of time of operation is decidedly increased and hence there is added danger and shock to the patient.

The ordinary objections and supposed advantages are well known and need not be repeated here. Assistants and nurses should wear gloves, as *they are not so accustomed to the proper preparation of the hands as the surgeon.*

For purposes of comparison the following has been and will continue to be the method by which our hands are prepared for operating: The effects at mechanical disinfection are centered upon the hands and lower two-thirds of the forearms, as it is our practice to wear gowns the sleeves of which come down to and fit closely around the wrist.

Skin disinfection has for its object the mechanic removal of germs from the surface of the skin, the chemic inhibition of germs which are brought from the depths of the skin to the surface by the sweat and sebaceous glands, and the mechanic lessening of the conditions which produce sweating. There is at present no method by which these aims can be certainly attained. The hand which is scrubbed clean mechanically and which gives no culture will, upon being moved about for a few minutes, give a culture. With the object of overcoming the conditions present, so far as possible the following procedure is advocated:

The hands and forearms are first vigorously scrubbed for five minutes with green soap and a soft brush in hot running water. The hot water causes sweating, thus bringing to the surface at least some of the bacteria residing in the depths of the skin. The vigorous scrubbing facilitates this and removes the bacteria from the surface. A good lather should be raised which is rinsed off in hot water. The nails, softened by the hot water, are then trimmed down to the quick, not close enough to be painful, but close enough to obliterate the subungal spaces. The only way to disinfect the subungal spaces is to destroy them. For those who object to trimming their nails so short a wire nail cleaner is recommended. The hands and forearms are again scrubbed with green soap and hot water for another five minutes. The brush must not be so stiff or used so vigorously as to abrade the skin; so doing would open up avenues of infection quite needlessly. The lather is rinsed off frequently. After a final rinsing the hands are immersed for one minute in a 1-2,000 bichlorid of mercury solution, then for a minute, or until deeply stained, in a hot bichlorid-permanganate solution (a saturated solution of permanganate in 1-1,000 bichlorid). This latter serves three purposes: the permanganate penetrates the skin deeply and so carries the bichlorid into the

depths of the skin; owing to its astringency it contracts the tissues and so tends to prevent sweating; in addition, it forms a film on the surface of the skin and so tends to prevent the entrance of infection as well as the egress of bacteria from the depths of the skin. Finally, during the operation, at intervals of five minutes or oftener, if the hands become soiled with blood or pus, the hands should be rinsed in cold bichlorid solution, 1-3,000 in 50 per cent. alcohol. This serves to rinse off such bacteria as lodge on the surface or work out through the depths of the skin, and the low temperature of the solution and the alcohol in it tend to minimize sweating.

The after-care of the hands is important. The hands are gently scrubbed in hot water to open up the pores, all soap rinsed off, and then immersed in a hot saturated solution of oxalic acid. This removes the permanganate. The hands are rinsed in warm water and then in cold ammonia solution, one ounce of ammonia to two quarts of water. This neutralizes the effect of the oxalic acid, and when a little liquid green soap is added it results in thoroughly cleansing the hands, leaving them white and soft. If the hands feel dry, lanolin may be rubbed into the skin.

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## A BRIEF REVIEW OF THE APPLICATIONS OF ROENTGEN RAYS IN DIAGNOSIS.*

By E. W. CALDWELL, M.D.,

NEW YORK CITY.

WHEN the X-ray was new, some twelve or thirteen years ago, printers' ink was used unsparingly in exploiting the wonderful discovery and its possibilities in diagnosis. The casual reader was led to believe that it was a wonderful light with which we could photograph anything we desired to see, no matter how securely hidden from our unaided eyes. The expression "Photography of the invisible" was current not only in lay journals but in those of scientific pretensions as well. For a year or two every physical laboratory was the scene of experiments with the new rays which Röentgen had discovered and which Crookes and other experimenters had produced during the preceding twenty years and failed to recognize. The list of alleged "first successful radiographs made in this country" is astonishingly long. These early radiographs were exceedingly indistinct shadows of the bones of the hand or of a dead mouse, or else of some metallic object like a key, produced by exposing a photographic plate for minutes or hours to the feeble rays obtained from the imperfect appliances then available. It was predicted that every medical man would soon have in his office a little machine enabling him to obtain views of the human body such as hitherto had been possible only at the autopsy table or the anatomical laboratory.

After such over-enthusiastic statements had ceased to appear as news items, it was found that the imperfect radiographs of that day were proving very useful in the diagnosis of a few bone injuries, and in the localization of foreign metallic bodies.

At this time the period of active investigation had passed, and the practical application of the rays had been taken up by a few physicians whose tastes inclined toward physical laboratory work, and by a few engineers, photographers and electricians, to whom we are indebted for the development of many practical details. These pioneers were able, by making exposures of from three to twenty minutes, to obtain radiographs of the extremities, which were useful in the localization of needles, bullets, etc., and the diagnosis of fractures and dislocations.

The fluoroscope was used extensively not only for diagnostic examinations but for testing the rays emitted from the tube, the penetrating power of which was very changeable and required constant adjustment. Little was known of the physiological effects of the rays, and the seriousness of the injuries they produced was not suspected. It was then the almost universal custom of the operator to test the rays by examining his own hand in the fluoroscope. When he made a fluoroscopic examination of an arm or a leg he held the fluoroscope with one hand and the object he was examining with the other. He noticed that the skin on the backs of his hands became irritated and uncomfortable, but expected this condition to disappear like sunburn. This was the beginning of the long series of injuries to operators which have of late been proving so fatal. Those who have taken up the work within the last five or six years have practically all escaped serious injury, and there need be no repetition of the tragedies which were a consequence of the first two or three years of experimental work.

Because of the long exposures then necessary for making radiographs, and the imperfect control of the quality of the rays, some exceedingly severe X-ray injuries appeared in a few patients submitted to X-ray examination. These unfortunate accidents and the uncertainty of success of the early attempts at radiography, caused a fear and distrust of the X-ray which has not yet entirely disappeared. However, confidence began to return, and with the improvement of appliances and technique which followed, the field of usefulness of the rays has been steadily enlarging, and will probably grow for some years to come.

By the end of 1897 successful radiographs of renal calculi had been made. The pioneer work of Dr. Charles Lester Leonard of Philadelphia

*Read before the Medical Society of the State of New York at Albany, January 25, 1909.


FIG. 1.—The first of a series of X-ray plates covering the gastro-intestinal tract. Patient had just swallowed about 20 ounces of bismuth paste. Exposure about 3 seconds during suspended respiration, patient standing.

The heavy black shadow shows the bismuth mixture which fills the dependent portion of the stomach and the pyloris. The light area above the level of the bismuth is due to gas inflating the cardiac portion of the stomach (the "magen-blase"). A portion of the stomach wall appears as a black line enclosing this light area. It will be seen that the greater curvature extends well below the level of the crests of the ilia.

FIG. 2.—Thorax of patient referred by Dr. B. S. Oppenheimer. Interlobar abscess. The dark shadow in upper right side of plate was produced by pus between upper and middle lobes of right lung, and walled off by adhesions. An accurate diagnosis had been made from the symptoms and physical signs alone. This diagnosis was confirmed by the X-ray and later by operation and autopsy.

Fig. 3.—Peri-bronchial phthisis. Extensive involvement of right lung is shown with small diseased areas in left lung. At the time X-ray examination was made there was no cough and no expectoration. Physical signs, so faint as to be uncertain, could be obtained only over right apex. The only symptoms observed were night sweats and the typical daily temperature changes.

The disease involved chiefly the deep parts of the lung about the root, and therefore the physical signs gave no adequate indication of its extent. The subsequent appearance of cough, hæmorrhages and the other classical symptoms have amply confirmed the indication of the X-ray.

Impairment of function of the right lung is indicated by the position of the diaphragm which is shown to be slightly higher than normal on this side (with full inspiration).

Extending downward from the middle of upper margin of the cut is faint light streak which branches to right and left. This is due to the air space in trachea and bronchi.

Fig. 4.—Aneurism of descending portion of arch of aorta is shown by the dark area in upper left part of thorax above the heart shadow.

There was vocal paralysis from pressure on left recurrent laryngeal nerve but no bruit could be detected. Chancre fifteen years ago.

Fig. 5.—Pyelo-nephritis with dilatation of upper portion of ureter. Patient referred by Dr. Alfred T. Osgood. A 20 per cent. solution of Argyrol was introduced into kidney pelvis through ureteral catheter. The silver solution is relatively opaque to X-rays and therefore produces the black shadows to the right of spine, outlining the dilated ureter and some of the calices of kidney.

Fig. 6.—The region of the pelvis of the case shown in Fig. 5. An attempt to introduce a wire into the ureteral catheter *in situ* was only partly successful. The wire is shown by the curved black line extending up and to the right from the symphysis pubis at lower part of cut. Above the shadow of the wire the course of the catheter is shown by a faint streak which is the shadow of the silver solution in the tube. In the upper part of the plate to the right of spine is shown the lower part of the dilated portion of the ureter.


Fig. 7.—Frontal sinusitis. The cut is a reproduction of the X-ray plate or *negative*. (The preceding cuts are positives.) The region from just above the frontal sinuses to the lower part of superior maxillæ is included within the black mat or border. The two dark circular shadows near middle of cut show the orbits. Extending upward and outward across these are darker streaks outlining the sphenoidal fissures. Above the orbits are shown the frontal sinuses which in this case are unusually large. The median septum is deflected to the right and forms the boundary of the diseased right frontal sinus. The air space of the left frontal sinus, which is normal, shows in the negative as a darker shadow than that of the right frontal which is filled with fluid. The shadows of the anterior ethmoid cells show just below the frontal sinuses, and appear normal. The shadow of the left maxillary sinus is dark because of the normal air space, while the cloudy shadow of the right maxillary sinus indicates that it contains fluid. The turbinate bones of the left side give light shadows, and the small, dark circular area just to the right of the nasal septum at lower part of the cut, shows that the right inferior turbinate has been removed.

in this then new application deserves the highest praise. At that time the duration of the exposure for a radiograph of the kidney region was ten or fifteen minutes or more, and little detail was shown in the plates. If the shadow of a stone was obtained its presence was considered proven, but if no such shadow appeared the negative diagnosis was not indicated. Now, with improved appliances and technique we make these exposures during suspended respiration in from one to ten seconds. We usually obtain shadows of the kidneys which give us accurate information as to their size, shape, and position. Practically all calculi large enough to cause symptoms can be shown except those of pure urates or uric acid, and these are fortunately very rare.

The success of the Roentgen diagnosis of urinary calculi led many to attempt to show gall stones in the same way. Most gall stones, however, offer scarcely any more obstruction to the rays than the soft tissues which surround them, and it is obvious that such stones can not be demonstrated in the radiograph. Gall stones containing enough calcium salts to give perceptible shadows occur occasionally, and have been successfully shown in radiographs. I have seen one set of plates made by Dr. George E. Pfahler of Philadelphia which clearly demonstrated the presence of such stones and were of diagnostic value. I have seen many alleged gall stone radiographs which really showed nothing but fog and a few finger marks, developer spots or other artifacts, and which apparently were exploited either through unpraiseworthy motives or through an unpardonable ignorance of the subject of Roentgen Ray diagnosis. Trustworthy authorities are agreed that the Roentgen method is seldom useful in the diagnosis of gall stones.

By 1899 the X-ray was being used in the diagnosis of aneurisms of the arch of the aorta, tumors of the media stinum, tuberculosis consolidations of the lungs and other lesions of the organs in the thorax. Prominent among the early workers in this field was Dr. F. H. Williams, of Boston, who very early in the history of the X-ray, established an elaborate equipment at the Boston City Hospital, where he examined hundreds of thoraces with the florescent screen and the photographic plate. The screen has proven useful in showing the movements of the diaphram and the pulsations of the heart. The difference in the excursions of the diaphragm on the two sides, due to impairment of function of one lung, can be demonstrated clearly on the fluorescent screen, and has become known as "Williams' Sign."

In order to obtain all possible detail in a radiograph of the thorax it is necessary that the exposure be made while the lungs are at rest. Von Ziemsen and Rieder in Munich, using the technique proposed by Rosenthal were able as early as 1900 to make beautiful radiographs of the thorax with exposures of one second or less. Most of their rapid work was done with special films and intensifying screens which reduced the sharpness of the resulting shadows, and which were unusual and inconvenient to handle. Dr. Henry Hulst of Grand Rapids, Michigan, soon afterward repeated the work of Von Ziemsen and Rieder and improved upon it by discarding entirely the intensifying screen and special films, without increasing duration of the exposures.

The radiography of such soft tissues as are found in the lungs presents a different problem from the study of hard tissues such as bones. In a book on the subject published by Saunders & Co. in 1901, the writer pointed out that, contrary to the ordinarily accepted view, soft tissues could be shown best with rays of highest penetration and hard tissues with rays of low penetration. This statement was amply confirmed by Dr. Hulst, and he has recently made important advances in the Roentgen Ray examination of the lungs by applying this principle with the aid of an exceedingly large and powerful influence machine built especially for the purpose.

There is some difference of opinion as to how much reliance can be placed in radiographs of the lungs. The thing most desired is to demonstrate whether or not tuberculosis is present, before it can be detected by physical signs or laboratory methods. The accomplishment of this is made difficult by the fact that radiographs of nearly all adults show traces of tubercular foci which have become encapsulated and calcified. By repeated examinations with the floroscope and the photographic plate a fairly accurate idea may be obtained as to whether the disease is active or not. The first examination will very often show areas of consolidation or even cavities which have not been demonstrated by careful physical examination. Much valuable information can be obtained in this way, but the claims of some over-enthusiastic workers in this field are a little extravagant. In all plates such as we obtain of the thoracic region, there are innumerable shadows which may easily be interpreted to fit a preconceived diagnosis.

Much useful information concerning the gastro-intestinal tract may be obtained by X-ray examination after feeding a meal containing a bismuth salt which is opaque to the X-ray. The size, shape, and position of the stomach can be readily shown. Its motility may be estimated by the length of time it takes the bismuth meal to pass into the intestines. Strictures or other obstructions in the tract may often be demonstrated. In some cases a malignant tumor pressing against the stomach wall changes the outline of its shadow in the radiograph in such a way as to excite suspicion. Much excellent work has been done in this field by Hulst of Grand Rapids, Crane of Kalamazoo and Pancoast and Pfahler of Philadelphia.

One of the more recent and one of the most

difficult applications of the X-ray is the examination of the accessory nasal sinuses. The frontal sinuses are subject to exceedingly great variation in size and shape in different individuals. A-symmetrical sinuses occur frequently and render diagnosis by ordinary trans-illumination uncertain. A good set of radiographs will enable us not only to demonstrate the size and shape of the frontal sinuses, but usually to ascertain whether pus is contained in them, or in the ethmoid cells or in the maxiliary sinuses.

In the study of fractures, dislocations, and bone diseases, faulty development of the teeth and diseases of the alveolar processes the Röentgen Ray is so well known that only passing mention need be made of it. The success of radiography in such work as this has long been recognized. The results obtained in this work, which is the comparatively easy work of Roentgenology, have been materially improved by the use of elaborate accessory appliances, by stereoscopic methods, by shortening the exposures, and by a better knowledge of how to interpret the shadows of certain pathological conditions of the bones.

The use of stereoscopic methods in radiography which was suggested by Elihu Thompson in 1896 and soon afterward put into practice by MacKenzie Davidson, has proven of great value. Unortunately the technique of stereoscopic radiography is a little tedious and few Roentgenologists have availed themselves of its advantages. In examinations for urinary calculi when phleboliths or other extra-urinary bodies produce confusing shadows the stereoscope is valuable in determining their space relations, especially when the ureter is outlined by a styletted ureteral catheter.

Although brilliant radiographs of wrists, hands, elbows and teeth may be made by almost any amateur, the successful use of the X-ray for diagnosis in the thicker parts of the body and especially in the urinary tract, the gastro-intestinal tract, the thorax and the nasal sinuses has been attained by comparatively few men who have spared neither pains nor expense in perfecting their technique. The very great difference in the cost of making an X-ray examination of a simple subject like a wrist or hand and of a difficult one like the gastro-intestinal tract, is seldom appreciated. One of my colleagues tells me that his outlay for tubes and plates in such an examination as the one last mentioned averages at least $25.00 for each case.

The Roentgenologist of to-day practices one of the most difficult, dangerous and unremunerative of medical specialties, but the stigma of the bell-hanger's X-ray picture shop still clings to him. Strangely enough, although there are few if any legal restrictions, the practice of the art by those without medical training has almost died out except in some of the hospitals in our largest and least progressive American cities.

The almost ineradicable impression that the radiograph is a picture or a photograph which any one may properly examine, interpret and criticize, has been a great hindrance to the progress of Röentgenology and to its proper recognition.

The radiograph is in fact not a picture or even a photograph, except in the sense that photographic materials are used in its production. It is a special kind of projection and is essentially more like a slide for the microscope than a photographic view. Unfortunately it may so much resemble a photograph that laymen and medical men alike are apt to regard it as a *view* and not suspect how incomplete and even how dangerous their over confident interpretations of it may be.

The mere operation of an X-ray outfit is becoming much easier with improved appliances, but the number and the cost of the necessary appliances have increased enormously. In the present state of the art expensive tubes must be sacrificed in order to obtain the best radiographic work in difficult cases. The cost of replacing these tubes, amounts in some, good laboratories, to more than fifteen hundred dollars per year, and this with the cost of new appliances that must be added from time to time to replace those which become obsolete are important items in the maintenance expenses of an up-to-date equipment. Such expenditures as these may, of course, be avoided if one is content with mediocre results, or if he does not undertake the difficult cases.

The Roentgenologist who would excel must provide himself with the best possible equipment; he must acquire skill in the technique of using it; he must be painstaking in his observation of the plates, accurate and not over enthusiastic in his interpretation of them. His opinion should be valued rather than his so-called X-ray pictures.

The dangers of the X-ray like those of the celebrated muzzle-loading gun which had neither lock, stock nor barrel, may come from unexpected quarters. Occasionally a physician may be confronted with the dilemma of fearing to use the X-ray lest he burn his patient, and fearing not to use it lest he be liable to suit for malpractice. In reality, although skin lesions are sometimes produced by therapeutic applications of the X-ray, their occurrence in diagnostic work has practically disappeared in every laboratory where up-to-date methods are in vogue. There is more danger in the failure to employ the X-ray for diagnosis in appropriate cases than in its application. This is well illustrated by a case, which has been freeely exploited recently in the newspapers, of a patient who had suffered for eleven years from a pair of forceps left in the abdominal cavity in an old surgical operation, and which were readily shown by the X-ray years afterward when the patient was practically moribund.

Most of us can recall cases in which unneces-

sary suffering or deformity or even loss of life might have been prevented by early and competent use of the X-rays in diagnosis. On the other hand, although its field of usefulness is large and varied, the X-ray has its well defined limitations, and it is often applied in inappropriate cases without benefit. Sometimes unnecessary and ill advised surgical operations are performed because incompetent work in the production or interpretation of X-ray plates has led to an error in diagnosis. An instance of this sort is the well-known case of the man who died from a surgical operation undertaken to recover a set of false teeth which he supposed he had swallowed during sleep, but which were subsequently found under his pillow. A faulty set of radiographs and an incompetent interpretation of them had led a surgeon to believe that the teeth were in the patient's stomach.

The somewhat spectacular features of Roentgen diagnosis have attracted to it a few prolific writers whose accounts of miraculous results are not worthy of confidence, but there are in the field many earnest scientific men who are devoting their lives to making roentgenology more and more useful to the healing art, and who deserve the respect and the co-operation of their colleagues in medicine and surgery.

## SOME PRINCIPLES OF OBSTETRIC PRACTICE, BASED UPON 2,000 CASES IN THE LOW MATERNITY.*

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I HAVE thought it might be of interest and possibly excite discussion upon practical points in midwifery practice if I presented some reflections for the general practitioner upon the mode of procedure in certain groups of cases as I have had opportunity to observe and direct them in my service at the Brooklyn Hospital. A series of 2,000 cases does not fall to the lot of many medical men in general practice, and it is not an easy matter for the general practitioner to keep full details of every case. It usually is only in public institutions that the fullest records are kept, and where the service is under the continuous direction of one mind that uniformity. or at least, a fair approach to it, can be attained. The history blank first adopted has been continued without essential variation. It calls for a very complete record of the history of the pregnancy from the date of conception to the date of dismissal of the patient from the hospital.

I may properly characterize this study of cases not as a scientific but as a practical one, though the best practice is founded upon science, and it is believed that these cases exemplify this truth. Perhaps it would be better for me to say that this is not a statistical paper, but is a simple discussion of those principles of obstetric practice which have been followed in the conduct of the cases under my direction. I wish first to express my obligation to Dr. Thomas G. Tousey, late house obstetrician at the Brooklyn Hospital, now resident and practising in Rochester, N. Y. He very carefully went over the two thousand histories and tabulated the salient facts in regard to them. This tabulation is the basis of what I now offer for your consideration.

*General conduct of labor.*—The aim in every case is to make it as nearly aseptic as possible. It is needless to enter into a detailed description as to what constitutes aseptic midwifery, as every one is now familiar with these requirements. I may mention that douching is no longer considered a part of this procedure. It was early found unnecessary, and rather subjected the patient to some risks. It is better to leave the natural secretions, usually more free than normal, to bathe the parts. The secretions are nature's lubricant and antiseptic as well. Examinations are as infrequent as is consistent *with a positive knowledge of the progress of the labor.* Greatest care, by thorough sterilization of the vulva and the examining fingers, is taken by the examiner not to carry infective material into the birth canal. I hold that it is the best practice to watch the progress of the case by careful examinations so as to be ready intelligently to interfere as soon as progress is arrested rather than to allow the patient to suffer when interference is called for.

This leads me naturally to speak next in regard to the use of *forceps.* I find that forceps were not used in this series of cases so frequently as I have always been in the habit of using them in private practice. Eighty-three cases in every hundred were delivered without interference of any kind, and are classified as normal, no matter what the presentation. Twelve cases in every hundred were delivered by forceps. The larger my experience in obstetrics the greater has become my conviction that forceps may be used with positive advantage to both mother and child much more frequently than seems to be the practice with many obstetricians. Perhaps many refrain from using forceps because they have not sufficient confidence in their skill; but the unfortunate result in many difficult forceps cases would be avoided if the user had greater experience in their use by practice in ordinary cases, where they are instruments of election and not of necessity. Therefore I would urge upon the general practitioner to resort to their use more frequently in order to save needless suffering in cases of moderate delay, and this will give him skill for the difficult cases. Just here I will mention that I think that most cases of occipito-posterior position call for the early use of forceps, in other words that these cases can be best managed by forceps. Out of a total of one hundred and seventy-one cases of occipito-posterior position forty-nine were termin-

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ated by forceps. Forty-one cases were rotated artificially, sixty-eight rotated spontaneously and sixty-two were persistent. These persistent cases were almost always prolonged and could safely and advisedly be early assisted either by forceps, when the head has fully engaged, or by version, when the head has not engaged.

The next question of practice I wish to raise is that of *version*. Version was done in fifty-nine instances. Of these forty-three were required for three causes: placenta previa being the indication for fifteen cases, uremia for eleven cases, and seventeen from transverse or face presentations—(fifteen transverse and two face presentations.) Both the maternal and fetal mortality in these cases was high, there being six maternal death and forty fetal deaths. Three of the mothers died from uremia. They were, in fact, almost moribund when admitted to the hospital. The maternal mortality from uremia always seems extremely high, but it can be explained by the fact that patients are sent to the maternity when *in extremis*, after prolonged convulsions. Forced delivery is resorted to in the hope, usually vain, of at least saving the child, but often both mother and child are lost. Three of the six cases resulted in the death of both mother and child—one case being twins. Placenta previa, and in one of these there was in addition a large uterine fibroid, accounted for two other deaths. The sixth mother died thirty-nine hours after delivery. No autopsy was obtained, but Doctor Van Cott, the pathologist of the hospital, expressed the opinion that death was due to pulmonary infarction. She had a flat pelvis, which occasioned a prolonged first stage. She had been in labor thirty hours when admitted. She was delivered eight and one-half hours later. A review of the history suggests that probably she might have been delivered of a living child and her life spared had a Cesarian operation been performed. As she had already been so long in labor before the pelvic deformity was discovered dilatation and version was the operation of election. From my present point of experience I think that in the future cases coming under either of these three principal causes or conditions, which prompted the performance of version and pelvic deformity will be carefully considered from another point of view. I am inclined to think that in such cases the termination of labor will not necessarily be version, after dilatation, but the question will be raised whether Cesarian section will not give a better chance both for mother and child, or even for mother alone, when the child is already dead. In (1) central placenta previa, in (2) convulsions in either case where labor has not progressed far in the first stage, as is always true where full term has not been attained, and in (3) cases of moderately flattened pelvis, when the head is not engaged, Cesarian section would, I think, be the preferable method. If the patient has been in the hospital or comes at the first indication of trouble, before attempts have been made to deliver by the obstetric canal, I think many patients would fare better by the Cesarian operation than by the other procedures usual in these several conditions. The chances for the child will always be better. The shock to the mother will usually be less because the Cesarian operation can be done in shorter time and with less hemorrhage. My associate, Dr. Hussey, has recently done a successful Cesarian operation in a case of severe uremia at the eighth month, where the mother, a primipara, came into the hospital after a number of convulsions, but with the cervix dilated to only a finger diameter. The damage done in such a case by the forcible dilatation of the cervix, whether by hydrostatic bags or manually, followed by the introduction of the hand to do a version, and the time consumed in doing these things, are in marked contrast with a clean abdominal incision, whose edges can be accurately and immediately approximated, all of which can be done in less time. I shall be interested to hear how these views strike others, and also to learn whether others have put them in practice before now.

Closely connected with the subject of version is that of *induction of labor*. As has just been intimated, the conditions which call for version usually require the induction of labor as precedent to the version. And yet there is a class of cases which call for the induction of labor without necessarily requiring haste in emptying the uterus. Such are cases of moderately contracted pelvis, prenatal death of fetus, and prolonged gestation. There are other individual causes which may call for the induction of labor. In these cases my preference has been for the use of the English catheter, passed upon a stiletto, the latter being withdrawn when the catheter has been satisfactorily placed. The catheter is then kept in place by a moderate packing of sterile gauze. I have used this method many times, and it rarely fails to bring about a normal labor in twenty-four hours. I have never known it to do harm, and it gives little, if any, annoyance to the patient. In this respect it is in marked contrast with all other methods that have been used. The use of glycerine is to be absolutely condemned. But the more rapid methods must be resorted to in the cases referred to when speaking of version. For these the method of the catheter is too slow.

*Eclampsia.*—I think that all the cases of eclampsia we have had in the maternity have been those who were already eclamptic when they were admitted. They have been referred to already when speaking of version; but I wish now to speak of the method of treating the eclamptic state. Most of these cases were already in profound coma, and the only thing to do was to empty the uterus as rapidly as possible. While doing so the uppermost thought was for the rescue of the mother first, and, secondarily, of the

child. Dr. Tousey has tabulated forty-four cases of eclampsia, of whom twenty-one died. Thirteen had normal deliveries, of whom seven died, seventeen were delivered by forceps, five of whom died, eleven by version, three of whom died, and twenty-one had labor induced, of whom six died. So far as medical treatment is concerned there are two well-defined principles to be borne in mind. There is the retention of excrementitious products through the failure of the kidneys to functionate. The urine is usually greatly diminished in amount, and it contains less than the normal amount of urea, while there is a large content of casts, both granular and hyaline; usually there is a large amount of albumin and frequently also blood. The reaction is usually acid, while the specific gravity is within normal limits, with occasional cases of either markedly low or markedly high specific gravity. This is not the place or time to refer to the many theories that have been presented to account for the development of eclampsia. I have used words that suggest a poison acting upon the nerve centres. Beyond this I do not venture. The point of practical importance is to recognize the fact and deal with it. It is well known that to dilute a poison is to diminish its effects. With this idea we have frequently given colonic irrigations and sometimes saline infusions. Another principle of practice is to eliminate the poison, which may be done by inducing diaphoresis and by purgation by hydragogues. In patients with a bounding pulse, with high arterial tension and flushed face, I have noted most signal results from the bold use of veratrum viride. Fifteen to twenty minims of the fluid extract are given hypodermically once in two hours, or the half dose every hour till the pulse becomes normal. Morphine is called for in cases of weak heart. Chloroform is used to control the convulsive seizures, only enough being given to keep the patient quiet while the other measures are coming into action. A combination of hot packs, saline infusion and veratrum may sometimes be used simultaneously with great advantage. Prompt and vigorous measures are absolutely required. When the convulsions have been brought under control the question of emptying the uterus then arises. Often it is not necessary to terminate gestation. But a woman who has had a convulsion must be kept under close watch and usually under eliminative treatment till the gestation is terminated. Many cases of albuminuria do not develop convulsions. But all women whose urine has any notable content of albumin, especially when there is also diminished excretion of urea, should be closely watched.

*Placenta previa.*—This complication is noted in thirty-four cases: twenty-nine marginal, four central and one not noted. Three mothers died and twenty-two children. Most, if not all, of the cases came into the maternity because of the condition, and consequently had already lost more or less blood, and some were exsanguine. The maternal mortality is remarkably low, while the fetal mortality is sixty-six per cent., which is the usual figure. The high fetal death-rate is no doubt due to the fact that gestation is arrested prematurely. And also it is to be remembered that a mother who has lost much blood usually does not have a good supply of milk. But this is a class of cases which require an early termination of gestation when once bleeding has commenced. The mother's life must be saved, though the offspring is likely to perish. A word of caution is uttered against the too rapid dilatation of the uterus, because of the danger of producing rupture of the tissues that may be the source of still greater loss of blood. The management of cases of placenta previa requires much judgment. In cases of marginal implantation packing the vagina alone, or both the vagina and cervix, may happily arrest the hemorrhage and allow for full dilatation of the cervix with very little loss of blood. These cases do not usually declare their nature till near the full term of gestation, and hence the cervix is in a condition to permit ready dilatation either by the method just spoken of or the use of dilating bags. The bags devised by our colleague, Dr. Pomeroy, are far and away better than the other forms which preceded his. *With the cervix fully dilated,* the question of method of extracting the child and quickly terminating the labor must turn upon whether the head is engaged or not. If it is fully engaged, though only at the superior strait, forceps are decidedly preferable. The axis-traction form makes extraction from the upper end of the pelvic canal relatively easy and safe *in the hands of the careful user.* But one should always bear in mind that they are instruments of great possible harm, and are to be used with knowledge and judgment. They are also to be given the preference when the head is in the middle strait. If the head has not engaged, or if the presentation is transverse, the preferable procedure is to perform a podalic version. While the forceps may sometimes be applied through a cervix that is not fully dilated but is dilatable, version should never be attempted until the fullest possible dilatation is attained. Without this there is danger of extensive rupture of the uterus, and the prospects of securing a living child are almost certainly destroyed. With the head above the pelvis, as already intimated, the Cesarian operation is to be preferred in cases preceding full term, with the cervix undilated or not readily dilatable. (This was the condition in Dr. Hussey's case.) Out of fifty-nine cases of version in this series the children were lost in thirty-nine instances, one pregnancy being a twin. These have been referred to already, but are mentioned here to emphasize the fact that in all cases of version the fetal mortality is so high that I wish to call special attention to it that effort may be made to reduce this mortality by taking every possible precaution. I am strongly

of the opinion that if *full* dilatation was always secured before proceeding to do the version the fetal mortality would be markedly diminished.

From this point I am led to refer again to the subject of *Cesarian section*. It seems to me that its field of application can safely be and should be greatly enlarged. It must always be true that cases with pelvic deformity will be terminated in this way, because this is the only possible and safe way for the child as well as the mother; but this is the class of cases which come to the operation with the knowledge beforehand that the labor is to be so terminated. Hence they are operations of election, and previous preparation can be made, or the woman sent to the hospital to await the best time for entering upon the operation. The patient is not subjected to any attempts at delivery, and hence has not been worried or infected or injured in any way. Such cases are most hopeful both for mother and child. But I would extend the use of this operation by including cases of moderate deformity of pelvis, especially if previous gestation had been terminated by version or forceps, or labor induced before full term, with the loss of the offspring at the time of or subsequent to delivery. Such cases I would put into the class previously referred to rather than induce labor earlier than the beginning of the eighth month of gestation. This would give the better chance to the child. I have already referred to the subject of eclampsia and to Dr. Hussey's successful case. I have long thought that cases of eclampsia, where the cervix has not dilated or has not yet shortened, if at or past the thirtieth week of uterogestation, could be best treated by delivery by the abdominal route rather than by any of the methods that have hitherto been used. Dr. Hussey has carefully studied his case and recently reported it to the Brooklyn Gynecological Society. This patient made a perfect recovery, the wound healed by first intention, the mother was able to nurse her child; in short, after the recovery of her normal mental condition, which she did in about forty-eight hours after delivery, she went on just as a case of ordinary labor would have done. I think that this history would be duplicated many times if a like course were pursued in similar cases rather than to resort to the methods previously in vogue. I wish to add that I think that cases of placenta previa, especially where there is central implantation, would be safer for both mother and child if the abdomen were opened instead of perforating the placenta and delivering the child through the cervix in the condition we usually find it when the central placenta previa is discovered. The loss of blood would be less and the prospects, immediate and remote, of both mother and child increased. You all know what a profound impression is made upon the health and vitality of the mother by a sudden, severe loss of blood. The shock is far greater than results from the simple, clean abdominal opening.

*Transverse presentations* form another class of cases in which I think the Cesarian operation can be done with decided advantage over the methods hitherto resorted to. To do this operation in cases of cancer of the cervix and of uterine fibroid has long been recognized as the proper procedure. But I wish, in connection with this advocacy of the extension of the Cesarian operation into these newer fields, to most emphatically insist that the utmost precaution should be taken in the treatment of the patient *before* deciding that this operation is to be considered. Patients should be guarded against infection or injury by examinations and attempts at other methods of delivery. It would in most cases be folly, I might say criminal, to subject a patient to a celiotomy after she had been subjected to other methods of delivery, during which time her strength had been taxed, the genital canal injured and probably infected. An exception to this statement can be made when the patient has been entirely under the care of a physician who is accustomed to the practice of asepsis. A careful review of my obstetrical experience leads me here to declare that *a cautious, thorough study of each case before and at the commencement of labor, so as to early detect conditions that suggest the possibility of a difficult or abnormal termination,* with a review of all the circumstances of the individual case, would lead to a greatly diminished rate of morbidity and mortality in this department of medical practice. *Instead of assuming that the case is to be a normal one until the conclusion is forced that the contrary is the fact, let every case be approached with the thought that it may be a difficult or abnormal one until the contrary is made plain.* This is to practice scientific obstetrics, not haphazard, old-fashioned midwifery with its suggestions of carelessness or ignorance.

Allow me to refer to one other point of practical importance before I close this paper, which I fear is already too long. We have had some very interesting experiences with lacerations of the obstetric canal. We have found that it is impossible, as every one else has done, to determine immediately after labor whether there has been laceration of the cervix. This led us to the practice of not sewing up lacerations of the perineum till forty-eight hours after labor. By this time the cervix can be examined satisfactorily, and both lacerations of the cervix and perineum can then be repaired. It is important to make a careful examination of lacerations and be able to determine where and how extensive the injury has been. This is impossible immediately after a difficult or prolonged labor. After two days the parts will have returned to somewhat normal relations, and the operation for repair can be done in an accurate and surgical manner. It makes a surgical operation of what is otherwise a somewhat doubtful coaptation of injured parts. Success with this method of dealing with recent lacerations led me to raise the

question of repairing old lacerations during the puerperium. Accordingly we instituted the examination of multiparæ and the repair of both cervix and perineum where these had been injured at previous labors. The results have been most gratifying. It is necessary to keep patients in bed a few days longer than is usual after labor, but the restoration of the pelvic floor to a good condition is a large recompense.

[This suggestion in regard to the time for repair of injuries to the pelvic floor was first made by the author in a paper published in *The Philadelphia Medical Journal,* April 28, 1900.]

## UNTOWARD RESULTS FROM DIPHTHERIA ANTITOXIN. WITH SPECIAL REFERENCE TO ITS RELATION TO ASTHMA.*

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THE *Journal of the American Medical Association* for January 4, 1908, published a clinical report of a death from the use of diphtheria antitoxin which was administered with the idea of benefiting a case of asthma.

Following the publication of that report I received several letters from physicians who had been surprised at the unexpected reaction which had followed the use of serum in cases where the person was subject to some form of respiratory embarrassment.

We have been taught[1] that antitoxin was safe in any condition, given in doses from 500 to 20,000 units, in fact, we were told that the serum was as harmless as the normal saline solution and no maximum dose limit had been discovered, all of which is quite true, with several exceptions to the general rule, and when that exception occurs it means possible death to the subject and a very unpleasant experience to the person who administered the serum.

In order to obtain some definite information upon this question I have investigated many cases where death has followed the use of some form of horse serum and have the following report and conclusions to submit for your consideration:

CASE ONE:[2]—Mr. B., aged fifty-one, height six feet, chest 35-37½. Heart and kidneys normal. He had suffered from bronchial asthma for forty years. He had cough and free expectoration. He asked me to administer diphtheria antitoxin to him, hoping it might cure his asthma. His asthma was much increased when he was about a stable or when driving a horse. On November 8, 1907, I administered 2,000 units of antitoxin globulin under the left scapula, taking all precautions not to inject directly into a vein, and also avoiding the injection of any air. He had about completed dressing when he said that he had a prickling sensation in the neck and chest, soon he sat down and said that he could not breathe, nor did he breathe again. I placed him upon the floor and called for help and did all that seemed possible for him, but to no avail. His pulse at the wrist remained regular and full for some time after respiration ceased. He had a mild degree of cyanosis of the face and the face was edematous. He died in tonic spasm in ten minutes after receiving the serum. The case was turned over to the coroner and an investigation demanded. The firm who supplied the serum was asked to send an expert to be present at the autopsy and in compliance with the request an expert was sent, who was given every courtesy at the examination. The brain, lungs, heart, liver, spleen and kidneys were examined without finding anything to account for the fatality.

A point of interest comes up here: The man had bronchial catarrh for forty years, yet the bronchial tubes did not reveal any condition different than a normal tube, free from any history of bronchitis.

The serum which was given Mr. B. was of the same lot and make from which my first dose was taken a few weeks previous.

CASE TWO:[3]—Mr. C., aged thirty-one. A history of asthma due to chronic gastric atony with some dilatation of the stomach. Heart and lungs normal. He contracted diphtheria and his physician administered 3,000 units of antitoxin. In five minutes following the injection he became cyanosed, with heart action feeble and irregular. Severe dyspnea, urticaria gigans and a marked cutaneous irritation followed and a fatal issue seemed probable. He was given a hypodermic of morphine ¼ grain, atropine 1-100, and in fifteen minutes of 1-100 ademalin in solution, and the dangerous condition rapidly passed away, with recovery. He has had no asthma since that day.

CASE THREE:[4]—Child aged six years. Was given 2,000 units because of diphtheria. The first dose the child had ever received. Immediately the child collapsed, but its life was saved ultimately. This child had a history of cardiac dyspnea for some time previous to the attack of diphtheria.

CASE FOUR:[5]—A boy aged fourteen had suffered from bronchial asthma for some years and after contracting diphtheria was given a dose of 2,000 units of antitoxin and was dead in five minutes. This was the first dose ever administered the boy.

CASE FIVE:[6]—E. W., aged thirty-four, received 1,000 units diphtheria antitoxin as an immunizing dose. In a few minutes he complained that his scalp and face itched and burned terribly. He then exclaimed that he could not breathe. His lips were swollen and dark and the swelling and cyanosis extended over the whole head and neck and he complained of itching over the whole body. His breathing became labored and froth

* Read before the Medical Society of the State of New York, at Albany, January 26, 1909.

poured from his mouth. He seemed paralyzed and did not move any part of his body. He had a slight convulsion and ceased to breathe. The action of the heart continued for some time after the respiration ceased. He did not live to exceed five minutes after receiving the serum. Since childhood the man could not be about a horse without having an attack of asthma.

CASE SIX:[7]—F. G., aged fifty-four, male. He gave a history of asthma for twenty years. He contracted diphtheria, the diagnosis being made by a bacteriological examination and the usual clinical symptoms. He was given 6,000 units of serum globulin and in twelve hours later the same amount was repeated. In twenty-four hours from the last dose, was taken with a severe dyspnea and edema of the throat. His life was despaired of for some hours, but recovery finally ensued. He did not receive any relief from the asthma and it still continues.

CASE SEVEN:[8]—Frank, aged ten, contracted diphtheria and was given 4,000 units of diphtheria antitoxin. In a moment he cried out and clutched his throat with both hands. His face denoted anxiety with a pallor about the lips. He cried out that his head hurt him and that he could not breathe. In a few seconds the lips, face, ears and neck were cyanosed. Pupil severely dilated and eyes staring. Froth poured from his mouth. He had a slight convulsion and respiration ceased. The heart continued to act long after respiration ceased. He did not live longer than five or six minutes after receiving the serum. There was no history of asthma or any form of respiratory distress in this case, previous to the administration of the serum.

CASE EIGHT:[9]—Child aged thirteen months. Pharyngeal diphtheria. Well marked. 600 units antitoxin administerd. Within ten or fifteen minutes after the injection the pulse went up to 180 and respiration to 44. Moderate general unrest and slight general cyanosis continued for ten hours, when the child died. No history of any form of respiratory distress.

CASE NINE:[10]—Child aged six, in good health, was called in from play to receive an immunizing dose of 600 units. Soon after the injection, complained of general weakness and dyspnea. The health continued to fail for a year, when it was so much of an invalid that it was unable to join the other children in play. It tired easily on slight exertion with loss of appetite and marked loss of weight. On tonics and emulsions it gained slightly but has never since (now five years) been as rugged as before. No history of any form of respiratory distress previous to the injection of the serum.

CASE TEN:[11]—This case is that of a physician who had suffered from asthma severely for six years, and who administerd to himself 2,000 units of diphtheria antitoxin in hopes that his asthma might be cured. In a personal letter to me he says that in ten minutes after receiving the injection he felt the most terrible dyspnea he ever experienced and with it a feeling of impending death. He was able to get into an easy chair and remain there from eleven A. M. until six P. M., when he was able to get into a carriage and went home. The edema of throat and larynx was so severe he could hardly swallow or talk. He did not obtain any relief until three o'clock the following morning, when he fell asleep and awakened free from the dyspnea. A severe urticaria appeared soon after taking the injection, which lasted several days. He writes that he was unable to find anything to relieve the intense dyspnea which followed the injection. This was his first dose of antitoxin and it did no permanent good to the asthma. He says nothing would induce him to take another dose of antitoxin, nor to give it to any one with the asthma.

CASE ELEVEN:[12]—A physician took a dose of 1,000 units as an immunizing dose and immediately began to sneeze and also had a severe irritation of the eyes, nose and throat. The irritation extended to the larynx and bronchi and intense dyspnea accompanied the attack. In less than an hour the eye lids were swollen to immense proportions, making vision difficult. The edema extended over the whole scalp and face. The tongue was swollen and the conjunctiva injected. During the following night an intense itching was felt all over the body, due to urticaria. Morphine aggravated the condition, but spraying the surface of the body with chloroform relieved the itching. His condition gradually improved until the fourth day, when the hands and feet became edematous and the edema affected the glottis so that preparations were made for tracheotomy in case respiration was cut off. By means of a hot mustard foot bath and cold compresses to the neck, and ergot internally he was finally relieved. He had a severe reaction at the point of injection of the serum. Some ten years previous to this attack he had a similar reaction, only milder in its effects, due to an injection of plain horse serum. It is interesting to note that this man could not be about a horse without having sneezing and irritation of the mucus membrane of eyes, nose and throat, a condition which is usually followed by asthma when the irritation extends to the bronchia, which it will do sooner or later.

CASE TWELVE:[13]—Male, aged twenty-five, of good constitution and habits. He had a seemingly mild infection of diphtheria, diagnosis confirmed by bacteriological examination. He was sent to a hospital for contagious diseases and there his temperature and pulse were found normal. 2,000 units of diphtheria antitoxin was administered in the right thigh. Shortly after the administration patient complained of sensation of heat in his cheeks. His face flushed; respiration ceased. Tracheotomy was performed and artificial respiration was instituted, but to no avail.

CASE THIRTEEN:[14]—Female. eight and one-half months pregnant. She was sick with sub-

acute polyarticular rheumatism and it was decided to try the plan of administering anti streptococci serum. In order to avoid any sharp reaction of the serum disease, this case and the one following on the list were given small doses of the serum and as a result the "accelerated reaction," as defined by von Pirquet and Schick, *i. e.*, urticaria, joint pain and fever failed to appear, but instead it took the form of one severe toxic explosion. This case was given 10 units subcutaneously each day for three days, then the same dose at intervals of two or three days. On the fifteenth day after the treatment was commenced, and the occasion of the seventh dose, the reaction occurred, there having been up to this time not the slightest evidence of serum reaction. Immediately after the last dose. the seventh given, she said, "I feel so queer, what is the matter? I cannot breathe. I am dying." At once there appeared a most pronounced congestion of all the exposed cutaneous surfaces and an enormous general edema of the head, arms and legs, with cyanosis. The pulse was feeble and rapid with no evident effort at respiration. The woman's appearance was that of the bloated cadaver of a drowned person. After a short interval she began to improve and by the next day all the unpleasant sensations had passed away. In due time she was delivered of a normal infant. For a week or so following this reaction the rheumatic manifestations were more comfortable. This woman had a previous history of hay fever.

Case Fourteen:[15]—An adult man was ill with rheumatism and either 5 or 10 units of anti streptococci serum was given at intervals of three days, then two to four days apart. After the tenth dose had been administered a reaction, much in its details with the preceding case occurred, only that the reaction was milder. He had the same sudden general edema cyanosis and difficulty of breathing. A marked relief of the rheumatic condition followed the reaction. In this case there was no previous history of respiratory distress.

Case Fifteen:[16]—An adult physician who had a severe form of asthma, administered to himself a dose of horse serum, hoping it might cure his asthma. His death followed in five minutes after receiving the serum with the usual edema, urticaria and failure of respiration.

Case Sixteen:[17]—An adult was given a dose of horse serum to cure bronchial asthma, and death took place in five minutes with the usual form of reaction.

Case Seventeen:[18]—Boy aged thirteen years was ill with a mild attack of diphtheria. He was given 3,000 units of diphtheria antitoxin in the deep muscles of the back. While preparing a dose to immunize the mother she exclaimed: "My God, Doctor, he is dying." To the physician's horror, he found the boy was indeed dead. This case gave no history of asthma, but he was subject to bronchial catarrh.

Case Eighteen:[19]—Child aged five in seemingly good health was given an immunizing dose of antitoxin. Respiration ceased and death took place in five minutes after receiving the serum. No history of asthma in the case.

Case Nineteen:[20]—Man aged twenty-nine took 800 units of antitoxin for immunizing dose and died in thirty-five minutes. No previous history of respiratory distress. He was subject to convulsions when a child and his antecedents were strongly neurotic.

Cases Twenty and Twenty-one:[21]—Are similar and the history is that the children were subject to asthma and went into a collapse after receiving a dose of antitoxin, with final recovery.

Case Twenty-two:[22]—Male, aged thirty-three, because of a mild attack of diphtheria was given 2,000 units in the hospital, where he was sent for treatment. It was the first dose ever given him. He died in five minutes after receiving the injection. His case was similar to the others, edema and stoppage of respiration. He had been subject to asthma for some years.

Case Twenty-three:[23]—Female, aged forty. Had suffered from bronchial asthma for sixteen years and for an indefinite time mitral insufficiency and emphysema had been noted. In the hopes of curing the asthma she was given 3,000 units of antitoxin during a paroxysm of the asthma. It was followed immediately by a feeling of anxiety and great depression, cyanosis and complete collapse. Feeble pulse from 140 to 160. Shallow respiration, which ceased for five minutes. Under artifical respiration and active stimulation she slowly improved.

Case Twenty-four:[24]—Female, aged thirty. She had suffered from a severe form of asthma since childhood. She had plenty of means and had traveled all over the world to find some place where she might live free from asthma. She had also had the best of medical advise, but did not obtain any relief. In some manner she learned that horse serum held out a chance for cure. She mentioned the matter to her medical attendant and he called in a very able consultant in an eastern city. The two physicians, after much deliberation upon the matter, decided to try the serum. Accordingly, she was given 2,000 units in the presence of both consultants. In a few minutes a very severe reaction took place. The face and neck became very edematous and at the same time the edema was affecting the mucus surface of the nose, mouth, throat, larynx and bronchial tubes. She became cyanosed. Respiration was so shallow it was a question whether she was breathing or not. Artificial respiration was instituted. Hypodermics of stimulants were given. Oxygen was obtained, but the respiratory act was so slight no help was obtained from the oxygen. In spite of the efforts of her attendants she died in thirty minutes after taking the serum. In this case the pulse remained regular, strong and full long after respiration ceased.

CASE TWENTY-FIVE:[25]—Male, aged eighteen. Because of exposure to diphtheria he was given 1,000 units of antitoxin at ten P. M. In about fifteen minutes he suddenly jumped up in great distress, with eyes protruding, his face first red, then white and covered with profuse perspiration. He complained of great difficulty of breathing. Respiration about 40 per minute, his pulse 128, but full and strong, his temperature normal. Sibilant rales were to be heard throughout the chest. He was given some whisky and he gradually improved for three hours when the condition again became about as alarming as before. He was given ¼ grain of morphine and, because of relief being obtained he was given some syrup of ipecac, he vomited and gradually improved. When daylight came it was observed that the body was covered with a rash urticarial in nature. He gradually improved so that in a few days he was as well as before the attack. He had been subject to attacks of bronchitis all his life. He never had any asthma except as accompanied the bronchitis. He had been to California once to obtain relief from his bronchitis.

CASE TWENTY-SIX:[26]—A boy was given 500 units of diphtheria antitoxin as an immunizing dose. In a few minutes he was seen standing at a bureau with his hands braced on the edge of the top, mouth wide open, gasping for breath, and his lips curled out at each inspiration with a horrid grin, face purple, lips black, eye-balls purple, hands purple, only a faint and rapid pulse could be detected and the ear on the chest could get a much diminished respiration with sibilant rales. He was given a hypodermic of 1-100 grains of nitroglycerine and oxygen was sent for in a hurry. Blotches of urticaria now appeared on his face, neck, inside his mouth and later on his arms. No change in his condition appeared for fifteen minutes. The oxygen was given as soon as obtained and relief soon became manifest. In the words of my informant: "During this tremenduous explosion it was evident to me that he had a sudden development of urticaria in the greater and lesser air passages, with real mechanical obstruction as well as the spasmodic breathing of an habitual asthmatic. I know of no better name for the attack than acute asphyxiation caused by sudden development of urticaria after antitoxin, in the air passages and on the skin. the symptoms most evident were the fearful dyspnea, extreme cyanosis, weak and rapid pulse, sibilant and fine rales. After twenty-four hours he showed but slight effects of the attack. This boy has been subject to asthma for many years.

CASE TWENTY-SEVEN:—This case is the historical case of Professor Langerhans, whose son was given an immunizing dose of antitoxin to protect him from diphtheria. The son died very shortly after receiving the serum. The son was subject to asthmatic attacks and the autopsy disclosed an enlarged thymus, which produced thymic asthma.

CASE TWENTY-EIGHT:[27]—A young lady, aged eighteen, who had been subject to asthma for many years, was given an immunizing dose of antitoxin. When the injection was given she complained of a smarting pain at the point of injection and soon said she was suffocating. In a moment she fell from the chair to the floor and died. The post-mortem disclosed the lungs and cavities of the heart in extreme spasm, such as might accompany an acute attack of asthma.

CASE TWENTY-NINE:[28]—A strong, healthy child, aged seven years, was given an immunizing dose of antitoxin, and the child did not live to exceed five minutes following the injection.

No history of any previous respiratory trouble.

CASE THIRTY:[29]—A young man, aged twenty-eight, was given 2,000 units of diphtheria antitoxin because of diphtheria. An intense attack of dyspnea soon foilowed the injection. Urticaria followed the dyspnea. He slowly improved, and because of the diphtheria was given 4,000 units some hours later, when the reaction was not quite so severe. He was given calcium lactate between the doses. He gave a history of attack of acute coryze when about a horse, and at times had had some asthma, but the asthmatic attacks had not been connected up with the coryza. He has no more asthma since receiving the serum.

Here is a brief history of thirty cases where death or collapse has followed the use of some form of serum, and twenty-two of the cases give a history of respiratory distress.

The history of sera for twenty years has been punctuated now and then by death or collapse, and the unfortunate result has been considered due to many factors incident to the use of sera, and these cases are offered for your consideration, in order that if you are called upon to use serum in the presence of any form of respiratory distress you may know of its possible dangers.

Asthma is a neurosis, with no more pathological lesion than has epilepsy, but the term asthma should be disassociated from conditions which are termed asthmatic.

It is my opinion that if we could eliminate the dangers of administering serum to an asthmatic, we could cure over fifty per cent. of all cases of asthma; but until that is done it will never be a popular procedure.

In a report by Drs. Rosenau and Anderson upon the cause of sudden death following the injection of horse serum, using guinea pigs in the experiments, it was found that the pig could be sensitized by a small amount of horse serum. the condition being known as anaphylaxis. If after a lapse of thirteen days the same pig was given six cubic centimeters of horse serum the pig usually died.

The symptoms caused by the injection of serum into a susceptible pig are: respiratory embarrassment, paralysis and convulsions, followed by death. The symptoms come on usually within ten minutes after the injection and when death

results, as it usually does, it occurs within one hour, frequently in less than thirty minutes, and some times within ten minutes.

In the death of the guinea pig there are some symptoms in common with that of the human being. Both have respiratory embarrassment and in both the action of the heart continues long after respiration has ceased.

The first dose of serum will not kill the guinea pig, even if it is injected directly into a vein, and it may kill the human being. In order to kill the guinea pig it must previously be sensitized, but whether the human species may be so sensitized we do not know, but it seems probable that he must have been previously rendered susceptible to the serum.

A theory has been advanced that the second injection into the human subject may kill because of the accidental injection of the serum directly into a vein; all of which might be true if we knew that he was previously sensitized. and that the serum was injected directly into the circulation.

In a sensitized person the presence of a large amount of the proteid substance in the blood might so affect the respiratory centers as to cause death in a very short time.

Again this theory may be said that collapse or death has followed the first injection more frequently than subsequent ones. Besides, it is entirely gratuitous to claim that the serum was put directly into the circulation by way of a vein.

In case ONE, the needle was entirely disconnected from the syringe before the serum was injected. No blood flowed from the needle.

In the report of the cases it will be noted that some had an irritation of the mucous membrane of the eyes, nose and throat, and some had asthma when about a horse or stable. Now, it is quite possible that these persons were sensitized by association with a horse and it only required an appreciable dose of horse serum to cause the violent reaction. It is possible that this class of cases could be rendered immune to the irritation caused by being about a horse by taking dried horse serum by the mouth, in increasing doses for a few months, or until they could be about a horse without the occurrence of the disagreeable symptoms.

It has been found that guinea pigs could be sensitized by giving uncooked horse meat in their food, and death usually followed the injection of horse serum into guinea pigs which had previously been fed horse meat.

It is possible that this may be one way whereby the human subject may be sensitized, in eating sausages where horse meat is a component part.

It is acknowledged by all investigators that the substance in the serum which causes the reaction is due to a highly organized proteid, which substance is destroyed by a temperature of 100 degrees, Centigrade, and so far as is known that is the only method by which it may be destroyed. Any proteid substance, such as egg albumin, pea soup or beef juice, may be used to sensitize the guinea pig, and a dose of a few cubic centimeters of the same substance which was used to sensitize the pig will cause the death of the pig if injected after a lapse of twelve days.

Where it is thought advisable to use any of the curative sera, the doses subsequent to the initial dose should follow rapidly, rather than to wait a few days from the initial dose before giving more serum. The normal serum reaction occurs from the eighth to the thirteenth day after the injection of the first dose, and, if possible, all the serum the case should receive should be given before the eighth day. As to the cause of death in the guinea pig, many theories have been advanced. Rosenau and Anderson consider that death is caused by the effect of the serum upon the respiratory centers of the brain, while Southard and Gay admit that the theory of Rosenau and Anderson is correct in many cases, yet they consider that pulmonary emphysema, as disclosed by autopsy on the pig, is the direct cause of death in many instances.

The reaction in the sensitized pig is hastened by injection of the serum directly into the carotid artery, or into the brain, which fact might be used to support the theory of Rosenau and Anderson.

When we come to consider the death of the human being we have no experimental work to review, and but little data from which to draw conclusions.

The human subject dies from respiratory crisis. He ceases to breathe and the cessation is final.

He has but momentary warning of the crisis, and, as a rule, the subject is dead in ten minutes after receiving the injection.

The urticaria and the accompanying edema are about the first things complained of by the victim. Then the breathing rapidly becomes distressing and it may cease entirely, almost without warning.

Here may be mentioned a theory as to the cause of death in the human subject.

Quoting from Case 26: "I know of no better name for the attack than acute asphyxiation caused by sudden development of urticaria after antitoxin."

Dr. J. Solis-Cohen advances by letter to the author of this report very similar conclusions. He thinks that it is possible that the urticaria and the edema which affects the mucous membrane of the mouth and pharynx may extend to the smaller bronchi, with an exudate which mechanically blocks the air cells.

In some of the cases noted froth poured from the mouth, showing that the exduate was considerable.

On the other hand, this theory does not displace the theory of central origin for the disturbance, because the serum must influence the

nervous system before the urticaria and edema can be manifest, because urticaria, edema and asthma are neuroses and may be called the end products of irritation of certain cells of the brain, They are of reflex origin and arise from some irritation or individual idiosyncrasy.

Urticaria, with difficulty of breathing, has been reported many times after the ingestion of certain articles of food.

Personally, my own experience confirms the above views.

For three years previous to November, 1907, I had attacks of asthma every time I was about a horse or stable. On October 19, 1907, I received 2,000 units of antitoxin globulin and fifteen days later I received 3,000 units of diphtheria antitoxin. But slight reaction followed the first dose and a mild reaction resulted from the second dose. Since the last dose I have had no asthma, and the irritation of the eyes, nose and throat when about a horse has also ceased to annoy me.

During the time that I was subject to asthma it was noticeably more severe when I was having a cold or any bronchial congestion, showing that the bronchial mucous membrane was under the conditions named more susceptible to the irrritant.

If the theory that we have a condition of acute urticaria and edema of the terminal bronchi to account for death after the injection of horse serum be true, it would seem that an active bronchial congestion would be favorable conditions for the development of the urticaria.

The future of serum treatment is very promising, and we are in the borderland of its full fruition. Since its introduction thousands of lives have been saved and millions of doses have been used with perfect and satisfactory results, and the writer of this paper does not wish to be considered an alarmist, his only purpose in presenting this report is to give a word of caution regarding its use in certain conditions.

CONCLUSIONS:—The various sera already have a prominent position in the domain of therapeutics and I do not wish to oppose the use of any of them, but it must be understood that there are many problems concerning them which are unsolved and that we are still in the experimental stage of their use.

No serum should be used without a well-defined object in view, and when it is ecided that the case requires serum it should be considered with care to see if any conditions exist which contraindicate its administration.

It is my opinion that if we are called upon to administer any of the sera to a subject who has asthma, or any asthmatic condition, hay fever, bronchitis, acute or chronic, or where the subject is susceptible to the odor of a horse or stable. also angio-neurotic edema and nemasthenic subjects, we should inform the subject who is to receive the serum and persons interested in the outcome of the case of its possible dangers, and avoid its use if possible. I wish to give credit to Drs. Rosenau and Anderson, also to Drs. Southard and Gay for valuable data in the experimental work, also to the physicians who gave me notes of cases.

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8. *The Journal,* February 8, 1908. Report by Dr. Boone.
9. Personal letter.
10. Personal letter.
11. Personal letter.
12. *The Journal,* February 22, 1908. Report by Dr. Schmitt.
13. Personal letter.
14. *The Journal,* March 14, 1908. Report by Dr. Ohlmacher.
15. The same as 14.
16. Personal information.
17. Personal information.
18. Personal letter.
19. *The Journal,* April 4, 1896.
20. *The Journal of the South Carolina Medical Association,* December, 1907, also personal letter from Dr. Laurens, who reported case.
21. Personal letter.
22. Personal letter.
23. *Medical Sentinel,* September, 1907. Paper by Dr. J. A. Reuter, entitled: "The Use of Antitoxin in the Treatment of Asthma and Hay Fever."
24. Personal letter.
25. Reported by Dr. John W. Brannan, of New York City, to the Practitioners' Society of that city.
26. Personal letter.
27. *Journal of the American Medical Association,* January 16, 1909, p. 223.
28. Personal information.
29. *The Journal of the A. M. A.,* April 10, 1909. p. 1181.


# NEURASTHENIA AND PSYCHASTHENIA.*


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THE object of this paper is not to rehearse the conventional symptoms of neurasthenia but rather to call attention to a sister neurosis, that is psychasthenia, which has not as yet received the recognition it deserves. Most authors up to the present describe several of the symptom-groups of psychasthenia as a part of neurasthenia, but as we shall see there are sufficient reasons why the two neuroses clinically should be differentiated.

The neurasthenic with the multitude of his complaints is a familiar character to every physician, but for the sake of illustration and com-

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parison a typical case may be briefly recited. A man thirty-eight years old has been subject to chronic gastritis for the past ten years and has sought relief by making the regular round of physicians in several well-known medical centers. His main symptoms may be epitomized as follows: Extreme asthenia and prostration so that slight exertion would occasion a fatigue amounting to collapse. Marked asthenopia and tinnitus aurium. Pain in the head as if holes were being drilled into his temples. Flatulence and a sense of weight over the epigastrium. Paresthesia in the form of hot and cold flushes. Attacks of vertigo followed by cold perspiration. Mentally he felt worn out, depressed, was easily annoyed by trifles and was totally incapacitated for sustained mental effort. On an average he did not sleep more than two hours a day and was disturbed by dreams.

In this case as in all true and unalloyed cases of neurasthenia the primary and the fundamental condition is a chronic state of fatigue and the various motor, vasomotor, sensory and psychic symptoms above described are merely the expression of chronic exhaustion in the respective spheres of the organism. Chronic tire and asthenia furnish the key-note to neurasthenia and constitute its basic and pathognomonic symptoms. As a matter of fact, when we study the etiology and pathogenesis of this affection we find that almost invariably some debilitating factors have been in operation for some time, the amount of nerve energy expended has exceeded the income until a chronic state of weariness and exhaustion becomes established. Good illustrations of this chronic tire are seen in patients suffering with exhaustive diseases such as carcinoma, tuberculosis and pernicious anemia. On the other hand, long continued mental strain, worry, anxiety, bring about a similar condition of bankruptcy. So that neurasthenia, be it primary or symptomatic, is essentially a "fatigue neurosis," and in the vast majority of instances an acquired condition.

When we come to study psychasthenia, however, we are confronted with a different state of affairs. We may possibly form a better conception of its characteristics by the report of a few studied cases. Mr. F., aged 39, inherited a neuropathic tendency from his mother. He was a man of good personal habits and took a zealous interest in religious matters. Two years previously he had had a similar but milder attack. The present illness began suddenly and was incident to worry. His oldest son was taken sick with diphtheria and almost from the beginning he became restless, downhearted and a sense of strangeness came over him. Soon certain imperative ideas relating to his health made their appearance and some discomfort in the neck and a burning sensation over the epigastrium supplied fuel to these ideas. On all occasions and everywhere these ideas pursued and harassed him and he seemed unable to get rid of them. There was no sense of fatigue or debility, but, on the contrary, he felt strong and his sexual appetite and vigor were on the increase. He was unable to keep his attention on any subject steadily, not on account of weariness, but because of the intrusion of and the occupation of the field of consciousness by the imperative ideas. He was aware of the morbid character of his obsessions and sought consolation in religion. He had given up work with the avowed object of securing rest, but he was advised to resume his work at once, which he did and has kept at it since.

A second case: Mr. M., age 47, single, machinist, has had three attacks, each about ten years apart. In June, 1908, while at work a sense of strangeness came over him and the external objects seemed partially to have lost their reality. On that very night without warning a host of obsessions forced themselves upon him, two of which in particular caused him great agony. The first was to the effect that he had killed his own brother, and the second, that he was guilty of carnal knowledge with animals. He was alternately horrified and disgusted, although he was fully conscious of the falsity of their dictum. He went to Vermont to see his brother, but even while actually engaged in conversation with his brother the idea of fratricide would force itself upon him. He experienced no fatigue or exhaustion until four months later and was then the result of prolonged insomnia and moral torture.

A third case presents a different clinical picture. A middle-aged American lady with some hereditary taint lived in comfort with her family. One day while alone in the house the door bell rang and, as usual, she wanted to respond. To her great astonishment she seemed unable to do so. She found herself vacillating and she could not explain why. Presently she noticed that any sudden effort on her part would plunge her into a dilemma and sometimes an hour or more would be spent in senseless hesitancy. Later on this aboulia subsided but was replaced by repetitions. She would often repeat her words and sentences in an undertone and do a certain act over and over, such as moving a chair from one place into another. Even several months after the inception of her illness no feeling of tire was experienced and the measures adopted towards correcting a mild grade of gastroptosis did not in the least mitigate the severity of the symptoms. She was conscious of the morbid nature of her ailment and struggled in vain to overcome it.

The subject of the fourth case is a physician, aged forty-eight, who has always been high-strung and eccentric. He was never contented at one place or occupation. At first he studied dentistry, then traveled with a theatrical company, later studied medicine and practiced for a number of years. He is a man possessed of

an inordinate amount of energy and has been precipitate and impetuous in all his actions. His son, a boy of fifteen, exhibits a good share of the father s characteristics. About fifteen years ago he had a peculiar attack of anxiety. At a certain hour in the evening there would be profuse salivation in the mouth, he would cough incessantly, in the meantime he felt as if life was ebbing out. Volitional efforts seemed to have scant effect upon the attacks, but if by chance his mind was completely preoccupied at that particular hour the attack would not take place. A second episode analogous to the above occurred about a month ago. He was being attended by a dentist, there was no pain or discomfort, but suddenly his mouth became dry, his jaws were fixed, a sense of suffocation and imminent death came over him. By vigorous treatment he regained his composure, but that very same evening and subsequently every night these attacks recurred. The patient is painfully conscious of his neurotic make-up and by analysis of his own symptoms he ascribes them to subconscious influences.

Without going any further in the report of cases we may add that various phobias, tics, *delires de toucher,* impulsions belong to the same category. The dipsomaniac who is seized with a periodic anguish and impulsion to drink and who subsequently mourns his misery and honestly but in vain vows never to fall again is a typical psychasthenic.

So when we survey the entire group together and study them collectively we find that the greatest etiological factor concerned is heredity, a constitutional neuropathy. In at least seventy-five per cent. of cases this influence is paramount. The inception of the attacks is sudden and usually due to some moral shock; while neurasthenia is insidious in onset and follows prolonged exhaustive influences. Fatigue and asthenia do not constitute an essential or usual symptom, while they are the basis and form the pathognomonic symptom of neurasthenia. It is the mental symptoms that predominate in psychasthenia and give it its special coloring. A sense of strangeness and unreality seizes the subject, then imperative ideas, doubts, aboulia, senseless repetitions, tics, impulsions and phobias alone or conjointly make their appearance. The psychasthenic, however, is not mentally deranged. He may have obsessions, yet realizes their morbid character, the personal disintegration is only partial. Unfortunately, psychasthenia furnishes a good contingent to insanity. Imperative ideas become in long-standing cases autochthonous ideas and may eventually form the nucleus of hallucinations and delusions. Neurasthenia on the other hand, seems to confer immunity to alienation. It may subject its victim to chronic invalidism but practically never terminates in insanity.*

The treatment of neurasthenia, it is evident, should primarily consist of restorative measures. The psychic treatment extolled by Dubois and his followers forms undoubtedly an indispensable adjunct, but our main reliance is placed in *rest,* either a full Weir Mitchell or modified, depending on the case.

In psychasthenia, however, our mainstay is psychotherapy, rationally applied.

So while now and again we may meet with instances where neurasthenia and psychasthenia may co-exist or the one may merge into the other, nevertheless the differences in their etiology, pathogenesis, symptomatology and therapeutic measures are of sufficient import to justify their separation.

* A neurasthenoid state is often the precursor of various psychoses, especially general paralysis and dementia precox.

## "SOME CONSIDERATIONS OF SENESCENCE."*

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DURING the past decade much has been written on the etiology of the degenerative changes of advanced life, premature senility and, in fact, on the whole subject of growth, age and decay. We have now in popular language the works of the great savant of the Pasteur Institute, Metchnikoff, The Nature of Man and The Prolongation of Life. In more scientific strain we may refer also to the writings of Ribbert and Mühlmann, and those of Professor Minot, of Harvard University, who has given us in book form his masterly review of this subject, which was issued serially in the *Popular Science Monthly* during the last year. I shall have occasion to refer to and quote largely from these authors in this address and if my quotations are lengthy enough to suggest plagiarism, I shall simply fall back on the excuse offered by the student who when taxed with having copied his translation of a portion of the Iliad from Gladstone, promptly admitted it and impudently asked his teacher if he knew of a better one.

The casual reader of some recent works on these subjects, which are hardly in touch with the disclosures of scientific investigation, is apt to form the impression that death is solely a disease process. Biology teaches us that death is an accompaniment of development; that every functional activity depends on the continual death of certain portions of structure. The vital process of any living cell is maintained by its reversible colloidal movement, which, apparently proceeds from the nucleus to the periphery where it is reversed. Each wave in this movement is accompanied by a change of potential to actual energy, and the particles of bioplasm which have yielded their stored energy are no longer living but wasted or dead elements so far as the vitality of the cell is concerned. Every

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living cell is a unit both from a structural and functional standpoint; each living cell is also an individual and no function is possessed by any sum of cellular units constituting even the most highly organized body, that is not rudimentary in the individual cell. In order to understand the real nature of germination, growth, maturity and decay we must begin the study of these processes in the cell unit. From the discoveries of Theodore Schwann to the researches of Hertwig, Virchow and Cohnheim, and later of Loeb, the greatest contributions to our knowledge of physiology and pathology have been given us by the study of cell life in its normal development, and by observation of the departures from normal growth under the influence of adverse surroundings. Biology deals with the cell in the same manner that chemistry does with the atom and studies its protoplasmic particles in the light of the physicists discoveries in the behavior of ions and electrolytes. The whole subject of cytomorphosis is far too comprehensive for the limitations of this paper even in brief review, but some reference must be made to certain features of cell life in order to appreciate the distinctive changes of growth and maturity as the latter passes on into the state which makes decay inevitable through retrograde metamorphosis. The cycle of life starts in germination; growth and maturity are natural stages in cell life, but maturity is not the goal of its existence; the mature cell has not fully performed all of its functions until it has made provision for the perpetuation of its life in another like cell. The process of germination then begins and closes the real cycle of life; whatever power directs and guides the vital process has in view one great object to be attained, reproduction of the cell; and yet conserved as this property of life is, we find it absent in certain forms of cell life. The cell we know must have originated in a form of matter of the lowest type; possibly Haeckel's primitive slime may have been its birth-place. We meet in the study of the embryo cells which are simply masses of undifferentiated bioplasm. Some of these low organisms persist in the course of development to the state of maturity; they are endowed with power of rapid multiplication, aid much in maintaining the growth of the body, and are mountains of evil when nature no longer holds in check their tendency to reproduce themselves. Another type of cell form is the partially differentiated cell, for instance, the cell unit of a muscle fibre; it consists of a nucleus and a sac of protoplasm, a portion of which changes into contractile tissue in the process of development. If the muscle fibre sustains an injury, the inherent properties of growth and reproduction can repair the damage to full restoration of cell form and function. A third type of cell, such as we find in secretory organs and especially to be noted in the liver, is much more fully differentiated but possesses the power of growth in a limited degree. Finally we come to a fourth type of cell in which structural development is carried to the highest possible point, in which the nutritive process supports the most exalted function of any cell, and yet this highly differentiated cell has lost the power to grow or reproduce itself; such are the ganglion cells of the central nervous system. The germinal process is largely that of rapid growth, in reality it is made possible only through over-growth. Only in the lowest form of cell life is it most highly developed; a bacterium has conferred on it more of a semblance of everlasting life than a human being. We must remember, however, that with higher differentiation the energy expended in over-growth in the lower form of cell life is not lost but is directed to another end, that of maintaining maturity to a greater length of time. There is an enormous disparity in every way between the germ and the mature individual and if the germinal process is that of over-growth and rapid development, and the mature state the result, it must follow that the period of greatest change lies in embryonic life and growth. All that biology teaches in regard to the life of the cell applies rigidly to that of the individual. The young change quickly, the old slowly; the periods of age and decay are marked not by rapid process of dissolution but are fortified by immunities conferred by resistance to external influences during the stage of growth. The rapid decline of old age is a misnomer, maturity carries with it no such inherent tendencies.

Since germination is the goal of cell life we can hardly pass over this important process unnoticed. If we follow cytomorphosis through all of its stages, say in an epithelial cell of a mucous membrane, we find after a resting period, under proper nutritive stimulus an attempt to reproduce another cell typical of the parent. The first change appears to reside in an over-active nutrition of the nucleus; it actually increases in size. This is followed by a peculiar process called mitosis, in which the nucleus passes through various stages of division until two nuclei are produced. The protoplasm of the entire cell has been drawn on to furnish the nutrition required for the over-growth of the nucleus; finally, the cell divides into two smaller cells, each possessing a newly-formed nucleus. The new cell gradually absorbs nutritives and at maturity becomes an exact counterpart of the parent cell, the process of mitosis being a rapid change compared with that of the assumption of maturity. Growth and regeneration then depend on nuclear increase. There is a limit in the lifetime of every cell in the power to incorporate into its protoplasm the nutritives offered for its support, and when this limitation is fully reached retrograde changes appear in both nucleus and protoplasm. Oxygenation seems to be the essential element in the vital process; it is carried on in the animal organism by means of the properties of the peroxides of iron. One

of the earliest and most significant features of decay is the appearance of an excess of pigment granules in the protoplasm of the cell. Minot concludes that over-growth of protoplasm and shrinkage of the nucleus is the first stage of senile decay in the animal organism. Since the nucleus is the governor of the nutritive process it is evident that nuclear failure must permit slowing of the vital movement, the reversible colloidal wave. Probably the appearance of the excess of pigment granules in a senile cell is due to interference with oxygenation. When the vital movement ceases the cell is dead and it only remains for absorption to free the body from dead material. The constant death of cells is an accompaniment of growth; in no other way can this functional activity be preserved. Age commences with the completion of maturity and is the terminal stage of cytomorphosis. There is nothing more unnatural in death than there is in birth, and no organism, high or low, in the scale of our earthly existence has ever been endowed with immortality. Since parental maturity is the goal of the cell of every organism, and of the organism itself, it follows that the first retrograde step must lie in a loss of power to maintain to full perfection the nutritive process which made maturity possible. Whether this is a purely material process we do not know, but if Minot is correct in his conclusions that protoplasmic increase and nuclear loss commence the process of decay, he has given the medical profession a most important suggestion as to the management of nutrition in the failing years of life. Fortunately for the higher organism differentiation turns the nutritive energy away from its goal and preserves maturity in the ganglion cell far beyond the age of the cell whose chief function is that of multiplication.

That retrograde change can be hastened or prematurely established there is no question. The higher the organism exists in the scale of creation the more surely do we find that external influences can cut into and shorten the length of its life, and the human species shows in the greatest measure the tendency to premature decay. The evidences of maturity yielding to age in the human body are too well known to you to need special mention her. Largely those of atrophy. these changes lessen stature, shrivel features and produce long recognized alterations in the structure of internal organs. An over-fed protoplasm and a dwarfed nucleus leaves the tissues at the mercy of nature's laboratory and the crucible of synthesis in time becomes that of reduction. Atrophy may also be accompanied by fatty degeneration; the latter is not infrequently a senile change induced prematurely by interference with general nutrition. Evil besets the man at forty-five who has so far disturbed his nutritive powers by over eating as to reverse the natural process of fat splitting so that the ferment lipase builds up fats instead of breaking them down into fatty acids and alcohols. In pure form atrophy is found more as the exception than the rule; pigmentation, vacuolation and atrophy, are concomitant processes in many of the wasting tissues, especially in epithelial tissues, and a sharp line can hardly be drawn between these changes and those of degeneration. Even bony atrophy, the peculiar senile transformation of fatty marrow to mucoid tissue, seems to be more of a pathological process than a true retrogressive change. General atheromatosis is perhaps the most important regressive change of advanced life; it certainly is the most marked pathological feature of premature decay.

Mühlmann regards the fundamental cause of senility in man and higher animals as a primal change in the respiratory function. Certainly a diminution in respiratory surface. which normally is proportionate to the bulk of the body, is one of the earliest disparities of advancing life. Oxygenation must necessarily be interfered with and the heat making power of the body markedly reduced, and we have seen that excessive pigmentation of protoplasm is characteristic of the early retrograde change. Evidently disuse of the peroxides and oxydases, the oxygen carriers, permits the accumulation of pigment in cell structure when it is no longer needed in the blood and lungs. Lessening of the respiratory function depresses the nutrition of the main organs of the respiratory process, the lungs, and leaves them an open prey to one of the most pernicious micro-organisms that invades the human system, the streptoccocus lanceolatus sue mucosus; probably more aged people die from the disease caused by this infection. pneumonia, than from any other cause. Mühlmann's conceptions of the senile change are very instructive and will repay close study, but Minot's criticism that senile changes are to be found in organisms devoid of lungs and very far back in the scale of life would rather lead us to regard his findings as a secondary to an earlier change in cell life.

More interesting—even fascinating—are the views of Professor Metchnikoff expressed in his works, "The Nature of Man and The Prolongation of Life." How far his theories will stand the test of scientific criticism is yet to be seen. but he has given to science much that is proven and for the lot of common good a store of learning that can not fail to make man's earthly existence freer from disease, and in time to come much that will lessen the evils which burden the years of senility. The chapters on harmonies and disharmonies with nature should be read by every practitioner of medicine. The abnormal menstruation of civilized woman is shown by Metchnikoff to be a menace to her later life; a process which should simply indicate the maturity of a cell is turned into a hemorrhage by the manners and methods of modern life. By far the most instructive portions of Metchnikoff's writings are to be found in the chapters on the disharmonies of digestion and food supply. Every part of the digestive tract from

the teeth to the large intestine receives full consideration in the study of its function, and departures from normal, either through perversion of function or through structural degeneration, are noted with special emphasis. Whether man is an animal that would be better off without a stomach and large intestine is an open question. Minot's criticism that we eat less food and of a more suitable quality, and retain these organs, is possibly a more proper solution of the problem than the undue encouragement given the surgeon by the author's suggestive conclusions. That the bacterial flora of the intestine can most seriously poison the system is an absolute fact; that the long continued poisoning we recognize now as autointoxication is responsible for many chronic maladies, such as gouty and rheumatic disorders, neurasthenia, Graves' disease, and more serious degenerative changes in the heart wall, blood vessels, liver and kidneys, there can be no question in the light of recent discoveries in pathological chemistry.

Further work must be done before we can accept the views of the writer as to the part played by phagocytes in the production of premature decay. The phagocytes undoubtedly prey on the nobler structures of the body as senility progresses but how far they act as instigators of the degenerative process, if indeed they possess such a property at all, is still a matter of conjecture. The gift of Metchnikoff to humanity lies in the proof he has given us in his writings that the life of man in its disharmonies with nature has made senility a premature process, and that physiological instead of pathological death is really within the reach of a large portion of the human race which attains maturity. But like the deductions of many another scientist those of Metchnikoff have been seized on by the laity, and we are in danger of having the good of science turned into disaster by wrong conceptions of the ignorant. As the great savant refers repeatedly to the patriarchal age as the goal of human existence it may occur to enthusiasts to set it far beyond such a period of life, taking the years of the fabulous Methuselah for the basis of their calculations. Then, too, there may arise in the race for longevity the necessity for exploiting the discomforts of tent life of the patriarch with its dreadful encumbrance of a plurality of wives. So perhaps we are better off for the present with our lesson from science teaching us moderation with a reasonable bent of inclination, even if it sometimes includes the beef and champagne of Dives table.

Throughout the works of this author there will be noticed a strain of philosophic reasoning with many criticisms of faith and its teachings. In fact he suggests the acceptance of his views for the foundation of a new philosophy and religion; Minot pithily remarks that it is certainly the cheapest substitute ever offered for religion. As I interpret his philosophy it is that of gross optimism—if I may be allowed the expression "somatic" optimism—a system of philosophy which endangers individual morality and national life more than pessimism and in time nearly as much as a debased epicureanism.

In reviewing the literature on the subject under discussion it seems to me that special consideration should be given the views of Professor Ribbert of the University of Bonn. Brief reference only can be made in this paper to his theory of the cause of natural death, but close perusal of his pamphlet (recently issued) impresses one with the feeling that it is more in accord with accepted results of scientific investigation than the deductions of Mühlmann or Metchnikoff. Ribbert maintains that physiological death is in reality brain death; that the ganglion cells of the central nervous system, which we have seen possess no power of rejuvenation, are alone responsible for the general dissolution of old age. These cells come to maturity early in the period of bodily development and so far as the vital process is concerned remain unchanged until the most advanced years of life. But when the limitations of functional activity and structural preservation, limitations set by heredity, are fully reached regressive changes appear which wither these noble cells while the framework tissues, circulatory and secretory organs, although impaired by the resulting loss of nerve force, retain their nutritive powers for a considerably longer period. But the senile process once instituted in the ganglion cell of the central nervous system sounds the death knell for the entire body.

To digress a little, is there not more than slight confirmation of Ribbert's theory in the study of the morbid lesions and resulting symptoms of certain nervous diseases, for instance, the general dissolution witnessed in the final stages of paretic dementia and chronic progressive cerebral softening? There is no doubt but that the fundamental factor in the evolution of the vertebrates is brain growth, and if Ribbert is correct in his conclusions he has explained what has long been believed, that heredity counts vastly more than any other of nature's processes in the maintenance of bodily vigor and mental acumen—well-born is long-lived. I sincerely hope that Ribbert's little book will receive the attention of our great educators. It may be that the modern system of specialization from the start enables a young man or young woman to enter the competitive struggle of the age with a certain confidence of success, but I firmly believe the old college course with its strong mental discipline of thorough study of the classics and mathematics developed a greater brain power and more vital set of nerve centers.

We have seen that even in the most highly differentiated tissues, tissues in which every possible provision exists for the preservation of structure and performance of function, there

comes in time through natural processes a period in the life of these tissues in which regressive changes supplant those of growth and maturity. If we give full credit to the deductions of the biologist we are forced to admit that it is variation in development, in other words differentiation, that has limited the power of growth. As there is a limitation in the protoplasm of the cell to store up energy, so too there is a point beyond which this energy can not be conserved or directed. The human body is made up of a mass of cellular units so vast in number that even the figures of astronomical science must be used in an attempted estimation. Yet each cell is individual in structure and function, with of course an acquired interdependence. Each group of cells plays its part in germination and growth, and in the maintenance of maturity, and the institution of a regressive change in any organ must seriously disturb the functions of the entire body. The prolongation of life may be the dream of a philosopher's abstract reasoning, but the researches of those who have given the study of years to the investigation of the science of life teach us that the natural period of decay is too often in civilized life antedated by morbid change. The results of laboratory study if allowed to remain as simple contributions to scientific knowledge will have no effect in prolonging life or postponing senile decay. These gifts to humanity from science, if gifts they be, must be accepted and made use of in the periods of life which are characterized by growth and not applied late on in the days of maturity, or deferred until the regressive change is made possible by an exhausted nucleus or an overnourished protoplasm, The unfortunate witticism of Osler had more truth in it than most of us are willing to admit; the truth of that jest lies in the indisputable fact that the period of acquiring knowledge by the human mind is limited even in these days of high civilization and culture. Social and economic conditions which tend to shorten this period have existed in all ages, and they are found wanting in our own times. Conditions which hasten the natural period of growth and force maturity can not fail to exert a most baneful influence on the years of life when the nutritive processes of the body are little more than equal to the daily demands made upon them. Are not such tendencies rife in almost every grade of modern life? Our system of education from the kindergarten to the university, business methods and commercial relations, social surroundings and even home life are so thoroughly identified with and absorbed in the mad rush of this age that the question must be asked very soon—not what can human ingenuity produce to crown the great achievements of the last two decades, but how long can the human brain, heart and arteries hold out under the strain, without permitting the retrograde change to shorten the period of greatest usefulness in the lives of our citizens?

Undoubtedly the morbid lesions produced by an infection in the years of growth and maturity frequently become the centers in advancing life of regressive changes; but we can confidently look forward to the time when our laboratories will place in our hands the means of conferring immunity against, or arresting at the onset, most of our communicable diseases. Our knowledge of the etiology of these maladies is sufficient at this stage of investigation to make the daily presence of many infections a reproach to municipal government. Even tuberculosis has received a substantial check from the scientific and philanthropic efforts incited by the discovery of Robert Koch. But what have we to say in regard to the enormous increase in the death rate from diseases of the heart, the blood vessels and kidneys? In 1907 there were recorded in this State in a total mortality of 147,442 fully 23,000 deaths from these affections. The statistics presented by Dr. Darlington of New York at Washington a year ago, and at Boston last June, show beyond question that this increase is not confined to urban populations, but is proportionate in the death rate of our rural districts; and reports from all the States of the Union show that this startling state of affairs is not confined to oldest settled portions, or the great business centers of our country. Men in our profession most competent to draw conclusions from these statistics attribute no small part of this increased mortality to our high pressure ways of living. We must admit that an immense responsibility is thrust upon our profession by these conclusions, and it is certainly time to inquire carefully into the vital factors of every day life if we are to meet this problem with any hope of its solution. We can not call on our laboratories to aid us in this work. The incorporation into the daily dietary of lacto-bacillin, or any amount of the other sour milk products will not correct the evils that surely follow the undue strain thrown on a group of nerve cells, the governors of the mechanism of the entire body, which have lost the power of growth and reproduction. Do we not need the lessons of physiology as much as the knowledge imparted by the disclosures of the dead-house in our daily work? Are we as conversant with the orderly working of the functions of the body as we should be, and do we apply this knowledge to the conservation of health as often as we should? We may be able to sound the note of warning by a full recognition of the morbid change, but we can assuredly do much to prevent the development of this change by instructing our clientele in the ways of right living.

Let me offer one more suggestion prompted by the study of cytomorphosis in all of its phases: differentiation is as we have seen the moulding force of evolution which has raised the life

plasm from the lowest to the highest position in the organic world. We have seen, too, that this position has not been attained without the sacrifice of the protecting power of growth. The fully developed and mature body no longer needs this power in its full measure; continuous action of the growth cells and overgrowth are menaces to life. It is at the stage of life that the body and mind require variation in scene and occupation. The man who has come to the time in life when maturity has completely supplanted growth, whose highest aim has been to master one trade or one art alone, has already opened the way for premature decay to thwart his endeavors; it is routine that stifles, that starves and kills. Van Dyke has well said the man who attends to business alone, neglects many things more important than business. Permit me to call your attention to a most instructive article by Dr. J. Madison Taylor entitled, "The Most Useful Specialty in Medicine" which appeared in the *New York Medical Journal,* April 18th of this year. I regret exceedingly that I have not time to quote much from this article, but many valuable suggestions are to be found in it as to the prevention of the dwarfing of body and mind that surely follows the disturbance of the ill-balanced nutritive power which is possessed by so many in the ordinary walks of life.

"The days of our age are three score years and ten," thus sang Israel's royal singer many hundred years ago, and the Church in its requiem chant still re-echoes these words in its endeavor to impress on the mind the futility of human effort, and to reconcile those still spared to the hand of fate. Fortunate are they who come to this period of life with a grasp on their mental faculties and a reasonable degree of bodily vigor, but more fortunate by far are those who failing in mind and body find relief in terminal pneumonia, asystolism, or cerebral hemorrhage.

There is something pathetic to those whose office it is to watch and guard the sundown of life, in the revelations of nature as she slowly yields the energy which controlled and directed the greatest production of the creative power. Much is owed to youth wrote the Latin poet but is not more owed to age, and, shame be it to our nature, is the debt always cancelled as it should be? Are we as physicians always mindful of this undeniable claim on our ministrations? Do we not write the death certificate for the aged with a little less feeling than for one in younger life? In truth we know that death is the inevitable result of birth, that we are powerless to prevent the fatal termination, but even this concept of fatalism should incite in us the desire to make the declining years of life as free as possible from pain, and as full of comfort as it is within the scope of our art to provide. It is not without good reason that I have chosen for the main part of our program to-day the consideration of the chief disorders of age, and I trust that the papers given us this afternoon, coming as they do from members of this Society especially qualified to deal with the subjects assigned them, will arouse in us the feeling in full measure that the period of senility should never become that of neglect; and that we recognize that the medical attendant should always stand ready to plead for the right performance of the duties owed to the aged, and never fail to add the full complement of his own unequalled services at the beginning of life's sundown, and to see that they cease only at its close.

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## DISTRICT BRANCH SOCIETIES.

### THIRD DISTRICT BRANCH.

ANNUAL MEETING, HUDSON, OCTOBER 5, 1909.

11 A. M. Demonstration of the Management and Treatment of Delinquent Girls at the New York State Training School for Girls, by H. V. Bruce, M.D., Superintendent, A. T. Bingham, M.D., Resident Physician, T. Wilson, M.D., and H. L. K. Shaw, M.D., Managers.

12 Noon. Meeting of the Delegates in the Managers' Room at the Training School.

*2 P. M.—Scientific Session at the Court House.*

1. Address of the President, J. L. Archambault, M.D., Cohoes.

2. "Injuries to the Patella with their Surgical Treatment," J. H. Mitchell, M.D., Cohoes.

Discussion to be opened by W. G. Macdonald, M.D., of Albany, and D. W. Houston, M.D., Troy.

3. "The Maideston Typhoid Epidemic and the Use of Bleaching Powder. for Water Purification," W. P. Mason, M.D., Professor of Chemistry, Rensselaer Polytechnic Institute, Troy.

4. "State Ownership of Municipal Water Supplies," Clark G. Rossman, M.D., Hudson.

Discussion to be opened by Willis G. Tucker, M.D., Albany.

5. "Fatal Oesophageal Hæmorrhage from Swallowing Foreign Body," Percy G. Waller, M.D., New Baltimore.

6. "Case of Traumatic Oesophageal Stricture in a Two-year-old Child with Radiograph," G. W. Ross, M.D., Port Ewen.

Discussion on papers V and VI to be opened by A. H. Traver, M.D., Albany, and H. L. K. Shaw, M.D., Albany.

7. "Surgical Aspects of Intestinal Obstruction in Young Children," John Gutmann, M.D., Albany.

Discussion to be opened by Edgar A. Vander Veer, M.D., Albany.

8. "The Present Status of the Treatment of Appendicitis," Mark O'Meara, M.D., Kingston.

Discussion to be opened by J. B. Harvie, M.D., Troy.

9. "Toxemias of Intestinal Origin," Victor C. Meyer, M.D., Albany, Chief of Department of Physiological Chemistry, Bender Laboratory.

10. "Report of a Case of Amebic Dysentery. with Presentation of the Organism," H. W. Carey, M.D., Troy.

Discussion of papers 9 and 10 to be opened by H. C. Gordinier, M.D., Troy.

5 P. M.—Exercises in Memory of John T. Wheeler, M.D., Chatham, First Vice-President Medical Society of the State of New York.

Addresses by Commissioner of Health, Eugene H. Porter, M.D., Rev. William J. Leggett, Albert Vander Veer, M.D., and F. C. Curtis, M.D.

Memorial Resolutions by Committee appointed by the Society, S. B. Ward, M.D., Chairman; H. C. Gordinier, M.D., and Andrew Mac Farlane, M.D.

## SIXTH DISTRICT BRANCH.

ANNUAL MEETING AT ONEONTA, SEPTEMBER 28, 1909.

MORNING SESSION.

11.30—Meeting of delegates, election of officers, etc.

AFTERNOON SESSION, 1 O'CLOCK.

1. President's Address, S. A. Mereness, M.D., Oneonta.
2. "Toxic Amblyopia," R. Paul Higgins, M.D., Cortland.
3. "Roentgenology for the General Practitioner," D. R. Bowen, M.D., Rome.
4. "Strangulated Hernia," M. M. Lucid, M.D., Cortland.
5. "Prostatic Hypertrophy," Arthur W. Cutler, M.D., Oneonta.
6. Title not given, Ross G. Loop, M.D., Elmira.
7. "Extracts from Chirurgia Curiosa," M. G. Pusmannus, "Between the Years 1659 and 1705," J. H. Martin, M.D., Binghamton.

## SEVENTH DISTRICT BRANCH.

ANNUAL MEETING, HORNELL, N. Y., SEPTEMBER 16, 1909.

MORNING SESSION.

1. President's Address, W. E. Palmer, M.D., Hornell, N. Y.
2. "Cookery As A Branch of Medicine," M. A. Veeder, M.D., Lyons.
3. "A Spontaneous Tearing of the Cervix Posterior During Abortion," Lacy Darling, M.D., Lyons.
4. "Paroxysmal Tachycardia," Wesley T. Mulligan, M.D., Rochester.
5. "Partial Resection of Vertebra," J. P. Creveling, M.D., Auburn.

AFTERNOON SESSION.

6. "Two or Three Points Concerning Our Insane Patients," George W. Sargeant, M.D., Seneca Castle.
7. "Infective Dermititis in the New Born," W. M. Brown, M.D., Rochester.
8. "The Time to Operate in Abdominal Suppurations," W. W. Skinner, M.D., Geneva.
9. "Vivisection," George I. Witter, M.D., Wellsville.
10. "Pharyngeal Reflexes," John O. Roe, M.D., Rochester.
11. "Middle Ear Suppurations and Sequelæ," B. A. Richards, M.D., Rochester.
12. Subject to be chosen, Frank H. Koyle, M.D., Hornell.
13. "Chronic Appendicitis An Etiological Factor in Other Conditions," H. J. Knickerbocker, M.D., Geneva.

## EIGHTH DISTRICT BRANCH.

ANNUAL MEETING AT BUFFALO, SEPTEMBER 8 AND 9, 1909.

WEDNESDAY AFTERNOON, 2 O'CLOCK.

1. President's Address, E. E. Snow, M.D., Batavia.
2. "Care of the Sick and Injured," J. C. Young, M.D., Cuba.
3. "Addison's Disease," F. C. Busch, M.D., Buffalo.
4. "The Need of Special Schools for Defective Children," Prescott Le Breton, M.D., Buffalo.
5. "Finkelstein's Views of Intestinal Intoxication," Irving Snow, Buffalo.
6. "A Psychological Study of Joan of Arc," Herman Matzinger, M.D., Buffalo.

THURSDAY MORNING, 10 A. M.

7. "Further Investigations in the Untoward Effect of Diptheria Anti-toxin, Especially in Asthma," H. F. Gillette, M.D., Cuba.
8. "Vacine Therapy," Normal K. MacLeod, Buffalo.
9. "Tuberculin, Diagnosis, Results," N. G. Russell, M.D., Buffalo.
10. "Amputation of the Shoulder Joint," F. C. Beals, M.D., Salamanca.
11. "Fractures," Marshall Clinton, M.D.,, Buffalo.
22. "A Case of Intracranial Injury with Misleading Focalizing Symptoms," R. C. Conklin, M.D., Batavia.

THURSDAY AFTERNOON, 2 P. M.

13. "Minor Pelvic Injuries," Jane L. Greeley, M.D., Jamestown.
14. "Childbirth as a Factor in Pelvic Disease," J. E. King, M.D., Buffalo.
15. "Skin Diseases Illustrated by the Stereopticon," Grover W. Wende, M.D., Buffalo.
16. "Perforating Ulcer in Typhoid Fever," E. R. McGuire, M.D., Buffalo.
17. "The Persistence of Abdominal Symptoms after Operations for their Cure," Allen A. Jones, M.D., Buffalo.
18. "Nasal Tuberculosis with Report of a Case," W. Scott Renner, M.D., Buffalo.
19. Subject to be announced, Elmer G. Starr, M.D., Buffalo.

# COUNTY SOCIETIES.

## THE MEDICAL SOCIETY OF THE COUNTY OF GENESEE.

THE QUARTERLY MEETING WAS HELD AT BATAVIA, JULY 7, 1909.

"Tumors: Benign and Malignant," Shirley R. Snow.
"Some Points in the Diagnosis of Cardiac," Eli H. Long.

## MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

A SPECIAL MEETING WAS HELD AT FILLMORE, AUGUST 12, 1909, AT 11 O'CLOCK A. M.

"Animal Experimentation," Dr. C. H. Witter.
"Duties of the Local Health Officer," Dr. F. J. Redmond.
Discussion upon all papers opened by Dr. C. O. Sayres.

## MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

A MEETING WAS HELD AT THE RESIDENCE OF THE PRESIDENT, DR. E. W. AYARS, ALFRED, N. Y., JULY 8, 1909, AT 10.30 A. M.

"Renal Calculus," Dr. S. S. MacKenzie.
Discussion opened by Dr. Lewis.
"Some Practical Suggestions in the Treatment of Pulmonaria Tuberculosis," Dr. John Conway.
A general discussion was held concerning the physician's fee bill.

## THE MEDICAL SOCIETY OF THE COUNTY OF DELAWARE.

103D ANNUAL MEETING AT DELHI, JUNE 8, 1909

The following officers were elected for the year 1910: President, John E. Safford, Stamford; Vice-President, Howard J. Goodrich, Delhi; Secretary, G. C. Smith, Delhi; Treasurer, George H. Reynolds, Delhi; Censors, C. L. Hubbell, W. Ormiston, Ward Young.

The following committees were appointed:

Committee on Legislation, H. A. Gales, G. H. Reynolds, W. Ormiston.

Committee on Public Health, C. S. Allaben, Robert Brittain, G. H. Reynolds.

After the business session the President made his annual address and a number of other papers were read and discussed by all the members present.

## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

All books for review should be sent to the business office of the Medical Society of the State of New York, 17 West Forty-third Street, New York.

Aseptic Surgery. By Charles Barrett Lockwood, F.R.C.S., Surgeon to St. Bartholomew's Hospital. Third edition. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909. Price, $1.50.

The Blood in Health and Disease. By R. J. M. Buchanan, M.D., F.R.C.P., Professor of Forensic Medicine in the University of Liverpool; Honorary Physician to Out-Patients, Liverpool Royal Infirmary. Formerly Honorary Physician, Stanley Hospital, Liverpool; Honorary Assistant Physician to the Hospital for Consumption and Diseases of the Chest, Liverpool. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909. Price, $4.50.

A System of Operative Surgery by various Authors. Edited by F. F. Burghard, M.S. (Lond.), F.R.C.S. (Eng). Teacher of Operative Surgery in King's College, London. Surgeon to King's College Hospital. Senior Surgeon to the Children's Hospital, Paddington Green. In four volumes. Vol. IV. Operations upon the Female Genital Organs, Ophthalmic Operations, Operations upon the Ear, Operations upon the Larynx and Trachea, Operations upon the Nose and its Accessory Cavities. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909.

Mental Medicine. Some Practical Suggestions from a Spiritual Standpoint. Five conferences with Students at the Johns Hopkins Medical School. By Oliver Huckel, S.T.D., Graduate, University of Pennsylvania; Student at Oxford and Berlin Universities; Pastor, Associate Congregational Church, Baltimore. With an introduction by Lewellyn F. Barker, M.D., Professor of Medicine in Johns Hopkins University. New York, Thomas Y. Crowell Co., Publishers.

Sprains and Allied Injuries of Joints. By R. H. Anglin Whitelocke, M.D., M.C. (Edin.), F.R.C.S. (Eng.). Honorary Surgeon to the Radcliffe Infirmary and County Hospital at Oxford: Litchfield Lecturer in Surgery in the University. London, Henry Frowde, Oxford University Press, Hodder & Stoughton, Warwick Square, E. C. Price, $3.00.

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## BOOK REVIEWS.

Suture of Arteries—An Experimental Research. By E. Archibald Smith, M.B., Ch.B., Victoria University, F.R.C.S., England. London, Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909.

In this little work of some seventy pages the author has attempted to give a history of the suture of wounds in arteries with a list of published cases in human surgery. A description of his own method of suture of wounds in arteries, with a summary of results of experimental operations, and an acount of the histological results in his experimental work.

It is interesting to note that the idea of suturing a wounded artery originated with Lambert, a surgeon of Newcastle-upon-Tyne, in the middle of the eighteenth century as evidenced by a letter written by Lambert to Hunter in the middle of the eighteenth century in which a successful suture of a wound in one of the arteries of the arm is reported. The more recent research in this field has, however, been done by continental and American workers.

The author gives but a partial history of the work thus far accomplished in the suture of arteries, and we note the omission of the brilliant work of Matas and Carrell.

No satisfactory deduction can be made as to the efficiency of a certain procedure in the suturing of a wounded artery from the fact that a pulse was reestablished in the distal segment, since the same result would be obtained by the establishment of a collateral circulation; only by animal experimentation with a subsequent critical examination of the histological results can facts of permanent value be gleaned. As the author correctly states, the chief dangers connected with artery suture are hemorrhage, sepsis, thrombosis and aneurysm. No operation requires more exact methods of a sepsis, and the much mooted question whether the suture should penetrate the intima or not has been answered by the author in advocating in every case the bringing of the two endothelial surfaces together by means of a mattress suture. In longitudinal wounds the author ingeniously suggests the adaptation of quill-suture with strands of chromicized catgut for the quill, a method equally applicable to the end-to-end union of a divided vessel.

The author regards that the impregnation of the suture material with vaseline or paraffin is superfluous.

The question whether the operation of artery suture is justifiable is definitely answered in the affirmative and many valuable hints will be gleaned by a perusal of this work. William Francis Campbell.

Tuberculosis A Preventable and Curable Disease. By S. Adolphus Knopf, M.D. New York, Moffat, Yard and Company. 1909.

The latest work by Dr. Knopf, a well recognized authority in tuberculosis, is a small book of about 400 pages, profusely illustrated, which will prove of marked value to those who are interested in the fight against the white plague. It is really written for the patient, for the statesman and legislator, for educators and teachers and for the rich and poor who are willing to help in the crusade against tuberculosis. All the technical terms are translated and it is easily understood by even those of moderate education and as such will prove a distinct addition to the literature of this subject. For instance, in describing the method of infection he says, "The most frequent cause is the careless disposal of sputum or spittle containing the germs of tuberculosis which can be transmitted or communicated from man to man, from beast to man, and from man to beast." Again "Koch called this germ 'bacillus,' which is the Latin for rod, because under a powerful microscope, when subjected to a certain red-coloring agent, these minute forms appear like little rods."

For the physician there are two chapters of especial interest—Chapter 3, "The Duties of the Physician Towards His Patient; The Family of the Patient; The Community He Lives In and Other Communities," and Chapter 4, "How Sanitarium Treatment May, if Necessary, be Adapted to and Imitated in the Home of the Consumptive Well-to-Do or Poor." These are written in the same simple language as the other chapters, and contain much valuable advice in a small space. The book is one that a physician may well recommend to his patient and throughout the author is careful in many places to call attention to the fact that it is always necessary to follow the advice of his physician to the letter and that unless he does so and has implicit confidence and trust in him it will be difficult to accomplish a cure. W. R. T.

MARRIAGE AND DISEASE. Being an *Abridged Edition* of "Health and Disease In Relation to Marriage and the Married State." Edited by Professor H. Senator and Dr. S. Kaminer. Translated from the German by J. Dulberg, M.D. New York, P. B. Hoeber. 1909. ix, 452 pp., 8vo. Price: Cloth, $2.50 net.

This book exhibits all the defects commonly observed in works on sexual hygiene intended for the laity. There is much floundering about when the technique of coitus and similar difficult topics are under discussion. Expressions are frequently encountered like: "The question * * * is one of considerable importance, but at the same time one to which it is very difficult to give a general answer." Herein lies the vital defect of these books which makes them useless to the people for whom they are intended. Questions of large sexual importance to the individual are seldom susceptible of answer in a general way. For example, you can't tell people in a general way how often to have intercourse; particular cases must be handled individually *by the practitioner*. We sincerely doubt the need of books that discuss for laymen all kinds of queer topics the exploitation of which serves but two purposes—exhibition of *outré* erudition on the part of the authors (most of us never encounter the egregious sexual types who appear to seek counsel of certain writers in battalions) and gratification of a curiosity of the baldest sort on the part of the lay readers. These books are "good sellers" and usually take their inception in the minds of astute publishers.

The various authors contradict each other here and there, as might be expected where twenty-five men have twenty-six subjects to write about. Possibly this might be considered a recommendation for a work intended for trained physicians, to whom it might merely imply free and independent expression based upon verbal experience. We should think it confusing for the lay reader.

The hypothetic lay reader to whom works of this character are addressed is a remarkable character. He is a kind of superman who by reading such books is supposed to acquire a valuable store of co-ordinated data bearing upon the hygiene of marriage which will save both himself and his offspring injuries of many kinds.

We don't know any of these supermen ourselves. We think that the vast majority of laymen would better take their sexual instruction at the hands of wise physicians. We also think that no book can supplant personal and individual instruction of the young in these matters—nor can "general" lectures by ambitious representatives of certain *quasi*-medical societies.

Moll, discussing the case of a man who, for material reasons, has married a rich and decrepit old woman, commiserates with him in the following naïve fashion (*naïveté* characterizes many of these articles). The absence of libido, he says, and the consequent impotence need not cause any surprise, since certain female attractions are required for the production of erection and ejaculation. (!) The surprise is, rather, he declares, that, in spite of the absence of almost every visible exciting element which some of these cases exhibit, there should be any virility at all.

Eulenburg quotes the amusing comment of the intelligent young woman whose father was trying to impart to her the secrets of the sexual life by means of the anthers and pistils of plants: "Of course, papa! It seems, on the whole, that flowers and animals reproduce themselves in a similar way *as I know it to be done by human beings.*"

Kraus says that among various wild animals are so-called "rovers." "These are single and mature male animals, belonging as a rule to no particular herd, which lead a sort of bachelor life. They form, by surprising or otherwise seducing females of other families, a constant reserve army of occasional regenerators."

We deny, with heat, that this species is known only among various wild animals. A. C. J.

ESSENTIALS OF MEDICINE. A Text Book of Medicine for Students Beginning a Medical Course, for Nurses, and for All Others Interested in the Care of the Sick. By Charles Phillips Emerson, M.D. Philadelphia and London. J. B. Lippincott Co., 1908. xi, 383 pp. 8vo. Price: Cloth, $2.00, *net*.

Emerson's aim in this little book is to supply what his experience as a teacher has convinced him medical students and nurses lack—perspective in their medical studies.

The book is an A, B, C, Practice. It would be an excellent thing, we think, if the cubs and kindergartners could be induced to assimilate the contents of a book like Emerson's before proceeding to difficult studies. As Emerson truly says, your average student can talk at length about worthless theories while knowing very little about the elements of a subject.

Such books are excellent. If we could have our way about it, medical students would also be better drilled in certain things that are now either ignored, talked a little about, read a little about, or in some quarters, not considered very dignified, much less essential. We are thinking of *practical* cookery and *practical* nursing.

As to the author's hint that books such as this ought to prove instructive to the layman, we prefer to hope that the latter looks rather for his guidance in such matters to better medical education.

A. C. J.

## OBITUARY.

### CLAIR S. PARKHILL, M.D.

Dr. Clair S. Parkhill, for more than thirty years one of the leading physicians of Hornell, died very suddenly on July 20, 1909, from heart trouble.

The doctor was born in Howard, Steuben County, on November 15, 1842, the youngest son of David Parkhill. His early life was spent there, but at the age of fourteen he entered Haverling Academy at Bath. At the age of eighteen he entered Michigan University, where he remained for two years, and then returned to this State entering the Albany Medical College and was graduated in 1866.

He began the practice of medicine with his brother, Reuben F., at Howard, but in 1873 the partnership was discontinued, and he removed to what was then Hornellsville, but is now known as Hornell. He was of a very quiet and retiring disposition, always avoiding notoriety, but always a worker in the Medical Society and a regular attendant at the meetings. Dr. Parkhill had been President of the Erie Railway Surgeons' Association, and of the New York and New England Association of Railway Surgeons. He was a staff surgeon of St. James' Mercy Hospital, and also a member of the board of trustees. He was president of the village in 1884, and was for four years a member of the Board of Education.

He was married in March, 1867, to Marjorie, daughter of Mr. and Mrs. William Rice, of Howard, and to them four children were born, one of whom, Mrs. Blake B. Babcock, survives.

Dr. Parkhill was a very conscientious and hard-working physician, one well loved by all his patients and a man who had the faculty of making friends. His loss is a great one not only to the profession but to his city.

## DEATHS.

GIOACHINO BARABINI, M.D., of New York City, died August 16, 1909.

P. J. CAMPBELL, M.D., of Utica, N. Y., died August 10, 1909.

JOHN P. HENRY, M.D., of New York City, died August 31, 1909.

O. A. HOLCOMB, M.D., of Plattsburg, N. Y., died July 3, 1909.

# NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

ALGERNON THOMAS BRISTOW, M.D., Editor
Business and Editorial Offices: 17 West 43d Street, New York



Vol. IX. OCTOBER, 1909 No. 10

## EDITORIAL DEPARTMENT

### COMMERCIALISM IN MEDICINE.

At the last meeting of the American Medical Association, a Southern delegate introduced a motion in the House of Delegates, to amend that clause of the Principles of Ethics relating to the prohibition against patenting surgical instruments, so as to permit members of the medical profession to patent surgical instruments and appliances. This resolution was referred to the Reference Committee on Constitution and By-laws which subsequently returned it with the recommendation that it be recommitted to the Judicial Council. No decisive action therefore was taken on this important subject, either of approval or disapproval. This resolution, however, is an indication of the present tendency prevailing to commercialize the profession of medicine and run it as a business, exactly as business enterprises are at present conducted. The motto of the business man as exemplified by a well known maxim of common law is "caveat emptor." Are we as a profession willing to engrave such a sentiment on our great seals? Are we willing to adopt the present morals of the business world? Thanks to the American Medical Association and its Council of Pharmacy, we have already done much to purify the advertising pages of our State journals. Fraud no longer blazons forth impossible claims. Dishonest advertising no longer disgraces our columns, to the delusion both of credulous patient and too credulous and indolent a profession.

The business methods of the average advertiser are inconsistent with the integrity of an honorable profession and an awakened conscience has largely eliminated them. Shall we then while repudiating one business method which is, after all, but a type, adopt others even more objectionable and more open to criticism? The medical profession to-day stands at the parting of the ways, particularly in our large cities. Shall it be commercialized? Shall we patent inventions designed to alleviate suffering? Shall we tax not only the sick but also our own brethren? Shall we put money in our pockets and always money and more money, no matter how obtained and at what cost of honor, principle and humanity? Shall we pursue this course and turn a noble profession into a sordid mechanism, an ignoble and remorseless money mill? Or shall we cling to the traditions of the fathers and cherish the high ideals which have come down to us through all the ages; yea, even from the days of Hippocrates? "Choose ye whom ye will serve." Shall it be God or mammon? Law, Medicine and Theology, the so-called learned professions, have always stood on a higher plane than other occupations. The administration of justice, the preservation of health and the ministration of religion have for ages been occupations set apart. They are all concerned with the fundamentals of life, the things which men hold most sacred and most dear. They can not be vulgarized without irreparable loss to society. The administration of the law is not a commercial but a sacred function. The care of the sick and helpless is not a sordid trade but a high and

holy office. The profession which seeks to give shape and direction to man's longing for higher things, which cherishes his hope of immortality is influential and helpful in proportion to its dissociation from financial considerations. If the high ideals of the legal profession go down in the present crush and battle of great corporate institutions for illegal privileges to the impoverishment of the common people, then will our boasted system of jurisprudence come to wreck on the rocks of anarchy and socialism. The legal profession can not teach wealthy clients how to evade the law and long retain the respect and confidence of the community. That lost, what is there but force to maintain privilege against class. But the preponderance of force is always with the masses, and the French Revolution shows what society may expect when that slumbering Behemoth awakes to rend indiscriminately friend and foe alike. The church was never really influential in the period of its greatest power and wealth. The wreck of the monasteries, wrought by a savage and remorseless ruler, was possible only because the monastic orders had lost their hold upon the people. If to-day men have largely lost faith in the church, has not the commercialisation of religion something to do with it? How can a man respect a member of a sacred calling when he finds that the clergyman's sense of duty is measured by the size of his salary and that the needs of the community play a very small part in the matter. Society will lose faith in the law when the common people find out that lawyers are more intent on making money out of the great corporations by teaching them how to evade just laws than in sustaining the laws which, as officers of the court they are sworn to respect. Society will lose faith in the clergy in proportion as they allow purely financial considerations to control their motives. "Carry neither purse nor scrip nor shoes." When this mandate was obeyed men believed in the saints and heroes of the church who carried its banner through the wilderness and into the waste and desert places of the earth. Society will lose faith in the profession of medicine in proportion as we allow it to be commercialized. The first physicians were priests. There is still some of the priestly function left in medicine. We are called doctors, teachers of men, by the laity. Have we not already lost something of our influence in late years? Does the family physician of to-day wield the same influence, command the same respect as his predecessor of fifty years ago? I wonder what that respected and respectable gentleman would have said if he had been approached by the officer of some benefit society and asked to accept a position as physician to the society at a dollar a head per annum. His gold-headed cane would speedily have ceased to be merely ornamental and have served to accentuate his wrath and bring repentance to the evil-minded. Evil-minded, I say, for every man is evil-minded who desires to reap where he has not sown. Only evil minds are willing to use the necessities of their neighbors as a robber uses a jimmy to pry their way into fortune and possessions rightfully belonging to others. It is not possible to commercialize the learned professions without loss of influence on their part and society can ill afford a wastage which is as dangerous as it is difficult to replace. The arch enemy and tempter once took our Saviour to an exceedingly high mountain and showed him the kingdoms of this world and the riches thereof. Would that we could all say when tempted by the same allurements, "Get thee behind me, Satan." Sometimes it takes a hero and a saint to say that and few of us have both the will and the wish to be either. Alas, for the tempted, but woe to the tempter! It is evil to do evil. It is worse to incite another to an evil deed. "It is impossible but that offences shall come; but woe unto him through whom they come." At present we are in danger of being both mendicants and bribers. One is pitiable, the other contemptible. In what respect do men hold the dollar a year contract doctors? Do they deserve respect? They debase themselves, but they do more than that, they debase a noble profession. Is life an auction and are the doctors to become auctioneers and sell themselves to the highest bidder? Are we to become peons, the slaves and prisoners of a sordid trade? All these things and more will be the portion of the medical profession unless we set our faces against the present commercial tendencies which are being freely exploited in our large cities. Like cholera, it is an epidemic of which more than a few sporadic cases are constantly occurring to contaminate the entire community. The country practitioner not seldom comes to the city to farm out his patient to the highest bidder. Let the people once understand these things and the reverence which has been awarded to the profession of medicine in the past will be turned into mockery and laughter.

We have come to the parting of the ways. One way is easy to tread. It is the path of the self-seeker and the man whose eyes are ever close to earth. "Fill the purse" is his motto. The end of that path we can not see for it vanishes in mist and gathering clouds. The other path is not easy. It requires self-denial, self-control, lofty thinking and right living, but it leads to the stars, and the man who treads therein shall lie down for his final rest with a stout heart and a calm and contented mind. The profession which treads this path shall earn and hold the respect and love of mankind and its glory shall shine like the stars, forever and forever.

A. T. B.

## Original Articles.

# THE VALUE TO THE FAMILY PHYSICIAN OF A KNOWLEDGE OF ORTHOPEDIC SURGERY.*

By WISNER R. TOWNSEND, M.D., A.M.
NEW YORK CITY.

THE topic selected for discussion is one that might be brought forward by every one who limits his practice to one department of medicine, and each special pleader would no doubt argue in a convincing manner that his department was of equal if not greater importance than his neighbor's. The relative importance of the different so-called specialties need not be here discussed, nor would such a discussion be of any great value, as a thorough knowledge of all is essential to the proper care of an individual, although no one man can possess all such knowledge. In the medical college much time and thought of late years has been given in an endeavor to arrange a well-balanced curriculum in which all special branches shall be as well taught as possible and a proper relation given in the time devoted to each. In practice, after a man has left college the time he will give and the importance he will attribute to any given condition will depend upon many circumstances, some distinctly within and others entirely beyond his control.

The practice of medicine has undergone many changes in the last hundred years, and both the profession and the laity are very much better educated in medical matters. The great increase in knowledge has led necessarily, to the specialization of study of certain diseases. This has had a tendency to diminish in some particulars the importance of the family physician and to destroy his influence where, in many cases it should be of the greatest value to the family. He is apt to feel that his services are only required when the diseased condition is so trifling that a specialist is not required, and that as soon as conditions become the least aggravated, the pediatrist, the oculist or the gynecologist or some other "ist" will be placed in charge and his services dispensed with. This may seem somewhat exaggerated, and it undoubtedly is in most instances when we consider conditions in the rural districts, but the rural districts are fast disappearing and large cities are on the increase and every rural district is nearer to the large city to-day than it was one hundred years ago. There are, however, evidences that the pendulum has swung to its full limit and that a partial return to former conditions is probable. This is as it should be, and in the large majority of families there must always be some one who can be called in when illness occurs, and the initial advice and diagnosis must in the large majority of cases, be made by the general practitioner.

In accepting gracefully the new state of affairs, where the family choose their own consultants, without the knowledge of the family doctor, one may well ask, has not the general practitioner yielded too much. Would it not be better for all concerned that a return to the old plan be encouraged as much as possible? Is it advisable that the public should select their special consultants, without first consulting the family doctor? Is it advisable that parents should employ the many largely advertised remedies for all forms of disease and deformities without consulting the one man who is most competent to give advice? Is it proper that infants be fed on the many different forms of artificial or natural foods, simply because the religious, medical and secular press commend them in their advertising pages? Is it right to allow children to grow up to be blasé and nervous wrecks, simply because the modern social life makes demands upon them far beyond their physical ability? Many other questions might be asked along these same lines and I am sure, all will agree that the answer to them all is the same. To correct these evils should be part of the work of the family physician in the future.

The family doctor should not only teach preventive medicine but should show his interest in the young and growing child by examinations made from time to time, and should carefully watch its growth and warn the parents against improper exercise, faulty position, etc., which may lead to deformities later on. Nothing should be too trifling for his consideration, and of the many reasons given for consulting a specialist, one of the most frequent in orthopedic practice is that the parents were forced to do so. because the family doctor would not take an interest in the baby's feet or the daughter's curvature of the spine. In many instances reproving the parents for their needless worry and yet never examining the patients. In many the diagnosis of spinal curvature was made by the nurse, the dressmaker or the corset maker. In nearly every instance the deformity had lasted for years. and in a large number of these cases the family physician when he had been asked to examine the back, had declared after a more or less careless examination that the child would outgrow it.

The errors in diagnosis due to ignorance are not pleasant to study, but they are not as numerous as those due to careless or faulty examination. To conclude that a child has not spinal disease after a proper examination is one proposition, to wash out a stomach for six months, without ever examining the back, while all the symptoms of Pott's disease were present is quite different. There can be little excuse for failure to properly examine a young child, in adults it is a little different, and as one often relies so much on the history one can easily see how one was misled in a given case. The failure to properly examine the young, to detect early physical deformities, is not to the credit of the general practitioner or family doctor, no matter what

* Read before the Medical Society of the County of Oswego at Pulaski, May 17, 1909.

may be the reasons ascribed for such a state of affairs.

It should be the duty of every physician to carefully note the progress of the young in the families under his care, and this involves a knowledge of orthopedic surgery. The only reason that the State has undertaken such examinations is that the family physicians have neglected to do it. The pioneer in such work in this country is the Department of Health of the city of New York, which began the work in 1897. At first it was a quarantine measure, an effort to prevent the attendance at school of those afflicted with infectious or contagious diseases and to diminish the danger of contagion by the exclusion from school attendance of those children in whose families there exists a contagious disease. In 1905 the system was extended to include a complete physical examination of each school child, for the purpose of determining the existence of non-contagious affections, and advising treatment of the same.

In a paper presented to the New York Academy of Medicine, May 24, 1906, by J. J. Cronin, M.D., Assistant Chief Medical Inspector, Department of Health, New York city, and published in Archives of Pediatrics, October, 1906, it is stated that from March 27, 1905, to March 31, 1906, the following—

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|---|---|
| Number of children were examined | 79,065 |
| Number of cases of bad nutrition | 4,537 |
| Number of cases of anterior cervical glands | 22,493 |
| Number of cases of posterior cervical glands | 4,989 |
| Number of cases of chorea | 1,184 |
| Number of cases of cardiac disease | 1,332 |
| Number of cases of pulmonary disease | 885 |
| Number of cases of skin disease | 1,574 |
| Number of cases of deformity of spine | 674 |
| Number of cases of deformity of chest | 500 |
| Number of cases of deformities of extremities | 663 |
| Number of cases of defective vision | 24,534 |
| Number of cases of defective hearing | 1,633 |
| Number of cases of defective nasal breathing | 8,974 |
| Number of cases of defective teeth | 29,386 |
| Number of cases of defective palate | 936 |
| Number of cases of hypertrophied tonsils | 13,411 |
| Number of cases of postnasal growths | 7,375 |
| Number of cases of defective mentality | 1,477 |
| Number of cases where treatment was necessary | 50,913 |

These children may have a higher percentage of defects than those in attendance at private schools, but probably the difference is not great. Again the percentage in the city may be higher than in the country, but this does not necessarily follow. In most instances the children or their parents were unaware of the defects existing until the examination was made and as they were of school age, many of these conditions had existed so long that the resulting deformities could not be remedied.

It is certainly a matter of the greatest importance that the profession and the public should realize that most of these deformities could have been prevented by proper examinations and proper treatment. The recognition of beginning deformity must be made in early life and measures designated to remedy it and prevent its increase must be promptly applied. To see that this is done must be the duty of the family physician. If he can not personally attend to it, it is his duty to see that some one else does.

Referring only to the orthopedic deformities found in 79,065 examinations made we find there were

| | |
|---|---|
| of the spine | 674 |
| of the chest | 500 |
| of the extremities | 663 |
| | 1,837 |

The deformities due to defective vision are not stated, but one must not forget that round shoulders, torticollis, curvature of the spine and asymmetry of the upper extremity may follow untreated or imperfectly treated ocular defects.

To orthopedic surgeons, by common consent, are referred most of the cases of deformity that need correction, but there are a large class of deformities referred to the laryngologist, the oculist, the dentist and others, that could have been prevented, had they been recognized early and proper treatment applied.

In all forms of disease early diagnosis is important. Preventive medicine demands that we foresee and guard against results that are damaging to the human economy and although in chronic conditions symptoms appear slowly and insidiously, yet there is a beginning and it is then that the diagnosis should be made. Many of the symptoms at this time are very slight and not noticed by the patient or at least no complaint is made. Unless pain be present a limp even, does not in many instances attract any attention and the number of painless deformities is great.

In acute disease the symptoms are more marked and an effort at least is made to ascertain their meaning and significance. Ultimately life may as surely be destroyed by the chronic disease as by the acute, but in the beginning, the symptoms do not alarm and much progress towards the fatal outcome may have taken place before the physician is consulted.

At birth the more serious deformities are easily recognized and treatment promptly begun, but there are two conditions seen in orthopedic practice which are often overlooked; hernia and hematoma of the sternocleido mastoid. The inguinal or femoral hernias at this time are small and if the baby is

fat may not show clearly for some time after birth. Umbilical hernia rarely escapes observation as the toilet of the cord causes frequent examination of the part. The successful cure of a hernia by a truss depends on early diagnosis and in children many are thus cured.

Hematoma of the sternocleido mastoid may cause torticollis and early treatment prevents not only the necessity of future operative procedures, but makes its complete cure more certain. Torticollis, if uncorrected produces more than a mere twisting of the head to one side. Permanent changes may occur in the vertebræ and a curvature of the spine result. Permanent and serious changes in the growth of the upper extremity may follow, one side of the head, face and neck may have its growth interfered with and asymmetry result. Circulatory and nervous changes may interfere with nutrition and proper development of the entire individual. Congenital deformities of the spine can not be detected unless the back is examined. Early and proper treatment of congenital lateral curvature depends on early diagnosis. Lateral deviations of the spine produced by faulty position or faulty manner of holding the infant may begin at a very early age and progress insidiously, but none the less certainly to serious conditions. Faulty school desks, faulty attitudes at school produce curvatures and the family physician must see to it that boards of education provide proper accommodations in these respects. The education of the public by the family doctor will lead to many such reforms.

The diagnosis of congenital dislocation of one or both hips is very rarely made until a considerable time after the child has begun to walk. If the gait is not particularly bad, many cases walk for long periods before it is suspected, yet the limp in a one sided dislocation and the waddling or rolling gait in the double are easily made out. The position of the trochanter above Nélaton's line and the limitation of abduction without pain or symptoms of acute joint trouble make the diagnosis easy in typical cases. Proper treatment, should be instituted early and delays until the child is advanced in years are dangerous.

Deformities from infantile paralysis or poliomyelitis come on very insidiously and can nearly always be prevented by proper treatment. In the milder cases a faulty diagnosis may be made, in the severer cases this rarely occurs. The paralyzed limb is given electricity, is massaged, etc., yet it is rare that anything is done to prevent the occurrence of club foot, knock knee, genu recurvatum, lateral curvature, drop wrist, etc. The parents will tell you that the deformity has been gradually increasing, that there was a time that the twisted and misshapen foot was simply a weak or frail member, and that the heel cord has gradually shortened and the club foot become marked. The orthopedic surgeon is rarely called to see a case until the deformity has occurred, but where he is privileged to see one in the early stages he can nearly always prevent the subsequent contractures and deformities, and the foot held in proper anatomical position tends to a greater degree of recovery in muscular power than does the one that is neglected and allowed to become deformed.

Those practicing a specialty unfortunately occasionally see cases, where no disease has existed, and yet there is extreme deformity due to faulty decubitus. Twice within the last few years, I have been called to operate on shortened hamstring muscles, because during the long confinement in bed of a patient ill with typhoid fever, the knees were allowed to be kept permanently flexed. Neither patient had any disease in the joints, and the simple precaution of straightening out the legs daily would have avoided this condition. More or less persistent flexion of the thighs may follow faulty position in a soft bed for a long time, and on several occasions it has been necessary to divide the thigh flexors to overcome the deformity. A hard bed and full extension of the limbs daily would avoid such results. To call attention to such deformities should suffice to prevent their occurrence. An early diagnosis of beginning knee flexion from faulty position will enable one to correct it by manual force where later on, operations on muscle or even bone may be necessary to produce the same result. After fractures, deformities that should have been prevented are occasionally found, notably the flat foot after Pott's fracture. With the increasing use of radiography many of the more difficult diagnoses in fractures and dislocations can be made simple and correct diagnosis made and proper treatment instituted.

Rhachitis is a disease of childhood, except in rare instances. It is responsible for many deformities and their prevention should be carefully seen to. Early diagnosis of the disease is generally made but the parent who shows the bow-legged or knock-kneed baby to the family doctor is often comforted with the advice that he will undoubtedly outgrow it. Such advice, however, cures but few cases, and the deformities are allowed to increase until severe remedial measures are necessary before the limb can be straightened. All orthopedic surgeons have seen cases cured by the simple manœuvre of daily massage and bending of the soft bones, by the simple expedient of raising one or other side of the child's shoes and by braces. The writer is not aware of any case seen during the first two years of life where a cure did not result from mild measures, when they were intelligently carried out. To watch a deformity increase until it is necessary to break the bones to overcome it, is certainly not preventive medicine or good prac-

tice. Babies under one year of age, especially if heavy, should not be encouraged to walk. If any signs of rhachitis are present, delay having them walk until they are from fourteen to eighteen months of age and the limbs can grow strong enough to support the body weight without bending. Any one can easily satisfy himself whether a bow leg is increasing or diminishing by placing the child on the back and with the ankles just touching, trace the outlines of the legs on a piece of paper. Allowance can easily be made at a subsequent tracing for the growth of the child. The importance of early diagnosis in rhachitic deformities of the lower extremities applies also to other manifestations of rhachitis, especially the curved spine. These curvatures are essentially due to weakness and usually involve the entire spine. They are not sharp, like those in Pott's disease, but consist of a long posterior curve. The child bends forward and this makes the spinous processes prominent, at first the spine is freely flexible, but later it may become stiff, and herein lies the danger, because the curve may, if not corrected remain through life. The recumbent position, plaster casts or braces aided by tonics and massage, usually effect a cure.

The bone affections of scurvy, may lead to serious results, if an early diagnosis is not made. The hematuria, often the first symptom, the swollen and spongy gums, bleeding easily, the cachexia, the restlessness, sensitiveness and pain on handling, the fusiform swellings, due to effusion of blood beneath the periosteum and the fever in acute cases usually lead to a correct diagnosis. Prompt recognition means prompt treatment, and all know how readily the disease yields in most instances to proper diet and medication.

Cases of acute and chronic osteomyelitis are often referred to the orthopedic surgeon for treatment and the same is true of bone tumors. In all these conditions an early diagnosis is very important. In acute osteomyelitis death often occurs due to the delay to properly appreciate the meaning of the symptoms present, and to apply the proper remedies. In chronic osteomyelitis, located near the joints, much time is lost often by mistaking the condition for a tuberculosis or an arthritis and the condition may make much progress and require extensive bone operations, where in the beginning they would not have been necessary. The radiograph is a valuable aid to diagnosis in these cases.

Flat foot is a deformity that has been cared for up to recent times, in most instances by the orthopedic surgeon, but to-day the people, with the aid of the shoe stores and instrument makers are treating themselves. To call attention to any abuse, usually means to bring down upon the writer abuse, but it is a fact that the abuse of flat supports is a growing evil. Many poor people buy these so-called supports, and suffer pain and discomfort while wearing them, only later on to discover that their home-made diagnosis was faulty and their ready made treatment harmful. It is for the profession to say whether such abuse shall continue. Any diseased or abnormal condition of the body is worthy of the attention of medical men, and the prevailing custom of saying to a patient who says his feet hurt, that he should go to a given shoe store and buy a flat-foot support,without ever examining the feet, is certainly to be deplored.

Chronic affections of the joints, whether tubercular or non-tubercular are frequently referred to orthopedic surgeons for treatment after the diagnosis is made, but how often is an early diagnosis made? I must say very frankly that the growth of orthopedic surgery has done much to disseminate knowledge of the symptoms of these conditions and that to-day early diagnosis is by no means rare, and that the general profession appreciate its importance in joint tuberculosis. The symptoms vary with the joint affected and to go into them in detail would occupy too much time, but the importance of an early diagnosis is so essential to successful treatment in tuberculosis of the spine, the hip and the knee that a brief review of the symptoms of each will not be out of place.

Tuberculosis of the spine or Pott's disease is most frequent in the first two decades of life. It usually begins very insidiously and unless the child is stripped and carefully examined, an early diagnosis can not be made. But if these precautions are followed, it is usually easily made out before the kyphos or deformity occurs. Given a child that is peevish, restless, complains on being lifted or cries when handled, perhaps also cries out in the sleep, prefers to remain quiet, where formerly great activity prevailed, an examination of the spine is indicated. On testing the flexibility, spasm is found to exist, there may or may not be any prominence of the vertebræ noticed, there may be or may not be an abscess present in the pelvis, there may or may not be any signs of paraplegia, but if in addition to the spasm found by passive motion, one finds the same lack of motion present when the child attempts to pick up an object from the floor, and in walking holds the body stiffly, if you are not certain of the diagnosis in such a case, at least give the child the benefit of the doubt and command absolute rest in the recumbent position and make another examination a week or two later. If the symptoms still persist, a positive diagnosis can then be made or a consultant called in. To wait until the kyphos appears is not justifiable, it will come soon enough despite any form of treatment and although it may by proper and early diagnosis be kept down to a minimum degree of deform-

ity or made to disappear, the writer has never seen a case that did not show any deformity sooner or later where the diagnosis was clear and unmistakably Pott's disease. To attempt to reduce deformity after it has occurred is justifiable and proper, but not by the violent methods proposed by Cabot. The best results will be in those cases where the diagnosis was made early, although, unfortunately, some go from bad to worse despite any form of treatment.

Tuberculosis of the hip and knee and other joints also usually come on insidiously, and the early diagnosis is a large factor in their treatment. The traumatism of locomotion soon does damage to the inflamed parts and the deformity resulting from nature's efforts to immobilize the joint tends to produce contraction of muscles and other tissues about the articulation. In both, lameness is an early sign, and in both, pain may be referred to the knee. Night cries may be present when either joint is involved and limitation of motion due to spasm is an early symptom. In the knee the appearance of a synovitis is suspicious and one should always realize how frequently this condition is tubercular, syphilitic or gonorrheal. Guarded prognosis is therefore, essential even if the history clearly shows traumatism as a cause. In both the hip and knee one has the advantage usually of being able to contrast the affected joint with the other which may be normal. Much valuable information can thus be easily gained. The reflex muscular spasm of joint disease is peculiar, it is constant while the disease is present, not intermittent, not exaggerated, but present no matter what motion is attempted. It may be present only at the extremes of motion, but if it can be made out, a positive diagnosis of joint involvement can be made. We may err as to the cause of the joint affection and thus make a faulty prognosis, but if spasm exists in the slightest degree, the patient must again be given the benefit of the doubt and the joint protected, especially so if atrophy of the muscles or parts about the joints also exists.

Many applicants for the army and navy, the police and fire departments suffer from deformities that could and should have been prevented and had this been seen to in early life many now rejected would be accepted.

The education of the public is very important, it is a new and recent method of treatment, and like all new things will require in many instances much explaining. Many will see no necessity for regular and systematic examinations of themselves or their children, but we must keep at it and the family physician will become more important than ever and will guard against and prevent many conditions now common, but which should not exist, and to do this properly requires a knowledge of orthopedic surgery.

## THE ROMANTIC MOVEMENT IN MEDICINE.

By PETER SCOTT, M.D.
BROOKLYN, N. Y.

WHILE reading the official book of the Emmanuel Movement, and referring to many other books on subjects connected with the new healing cults, the writer was compelled by some process going on in his "sub-conscious mind," possibly quite easily explained by the laws of association of ideas, to take down a book containing a chapter on "Romantic Duplication and Psychology." The book was a volume of Brandes' "Main Currents in Nineteenth Century Literature," and there Brandes relates how Tieck, Novalis, Hoffman and others amused themselves by writing stories in which they stretched and split up the Ego and spread it out through time and space. They introduced new and incongruous links into the chain of memory, or as in sickness withdrew links and thus made confusion. "Dreams, dipsomnia, hallucinations, madness, all the powers which disintegrate the Ego, which disconnect the links, were their familiar friends." They added qualities to human nature, but found an equally attractive amusement in subtracting them. The Romanticists might even extend the personality of the individual throughout several successive generations, representing him as living before his birth and after his death, and so on. "The movement was a perfectly consistent one, regarded as the antipodes of Classicism, in short as Romanticism." Brandes' final conclusion of the matter is the important point. "But," he says, "granted that man is of necessity by his very nature, a divided complex being, he is nevertheless, as the healthy vigorous personality, one. Aim, will, resolve, make him a complete unit."

The numerous healing cults, semi-religious and semi-medical, of these early years of the twentieth century, contain so many features of resemblance to the romantic movement in literature, that taken as a group, they may be said to represent the Romantic Movement in Medicine. The greatest of these cults, or rather that one with the greatest number of adherents, is Christian Science. This form of belief has had so much attention paid to it, and so much written about it, that in all probability it has ceased now to be good paying material for even a ten-cent monthly. There are two important points regarding it that may be emphasized here for the sake of comparison with some of the other cults. One is that Mrs. Eddy and her followers believe that disease, tumors, ulcers, tubercles, deformed joints, are all dream shadows, dark images of mortal thought, that will flee before the light; and that a child can have worms if you say so, or any other malady, timorously holden in the

beliefs of those about him. The second point is, that the newspapers, periodicals, and publicists generally, frequently assert and evidently believe that a large number, a continuously growing large number of intelligent and cultured people are followers of Mrs. Eddy and call themselves Christian Scientists. We may say that Mrs. Eddy's doctrine of disease is such, that no intelligent and cultured person will assent to it; then her followers are not intelligent or cultured persons. Or, we may say that Mrs. Eddy's followers belong to an intelligent and cultured class of people; then, it follows that some intelligent and cultured people believe that a deformed joint is only a dream shadow, and that a child can have worms if the parents only say so, and timorously hold that belief. We will return to this later, and try to come to some conclusion on this matter, but for the present let the dilemma stand as stated.

When we turn from Mrs. Eddy and her vagaries, and imbecilities, to such a writer as Ralph Waldo Trine, we recognize at once a different school, and yet one that lends itself equally to romanticism. In reading such a book as "In Tune with the Infinite" you find yourself in company with a pure, cultured soul, filled to overflowing with love for his fellow-creatures, and with the strongest desire to help the sick to forget their pains and aches. To turn to Mr. Trine after reading Mrs. Eddy's book, is to have the impression that you are no longer in the company of an escaped lunatic. Mr. Trine's thoughts, his very language, are on a much higher plane of culture than Mrs. Eddy could ever possibly attain. According to Mr. Trine, God never created sickness, suffering and disease; they are man's creation. Mental pictures of disease, sensuality, and vice of all sorts, produce scrofula and leprosy in the mind, which reproduces them in the body. Hope and tranquility open the channels of the body so that the life-forces go bounding through it in such a way that disease can rarely get a foothold. Even material prosperity, like perfect health, is to be reached by continuously suggesting a prosperous condition to yourself.

"Continually affirm that before long you will be in a prosperous condition, and prosperity will come." That poor neglected thing called Common Sense might suggest "hustling and hard work" as an aid to prosperity, it is enough for the romanticist to *think* it, and it is there. His assertion that Hope prevents disease from getting a foothold, reminds us of an epitaph on an ancient tombstone in Elgin in the North Countrie:

"This world is a citie, full of streets,
And Death is the mercat, that all men meets,
If life were a thing that monie could buy,
The Poor could not live, and the Rich would not die."

Change this to read:

"If Health were a thing that Hope could buy,
We never would see a consumptive die."

And we have then, what we know to be true.

These new medico-religious cults have had in this country, a considerable effect on the church-going community, to a much greater extent in these advanced, highly-educated eastern states of America than in England. In C. F. G. Masterman's book "In Peril of Change," we find it stated that in taking a census of religions or creeds in London, Christian Science and Spiritualism, playthings of the wealthy, may be ignored. It is not so in this country; here. the new healing cults have seriously crippled the churches in some localities. To meet this, the churches themselves have entered the field, and in the Emmanuel Movement we have the outcome of an attempt to meet the new cults on their own ground.

The authors of this movement would have us believe that this is no more imitation of Christian Science, nevertheless, even while saying that, they admit tacitly that the success of Christian Science is their principal motive; and while that cult is submitted to some criticism, the wonderful results, rapid growth, and numerous temples dedicated to the ideal and name of Mrs. Eddy, are held up for admiration. This new movement is based not on any private interpretation of the Bible like Mrs. Eddy's, and not on a complete denial of disease and doctors, but upon *genuine* science, plus the New Testament as it is interpreted by modern scholarship. Far from repudiating the doctors, the Emmanuel Movement is to be assisted by skilled medical and surgical *specialists,* who are to pass judgment on all cases, and admit only those suffering from functional diseases, and thereby the errors and absurdities of other cults are to be avoided. The physician who has read the introduction to "Religion and Medicine" will recognize the familiar song of the detail man, taking the liberty of presenting a perfectly ethical preparation. not like inferior articles already in the market, formula given in the circular, label can be removed, supplied only to physicians or through the druggist.

Let us examine first, the Genuine Science of the Emmanuel Movement. Can we accept as genuine science all that is said in their book concerning the sub-conscious mind? Of late this vague and mysterious thing, the sub-conscious mind, has been made to do overwork, but nowhere has such an extended meaning been given to it, as by the author of "Religion and Medicine." So much so, that the conscious mind might as well be asleep. there is so very little for it to attend to. According to the authors of "Religion and Medicine," the sub-conscious mind is a detached, split-off, disassociated part of our consciousness that attends to whatever is done by instinct, habit, or skill, as in games, or in art.

It attends to the natural repair and growth of the body, memory, time, perception, action under fatigue or when exposed to danger, love and attraction, religion and genius. There is in the chapter alluded to so much elaborate confusion, that it is difficult to say whether will and emotion are included. The sub-conscious activity is proof of a higher nature—the spiritual man made in the image of God. It is purer than the conscious and more free from evil, it is essentially moral, but controls our physical functions to a far greater extent than our conscious mind. It is suggestible and subject to moral influence and direction. This view of the sub-conscious mind has been aided by and perhaps originated in a suggestion made by Professor James ("Varieties of Religious Experience") that "the sub-conscious mind *may be* the mediating link between the human and divine." Now, all this may be genuine science, but we must take amateur psychology with the utmost skepticism, and "suspended judgment," which, by the way, is a quotation from "Religion and Medicine," only it referred there to newspaper stories.

If we turn now to "The Psychology of Suggestion," by Dr. Boris Sidis, we find that the sub-conscious mind, far from being purer and more free from evil, is everything that is the opposite of that. After many careful experiments, hypnotic and otherwise, he finds that the sub-conscious mind is devoid of all morality; it will steal, poison, stab, is not ruled by conscience, it dresses to fashion, gossips in company, revels in the crowd, and prays in the camp meeting. It has no will, is absolutely servile, has no moral law, and is essentially a brutal self.

There is still another view of the matter, that of such psychologists as A. H. Pierce, of Smith College, who refuse to take either of these views of the sub-conscious mind. Professor Pierce subjects the "prevailing doctrine of the sub-conscious mind" to a rigid examination, and attacks especially the theory that there is in each individual a detached or submerged consciousness, ready to send up from lower strata of consciousness, divine thoughts to the conscious mind, or brilliant thoughts to the genius, during a period of extraordinary intensity or activity; or that it is necessary to suppose a sub-conscious mind to explain the shifting and contradictory phenomena of hysterical patients. He insists "that a new hypothesis is to be erected, only after every struggle to include the new facts within the circuit of the old, has proved ineffectual. The advocates of a detached consciousness have been singularly heedless of this demand. They have made no adequate endeavor to understand their facts in the light of legitimate *marginal* consciousness on the one hand, or of pure psychological processes on the other; but have launched themselves with unscientific temerity upon the sea of new hypothesis." He censures some of the prominent psychologists who start with the sub-conscious mind as a good working hypothesis, and forthwith go on to speak of it as a well established psychological entity. At the present time when there is so much use made of the sub-conscious mind by the romantic in medicine, it is imperative that all students of medicine be acquainted with both or all sides of the question, and for this purpose Professor Pierce's paper should be consulted. ("An Appeal from the Prevailing Doctrine of a Detached Sub-consciousness." A. H. Pierce, 1906.) It is evident that one of these views on the doctrine of the sub-conscious mind must be nearer genuine science than the other two views.

Another doctrine of the Emmanuel Movement is that all functional neuroses are diseases of the sub-conscious mind, and it was the original purpose of the Emmanuel Movement to treat only functional nervous diseases. When one turns from this sample of genuine science, to some authorities who are prominent in the field of diseases of the nervous system, he finds the definition of functional neuroses so carefully worded as to show that the idea of a probable physical basis for the symptoms was present in the mind of the writer. One says, "a functional disease is a disturbance of that abstract dynamic equilibrium of the body which we speak of as health, a disturbance which may continue for a considerable time without leaving any observable changes in tissue;" but it does not follow that there are no changes. Another says, that it is better to avoid the term functional, as it tends to distract attention from the probably existing anatomical basis of these diseases. There is little doubt that sooner or later they will be histologically classified. L. F. Barker, of Johns Hopkins University, has lately emphasized the great care needed in diagnosing the seat of the trouble in a nervous patient, and points out that a large number of the cases of functional neuroses have an obscure lesion, and that the greater care in investigating such cases continually increases that number.

This kind of genuine science would not suit the romantic minds of the originators of the Emmanuel Movement, and so we find there, that all functional diseases are diseases of the sub-conscious mind, and are to be treated by suggestion. How difficult it is to keep up this role, this occult maneuvre of being a suggestor to a sub-conscious mind, is seen by following the cases mentioned in "Religion and Medicine," where with few exceptions the role of the sub-conscious mind is evidently forgotten. The Emmanuel Movement would be nothing, however, if it were not shown to have a difference and hence a superiority to the mode of treatment of the ordinary physician. He, poor man, with more than fifty-seven varieties, from order and command, down through exhort and persuade, to suggest and encourage, even to entice and allure, can not compete with suggestion made indirectly through the agency of the sub-conscious mind.

We are indebted to Dr. Boris Sidis for the laws of normal and abnormal suggestibility; but though very interesting, to accept them one must accept completely his doctrine of the sub-conscious mind. We can only refer to these laws to point out that the Emmanuel Movement accepting the doctrine of the sub-conscious mind, does not follow the laws as laid down by Dr. Boris Sidis ("Religion and Medicine" directions for suggestion; page 66). Rather the sub-conscious mind is apparently forgotten, and the directions and suggestions made *positively* and *shortly*, where according to Dr. Sidis, they should be made *indirectly*.

To enter into any discussion on matters of religion and faith, with clergymen, is to be avoided by any one who wishes to retain his peace of mind. But there are some points in the book of the Emmanuel Movement, that can not be passed over, even by one who confessedly is not properly prepared for such discussion. They state that "Jesus is the healer of the souls and bodies of men" (p. 295). And in the same book one of the clergymen admits that, evidently through Christian Science, he had discovered "that the religion of Christ is exquisitely adapted to the sick, especially to moral and nervous sufferers." Another clergyman states that religion has a distinct power in *certain types* of trouble.

In one part of the book we find that "we are waiting for an authentic instance of recovery from organic disease through psychical means." While in another part of the book we are told that "a bone from the supposed skeleton of a mediæval saint may achieve as great things in the cure of physical disorders as faith in the living God." But what will our brethren of the Roman Catholic faith say to what follows? The bone of the supposed skeleton of a saint may do that, but "its power is limited to the physiological region;" it can not reconstruct character, ethically and spiritually; it can achieve only harm. While on the other hand, Christian Science and the mental healing cults, heal the sick and create an atmosphere of faith, hope, and courage.

Oh, Worcester, Worcester, almost hast thou persuaded me to be a Christian Scientist, with faith unlimited, or a rank materialist, in a state of Anhedonia, which Professor James says means entire lack of faith.

The Good Book says, "Straight is the gate and narrow is the way," but the Emmanuel Movement seems to have narrowed the way still more, by excluding those suffering from organic disease, which no doctor of divinity should dare to do. "Come unto Me, *all* ye that labor and are heavy laden, and I will give you rest." Will the reverend doctor dare maintain that this was addressed specially to those suffering from functional nervous diseases? What a fine argument the Emmanuel Movement is, to present to those doubters who would like to test the power of prayer in the wards of an hospital. The Emmanuel Movement would probably be quite willing to try it in one ward, while the unbelievers and doubters might do their best, without prayer, in the adjoining ward. But the Emmanuel Movement would demand that they treat only functional nervous diseases.

If we take one particular form of functional disease, hysterical paralysis for instance, and consider for a moment the different methods adopted to cure it, or the great variety of circumstances attending the cure of such cases, we shall hesitate to ascribe too much to any one thing, but rather seek the underlying principle that is common to all methods. One may be cured by metallic bands placed around the limbs, and that, even when no hint is given to the patient of the result expected. (Broadbent.) Another may be suddenly cured, because the house takes fire, and fear begets a desire for safety, and the patient is the first one outside the house, and that by the use of her own limbs. A third whom "it pleased God to visit with a hip disease (?) with loss of power" for many years, is cured at once through a sudden access of faith in Jesus, after the prayers of a friend (Tanner's Practice, 1869). To set the house on fire for the sake of curing a case of hysterical paralysis, reminds one of Charles Lamb's story of the Chinese method of cooking roast pig, and that method need not be discussed. But if we consider the other two cases, both authentic, and take them as types of methods of cure of certain forms of functional nervous diseases, though apparently very far apart in their nature, yet there must be something common to both. And what that is, that is common to both, is the thing we should strive to understand, rather than set up a metallic band movement on the one hand, or an Emmanuel Movement on the other.

Much confusion arises from the wrong use of terms. By going too far with analogy and metaphor, the romanticists speak of disease, and error and sin, as if they were one and the same thing. We can not discuss material things in terms of psychology. And we often see the most spiritual minded, possessing the frailest bodies, and those with athletic frames, strong, healthy and muscular, may be among the chief sinners, and possess minds unspiritual and worldly.

Perhaps if Plato were alive to-day he would reverse the dictum quoted on the cover of that very elegant and decidedly aristocratic periodical Psychotherapy, Vol. 1, No. 1: "This is the great error of our day in the treatment of the human body, that physicians separate the soul from the body" (Plato). We might quote here what the poet Dryden said concerning the law of the Unities in the drama: "It is not enough that Aristotle has said so, for Aristotle drew his models of tragedy from Sophocles and Euripedes; and if he had seen ours, might have changed his mind." (Dryden.) Who can tell what Plato

would say to-day, if he were alive to see Mrs. Eddy and our other medical romanticists?

If we could accept the psychology of men like Dr. Boris Sidis, we might explain the different fads and faddists so common at present, by saying, that the sub-conscious mind of the community had become hysterical, or was suffering from psychasthenia. To quote from "Religion and Medicine" again:

"What these men are suffering from is a dissociation of consciousness, more or less, and they become normal men, once consciousness is unified and they see life steadily and as a whole."

This may explain why so many apparently intelligent and cultured people believe that a deformed joint is only a dream shadow, and that a child may have worms if you only think so. These fads, being a disease of the sub-conscious mind of the community, are to be removed, according to Religion and Medicine, by suggestion and prayer. But it requires faith, and while we have some faith, we evidently lack the amount sufficient for that purpose.

"Our hypersensitive timidity about yielding to the emotional impetus which conditions faith, has established an apparently permanent inhibition on all such volitional efforts and impells us to the quite opposite extremes of a universal cynicism that is as indefensible as it is essentially insincere."

If it were otherwise, we might all join together and pray that the Good Lord would send the Commonsense Movement, and send it soon.

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## THE WAR OF THE CITIES AGAINST TUBERCULOSIS.

By CHARLES FLOYD BURROWS, M.D.
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IT IS authoritatively estimated that ten millions of the present living population of the United States will ultimately die of tuberculosis. Four hundred of these unfortunate persons are perishing every day. During the four years of the Civil War approximately one million Union and Confederate soldiers were killed in battle or died from wounds and diseases incident to warfare. Each day in the year of 1908 two-thirds as many deaths result from tuberculosis as were caused by war during every twenty-four hours of that sad epoch. History does not excite herself and write a page because of this solemn pathetic fact as she did over the tragic loss of life engendered by the Rebellion or do the newspapers flame it forth in headlines of wartime magnitude. Nevertheless, to-day in every city which dots the fair face of our country regiments of men and women are mustering in and marching on to eventually die in battle with this enemy—this dreadful scourge—tuberculosis.

Soldiers graves are scattered in every burial ground in our nation. Walk through a cemetery on Decoration Day, note the frequency of the fluttering flags and fading flowers which indicate where our heroes sleep, and then remember that one grave among every eight which surrounds them holds a victim of the great white plague. Why should this be so? Why should battalions of our citizens nearly as large as those which fell from bullets in the ugly pursuit of war die each day year in and year out? Why should Death continually stalk through our midst, daily steal such a sum of living humanity and cause no consternation by the crime?

Principally because man is fighting an unseen enemy when he contends against the germs of tuberculosis. These bacteria—the tubercle bacilli—are soldiers whose uniforms are invisible, whose manœuvres are in secret. They attack by night as well as by day; their toxin-ammunition is as deadly as shimose; and their numbers are beyond computation.

The realization of danger from invasions of such an enemy of man has aroused a belligerent disposition in many men—medical men especially. They are endeavoring to warn and teach other people about this disease; to arouse a fighting spirit that will battle energetically against its subtle attacks and eventually overcome and annihilate them. But, alas, the great mass of the people are more or less indifferent concerning this danger, so vital to many of them. As in Europe during the Middle Ages before the discovery of vaccination by Jenner when small-pox was so epidemically prevalent that millions died of it, so with tuberculosis at present familiarity has bred a certain amount of contempt for its peril. The average individual only commences to notice its havoc and malignancy when a friend, a relative, a member of his family, or he himself is attacked by its insidious onslaught. Then he suddenly awakes from his lethargy and wonders impatiently why preventive measures have not been instituted that should have exterminated it before.

So it goes; meanwhile tuberculosis occurs universally in rural districts and in municipalities.

While it prevails frequently among the population of villages, towns and country sections it is in the cities, however, that it is concentrated; finds a stronghold; and becomes an easily spreading scourge. Here humanity crowds itself into close, airless quarters and indoor occupations predominate; here poverty is segregated and condensed in maximum intensity. On such intricate battlegrounds the disease must be vigorously assaulted if it is to be conquered appreciably.

All classes of people are martyrs to it; the rich, those in moderate circumstances and the poor. Therefore it develops that—except the few victims who are financially able to seek out an individual climatic suitability in some famed health resort for lung sick invalids and prolong their stay indefinitely in such surroundings where

the benefit obtained from altitude and equable climate is often more than neutralized by lonesomeness and homesickness; or the small number besides these who find accommodation in the pitifully few sanatoria for incipient tuberculosis which exist to-day—the great mass of tuberculosis sufferers are obliged to contend with this disease amid their home surroundings.

Especially is this true of the poor and the medium classes. Nor is this always to be regretted. The trend of modern medical observation and experience proves more and more conclusively that the results obtained from determined, properly executed, methods of curing consumption at home are more satisfactory and oftener successful than haphazard methods in strange surroundings.

And why should this not be so? The essentials for curing consumption are practically the same in Connecticut or California—New York or New Mexico namely living twenty-four hours each day in the open air—sitting in the sunshine in the day time; sleeping in the moonlight at night;—increased feeding; and rest for the body and mind. This trinity of air, food and rest is the modern panacea, the up-to-date outdoor treatment for tuberculosis. Air alone may not cure; neither will increased feeding nor rest. Only when faithfully, carefully associated through many days and months can a cure be expected to result anywhere.

To make these means soon and successfully curative in consumption one must perseveringly avail one's self of them in the early incipient stage of this malady. They can be instituted very often at home as well or better than abroad even though a home be humble and in the midst of a big city.

Although the white plague is not a respector of persons and finds its prey in all walks of life; in happy homes and in miserable hovels; in gilded palaces and somber prisons; among saints and sinners, young or old, the fact remains that the poor are its greatest victims. They also are its greatest disseminators.

The poor are often improperly fed, clothed and housed and are congregated into unventilated tenements, basements and hovels until the population of a city acre frequently approaches in number a similar area in the crowded quarters of Pekin, Calcutta or Bombay; large families live in small apartments, in dark, dingy rooms huddled together like cattle in a car; they sleep in foul-aired bedrooms, unheated, unlighted. often thick with tubercular germ laden dust left behind by a previous consumptive inmate; they work long hours a day in filthy, close, unsanitary factories, stores and sweat-shops; and many of them are illiterate, drunken and dupes of vice, who spit on the floors of their homes, on sidewalks and in public conveyances with an utter abandon of decency. Is it any wonder then, in view of these facts, why tuberculosis among the poor and indigent should claim the largest number of victims?

Is it any wonder also, associated as they are in our intricate social life with all other classes through contact and the channels of commerce and manufacture, that they should spread freely from their own environment into every other circle of human activity the germs of this disease in death-dealing quantities beyond computation?

Each year in New York city alone several hundred homeless consumptives are picked up on the streets and in cheap lodging houses in almost a dying condition. One year thirty-seven were found dead on park benches, in hallways, or wherever the germ spectre of death chanced to overtake them. For months undoubtedly their aimless lives had led them about the streets of the metropolis, coughing and expectorating millions of tubercle bacilli for the hurrying multitude to grind into dust and inhale.

Principally on account of such conditions and causes and from many others beside, New York city annually has from ten to fifteen thousand poor consumptives to deal with, care for and control. What is true of New York is also true in a greater or lesser degree of every city, both small and large throughout America. This constant dangerously alarming development of consumption among the poor has not produced to any extent adequately proportionate municipal plans and accommodations for coping with and caring for the unfortunate victims of this disease or of preventing the future spread of the malady except in a few very large cities like New York and Boston. Even in these there is opportunity for greater improvement and progress.

In dealing with the tuberculosis predicament a city must govern and control systematically the tuberculosis cases which are already present in its midst. In other words, as some one has pithily said: "Consumptives must be found at the right time and helped in the right way until they are well. If carelessly ignored or neglected too long the full penalty must be paid by protecting the public from danger and helping the poor victim until he is dead." At the same time a city must arrest by every possible means the future progress of infection so that an ultimate extermination of this germ disorder may be effected.

Such a problem is stupendous and multiform and must be attacked by broad methods. It means that two separate active campaigns which overlap at many points and diverge at others must be carried on simultaneously. Thus while the immediate instituting of a tuberculosis hospital to care for the hopelessly sick consumptive poor—like those who. as we have seen, are sometimes found neglectfully dying in parks and hallways; and others, too, who are scattering infection in a careless, widespread fashion—is a necessary requisite in stopping the present distribution of the malady by segregating these intensely

infectious cases and preventing immeasurable jeopardy to hundreds of people, it has no direct influence in causing the future erection of modern sanitary tenements and dwellings for the poor or upon the better ventilation of factories, stores and workshops—the often notoriously bad conditions of which serve to fit and fertilize human soil for tuberculosis seed-germs. On the other hand educational agitation toward remedying these present tenement and dwelling house conditions by proper sanitation and the erection of numerous new apartments, or for providing better ventilation and lighting of industrial buildings, while of no relief to a dying consumptive or preventive of his spreading bacilli to other persons, is just as essential in its way as a hospital. It also ultimately tends to nullify the very conditions which make such an institution immediately necessary and so helps even more in the long run to eradicate the disease.

Right here let me positively and vigorously assert that the trouble, confusion and disappointment in the past. as well as at the preesnt time, in making an appreciable impression upon the inroads of tuberculosis, or in decreasing its prevalence and mortality has been the result of inharmonious, misarranged and disunited efforts which have been spasmodically put forth at different periods by various individuals, organizations and municipalities.

To illustrate: One individual spiritedly attacks the expectoration problem. He asserts that it is only a matter of time when tuberculosis will perish from the face of the earth if this disgusting vice be stopped. He widely advocates this theory and perhaps produces some fleeting impression, some transitory improvement. Meanwhile his zeal in this one direction makes him lose sight of all other distressing features of tuberculosis. Never mind the coughs which are painfully racking weakened frames! Never mind the hundreds of destitute consumptives who are dying for want of food and fresh air! Just stop the spitting! Tuberculosis will be conquered, annihilated and there you are!

Or an organization decides that educational methods is the means whereby great results can be obtained in combatting consumption. Printed advice is distributed freely; exhibits are arranged; lectures are planned; and every avenue leading from the portals of instruction is followed painstakingly to the end. But while this is going on tuberculosis cows produce diseased milk and it is consumed unknowingly by the members of the organization and other inhabitants of the city. The poor are crowded closer into dirty hovels and tenements; factories dingy and unventilated are built; consumptives go about unknown, unregistered, uncontrolled; and death certificates as frequently as ever bear the solemn record "pulmonary tuberculosis."

Or again a municipality ponderously arouses itself and decides that something must be done to diminish the great white plague. An ordinance is forthwith adopted against expectorating indiscriminately on penalty of arrest and $50.00 fine; small notices are placed in inconspicuous places warning people to this effect; physicians are requested—instead of required—to report all cases of tuberculosis to the Health Bureau; some dwelling places where consumptives have lived are hurriedly fumigated; and a few tuberculous cows are slaughtered to prevent the sale of impure milk. But during this incomplete crusade what becomes of the homeless victims of lung disease, who sleep at night in cheap, poverty-stricken lodging houses and who without a qualm, expectorate on the floor during their coughing paroxysms? Who endeavors to influence the tenement owners to renovate their property and make it sanitarily habitable? What happens to the child who sleeps in a stuffy cubby-hole bedroom with a tuberculosis parent and breathes and rebreathes each night for months fœtid germ laden air?

Now, the fact is, there are many ideas, plans and procedures for conducting the war of a city against tuberculosis which in varying degrees are fundamentally valuable. They need thoughtful selection, co-relation and balanced adjustment one with another and must be used in unison largely at the same time. They must not be instituted disproportionately, or be disconnected, but must fit together for their purpose like the shafts and cog-wheels in a powerful mechanical contrivance. No single project or half-way plan will ever solve the present municipal problem of tuberculosis. Only by a simultaneous advance along all lines can we crush out the large amount of tuberculosis now in our midst, gradually arrest its progress and finally eradicate it from our cities.

In waging municipal warfare with this disease a city, first of all, must organize an efficient bureau of health and place it in charge of an aggressive medical general capable of directing an active campaign against tuberculosis. This bureau must be developed and broadened in scope until it will be to a city in such a fight what a war department is to a nation during hostilities. Such a department of health is the only logical organization by which a city should attempt to carry on anti-tuberculosis measures because of the following reasons: its influence can readily get adopted necessary health ordinances; it can successfully command the assistance of other city departments, such as the law, building, police, etc.; it has a legal status with the people and prestige of potential power; it has in many cities an already established helpful influence among the poor and has accumulated useful data pertaining to general health matters which are necessary auxilliaries in subduing tuberculosis; and, finally, it has sufficient financial resources back of it whenever a city earnestly desires to combat tuberculosis to enable a campaign to be prosecuted in a broad, well-proportioned and con-

tinuous manner. Besides, independent organizations and societies for preventing tuberculosis which at any time may be in existence in a city, and all philanthropical persons interested in the task can easily become allied with a bureau of health and work under its direction just as during the Civil War the sanitary and Christian commissions rendered helpful assistance to the army hospital service.

The next necessary requirement after organizing an efficient health bureau is the registration in this office of every case of tuberculosis, whether of the skin, bones or lungs. This must be legally enforced and be obligatory upon every physician with no exceptions. Each tuberculous patient who comes under a medical man's professional attention must be reported promptly just as contagious diseases are reported to-day in most cities, unless years behind the times. Such registration provides at once a knowledge of the amount of tuberculosis present in a city and shows its locality. No single factor in combatting consumption is more important than this one. If a city under its charter has not the legal power required to adopt an ordinance enforcing registration of this malady, then a State Legislature should be persuaded to amend it. Unless registration can be instituted and enforced a city will be helplessly handicapped in attempting to reduce the death rate of tuberculosis. There is no other way for a health bureau to get into touch with consumptives; to provide supervisory measures and render helpful aid; or to prevent careless, unnecessary spreading of infection among the poor.

When registration is in practice a map of the city can be hung in an office of a health bureau and the street locality of every case approximately noted by sticking in a pin at the particular spot on the map. Different colored pins can indicate different forms of the disease. The plan gives a birds-eye-view picture of the tuberculosis battlefield. It conveys a suggestive relationship of cases one with another and in conjunction with other health records may reveal hidden causes for their increased development in some quarters. In scores of other obvious ways registration of tuberculosis is beneficial and permits of organized methods for the control of the disease.

After registration in importance comes the establishing—according to the size of the city—of one or more free municipal tuberculosis dispensaries. ("Preventatoriums" or "Clinics" they also often are termed.) In a city of fifty thousand population one will suffice. In larger cities there should be an extra one for every additional fifty thousand people. Wherever a city requires two or more dispensaries they each should have a well-defined precinct, just as public schools do, but should be distributed more equally apart. This may cause some dispensaries in congested areas of a large city to develop out of proportion to those having a more suburban location. But even so a preventatorium must not cover territory so extensive as to hamper its beneficial purpose. Such dispensaries can be located and equipped inexpensively in the cheaper office buildings or empty stores where rents are comparatively low; in vacant houses in the more outlying sections of a city; or in any suitable accommodations adapted for the purpose. Nothing elaborate is required. Only sufficient quarters are needed to provide space for small offices, examination rooms and an apartment for waiting patients.

The function of a dispensary primarily should be to supply free medical aid to needy ambulent consumptives and to assist them as far as possible toward curing their diseased tissues in their home surroundings. They should also assist in ameliorating the sufferings of the more hopeless, bedridden patients, and teach them how to avoid infecting other people. Dispensaries, too, should act as distributing depots in daily supplying needy patients in their territory with nutriment, such as eggs and milk—a necessary food in consumption at all times. This is done in Boston very successfully. Many other needful articles should be carefully and wisely dispensed through an agency of this character, such as warm clothing, woolen bed blankets and canvas appliances for obtaining fresh air in the day time or at night by lying in a bed beside an open window. All these things would promote successful home treatment of numerous indigent consumptives and would encouragingly help them over many obstacles in the steep, rough road they are forced to travel.

The dispensaries furthermore should collect, correlate and pass on to a health bureau for further correlation records of all registered tuberculosis people in their territory; study the relationship of these cases and enforce sanitary restrictions for their management among them; and provide proper fumigation and disinfection for contaminated dwelling places previously occupied by consumptive inmates. They should also furnish freely physical examinations of the lungs and microscopical tests of sputum, thus better facilitating early diagnosis of lung trouble among the poor; assist in obtaining appropriate outdoor occupations for consumptives who often are obliged to labor to support a family; conduct evening lecture courses for teaching consumptives about the intricacies of their disease, how to contend against it, how to prevent spreading infection; and serve constantly by all these means as a helpful educational force in tuberculosis among the inhabitants of a city.

Every dispensary should be under the care of a physician, assisted by a nurse or two, and should be open for business an hour at least each afternoon and evening. The members of visiting nurses associations—or similar organizations of nurses which are active in most cities—and the younger doctors should be allied with each one to act as inspectors of the homes of tuberculous

patients, discovering thereby the possibilities for establishing even a rough but practical scheme for outdoor treatment in conjunction therewith. Besides they could distribute advice—both verbal and printed—to a patient's family concerning the peril of careless expectoration, of living without plenty of fresh air and sunshine, and of not recognizing early the serious significance of such suspicious symptoms as persistent morning cough, emaciation and spitting of blood.

Such a general dispensary plan is practical for any city and comparatively inexpensive. It provides strong outposts in the enemy's country that form when linked together a formidable chain of forts from which a city can advance in every direction upon the enemy tuberculosis and eventually exterminate it from many of its subtle fastnesses.

Next in necessity to a registration dispensary system comes the erection and equipment of a municipal tuberculosis hospital for the quarantine and care of those consumptives among the poor who can not be managed safely or properly in their customary environment.

It sometimes has been advocated as wiser to first establish a registration and dispensary system in commencing the campaign of a city against tuberculosis and let this step precede the beginning of a hospital rather than for a hospital to develop simultaneously with it. This is all very well as far as it goes. But, alas, halfway measures always have been the hindrance in combatting consumption. As well try to deal with insanity minus an asylum, or to police a city without a place to detain the criminally dangerous element of society as to successfully cope with the tuberculosis problem without a proper institution in which to manage various individuals afflicted with this disease.

Only by a close association of a hospital with registration and dispensaries can a triumvirate of essentials be established. There must be in any city this intimate coalition of the fundamental requirements for the stupendous task of fighting tuberculosis if results worthy a contest are to be obtained. Coincidentally then with the establishing of registration and dispensaries a city should commence to build a hospital; cheaply at first and on leased land if necessary. In five years public sentiment will demand its enlargement, improvement and permanency.

It should begin by procuring a suitable area of land on some elevated suburban site nearby a street car line, where air is free from dust and smoke. If possible the place selected should be several acres in extent, having a wide expanse of beautiful, open country with forest-clad hills stretching away in the distance. Such a spot overlooking a wide vista of natural beauty is restful and inspiring, never monotonous or dull and affords a cheering outlook that adds many an idea, many a changing thought to the lonesome, depressed minds of the unfortunate consumptive men and women, who are obliged to sit idly out-of-doors as the long days drag slowly by.

On such a location—or one which approximates it as nearly as conditions allow—a city should erect inexpensively a medium-sized two-story wooden administration building comprising an office, examination room, drug room, dining room for patients, kitchen, bathroom and quarters for nurses. Around this should be grouped at liberal distances, according to a city's size and needs, several board shacks or cottages which will accommodate from four to ten patients apiece—an equal number for both men and women. These should be constructed one story in height on a post foundation and should be heated when necessary with stoves. Glass covered verandas twelve feet wide should extend entirely around each one so that a sick person may follow the sun about or elude the wind. Each shack should be made to enclose one central room with bathroom attached and have plenty of swinging windows and a glass door on each side. Every door-way should be wide enough to allow a hospital bed to easily pass through and so permit patients the privilege of outdoor sleeping at night or—if too weak and ill to sit out in the day time—of lying out in bed all day.

The advantage of building several small shacks instead of one large building is because it admits a grading of the various types of cases and is cheaper. It also allows patients in different stages of the disease to be grouped properly. Thus instead of placing four hopeless and helpless consumptives together in one shack they can be separated and mingled with those who have improved and are progressing toward recovery under open-air treatment. This permits convalescents to act as teachers and to furnish by their example and improvement inspiration and stimulation to others. In a city with over two hundred thousand inhabitants it might be wiser and more practical to establish more than one hospital. The advanced and hopeless cases then could be cared for in one; intermediate and incipient types in another.

While this outline plan for a tuberculosis hospital is rough and does not include minor details the foundation principle is the one prevailing at that wonderful institution, the Adirondack Cottage Sanatorium, established by Dr. Trudeau at Saranac, N. Y.—though carried out there more elaborately and on a larger scale.

Such a scheme is not visionary or impractical. The initial expense of establishing it would be as small or less than any arrangement which can be constructed wherein the consumptive poor can obtain air, food and rest and pursue outdoor treatment in a scientific, up-to-date manner. It further has the advantages of being easily and quickly established and equipped and of being maintained at a minimum expense compatible with this purpose. It also allows of extension amplification and growth as demanded and when

it has proved its worth sufficiently permits future replacement by better accommodations without much loss.

The construction plan, too, of the shacks is adapted for giving patients the fullest advantage of open air treatment. On the wide verandas patients could sit out-of-doors all day in all kinds of weather and nurses could easily give them nourishment, care for their sputum, and make necessary clinical observations. At night they could sleep out the year round. Sleeping out-of-doors is only a matter of detail and sufficient equipment for keeping warm when one has a properly protected place such as a sheltered veranda. And right here it is worth noting that out door sleeping for all stages of consumption is a valuable adjunct to other treatment. If being out-of-doors twelve hours in the day time is essential in tuberculosis, then sleeping out twelve more at night is additionally beneficial. To a victim who is in the quicksand grasp of consumption a whole day is none too long in which to develop and keep up a momentum of extrication.

In all the months of the year excepting the cold winter ones tents could be used in addition to the shacks and would easily and cheaply furnish considerable extra space. In a Massachusetts city old street cars were procured and utilized with fine results, though they are not as adaptable as shacks or tents.

In such accommodations suitably equipped and provided with the requisite hospital paraphernalia necessary for the purpose a large number of consumptives could pursue out door treatment and be cared for economically and satisfactorily. A physician could have charge of the hospital with sufficient nurses to render necessary attention and it could be conducted in close association with a health bureau and dispensary system. It could derive its patients largely—after inspection and investigation of their cases and homes—by health officials connected with these organizations selecting them. This would prevent overcrowding and would preclude anyone imposing on a hospital who could as well or better follow out door treatment at home.

As previously stated, the consumptive poor are the ones who through ignorance, carelessness and utter disregard of the health and welfare of other people oftenest spread tuberculosis by indiscriminate expectoration on the streets, in their homes and places of occupation.

Too poor to cease working or properly care for themselves they absorb large quantities of patent alcoholic and morphine nostrums and so gradually drift down the current of consumption toward the maelstrom of the end, spreading as they go the disease to others who will follow them along the same way. Among them are the infectious—almost contagious—type of cases which a city if it wishes to lessen or stamp out the malady, must care for in a hospital. They must be segregated either willingly or compulsory. Unless they are controlled and managed efforts in other channels to prevent the spread of the disease will prove unavailing and a task of Sisyphus.

There are other tuberculosis sufferers besides these indigent ones which a hospital should plan to accommodate. Scores of men and women want to get well—or at least be made comfortable meanwhile if die they must—and are eager to do the right thing toward preventing infection of other people, but they have no opportunity in their miserable poverty-stricken homes. To prove this, let me cite an instance personally observed:

In a second-story apartment a family comprising two men, two women and a child lived huddled together in five small rooms. Two of the number—a man and a woman—were in the last stages of consumption, weak, emaciated and helpless. For nine long months they had been running a race for the grave and, finally, the man won—the woman finishing a close second. Now, during these months amid the almost continuous duet of coughing and spitting infection was spread thickly through the small apartment. Nevertheless, neighbors, friends and relatives came and went freely, and the six-year-old boy romped and played, inhaling the germ-laden dust his feet kicked out of the dusty carpets. At night in a little, stuffy, unventilated room in his crib, at the foot of his sick father's bed, he struggled to get his share of the close, moist air. Who knows what the future will reveal in his lymphatic glands, bones or lungs from such a prolonged exposure? Who knows, too, when the other members of the family may commence to cough, sweat and emaciate?

As the dying man neared his end friends and relatives came more frequently and remained longer, and the broom and duster were often busy slicking up the modest apartments, thereby saturating the air with dust for them to inhale while making their call. Who wants to assert that among the number of those visitors no fertile soil was found for the implantation of the tubercle baccili they breathed in?

As the weeks went by these two unfortunate victims of the white plague begged for air. They wanted to try to get well—to be allowed a chance. Their little quarters were to them a veritable black-hole of Calcutta. The only ventilation was by small windows opening on noisy streets. In the summer the dust and flies came in; in the winter the cold. *They absolutely had no chance at any time to recover, improve or be comfortable under such conditions. From the start their only alternative was death.*

Similar cases or worse are the frequent experience of general practitioners of medicine everywhere, year in, year out, under the usual inadequate order of things. Hospitals for every other sufferer but none for such as these! No place where they could go and for a nominal sum obtain the blessing and comfort of fresh air,

good food and quiet rest! No place where the gospel and religion of right living could be experienced and learned and where they would not be a menace to their family and others.

Dr. Darlington, health officer of New York city, recently advocated a plan which should be applicable and serviceable in any municipality in the working out of a tuberculosis hospital located on a site adjacent to a street car line and not too remote from the center of a city. He said, "There are many tuberculosis patients who must work to support a family. Why not allow them to come at night to a hospital and remain until morning? They could sleep out of doors—something they could not do at home;—have a proper meal with eggs and milk each morning and evening; and carry away a prepared lunch for their dinner which a weakened digestion could manage. Under such a course for a few months improvement would follow and with the education it would give about tuberculosis and hygienic living would enable many of them to return home and work out there an ultimate cure." Such a scheme is not fanciful but is founded on sound, practical principles.

At the present time I have a man under consideration who has a well marked case of pulmonary tuberculosis of a slowly advancing type. He works each day loading 100 pound sacks of plaster and as he does so expectorates freely around them to the danger of other people. He lives in a cheap boarding house, sleeping in a cheerless, unventilated bedroom opening into the rooms of several other laboring men. What chance does he have under such a regime? Sooner or later the baneful effects of his present occupation and environment will break him down and he will become a hopelessly sick consumptive —a burden and a further menace to society.

This case is analogous to scores of others in every city. Were all such cases registered, were they inspected and advised by a dispensary system, many of them could be induced to try out door treatment at night in a hospital. In addition, arrangements could be made, through the assistance of Chambers of Commerce or similar organizations, whereby most industrial concerns would employ these patients in preference to other help in filling all out door occupations. This is done in New York and more than one ticket chopper on the elevated car lines is or has been tuberculous.

Upon their return to their old environment after benefiting by a few months course of night treatment at an open air institution with the salutary lessons that this course would give them they would be supervised more willingly by dispensaries and would be encouraged to pursue further curative measures under such direction and help.

It is the "submerged tenth" who need assistance and education in tubercular matters. Extended to many of them in this fashion it would have a helpful and wide influence at once and would prove eventually a preventive measure of the first order.

Whenever a city will enforce the registration of tuberculosis and establish dispensaries and a hospital such a city will be in readiness to begin the herculean task of attacking and subduing consumption. It will have equipped itself, so to speak, with seven leagued boots. In other words, a long stride will have been taken toward the final annihilation of this hideous, deadly sickness. Not only can it contend with, care for and control the present tuberculosis situation by such means thus at once preventing an increase of consumption, but it can carry on in conjunction with these measures a host of auxiliary procedures whereby future development will be prevented. It also can institute important and far-reaching but less direct processes that ultimately will wipe out the very evils which underlie its causation and perpetuate its dissemination.

To this end every city must face the problem of the careless indiscriminate expectoration habit which so universally affects all classes of male humanity. So long as tobacco is used by thousands of men; so long as multitudes of people are ignorant and indifferent concerning the essentials of personal hygiene, just so long will different types of men, whether hard and healthy or coughing and consumptive, distribute their oral discharges about as thoughtlessly and more dangerously than dogs mad with hydrophobia unless active and persistent means are used to prevent it.

To produce an early appreciable cessation of this filthy habit and reduce its evils to a minimum a city must establish and persistently enforce a suitable ordinance against it. Instead of an impractical fine of $50.00, which at present is the usual warning penalty wherever an infrequent sign forbidding the practice is seen a smaller maximum fine should be demanded. If a fine of $1.00 for punishing the first offence of this character and $3.00 for every similar offence thereafter were legalized police officers could be required more easily and expected oftener to arrest spitting offenders. The small amount of this fine, the embarrassment and loss of time resulting from arrest and a ride in a patrol wagon, and the disgrace and notoriety of appearing in police court with a newspaper mention afterwards would influence most individuals after one such experience in the wisdom of obeying an expectoration regulation.

An anti-spitting ordinance should empower and require, in addition to a city police force, many semi-public officials, such as street car conductors, janitors of public buildings, men in charge of theater galleries, etc., to take into custody anyone caught expectorating on the floor. It should also provide for the placing of elevated sanitary receptacles with running water on every street corner for people to expectorate in when

necessary. It should further provide for placarding freely all public buildings, railroad stations, ferry houses, boats, street cars, factories, shops, halls and theaters thereby explaining the dangers of expectorating indiscriminately and legally warning people against the practice. Public parks and streets, too, should be placarded similarly with visible and durable signs.

With such municipal provisions properly instituted and vigorously enforced a city would soon diminish this pernicious habit and so forge another link in an anti-tuberculosis chain.

Another move that a city must make in advancing upon tuberculosis is along the line of a pure and sanitary milk supply. If it is a fraud to dispose of watered milk it is a crime to sell dirty, diseased milk—particularly if that milk comes from a herd of cows in which are mingled several that are tuberculous.

Bovine tuberculosis is seldom or never found among cattle around Havana, Cuba, for there they are out-of-doors all the time. But in herds that furnish milk to American cities it is revealed by the tuberculin test with fearful frequency. Especially is this true in the states along the Canadian border, because here during several winter months each year cattle are housed in damp, unventilated stables. They often are fed, watered and exercised improperly and so do as easily fall victims to tuberculosis under these circumstances as do many human beings under almost similar ones.

While milk from a tuberculous cow does not necessarily convey the tubercle bacilli unless the udders are affected such milk is positively unsafe for children or grown people to consume and easily paves the way for the coming of consumption.

To prevent the production of such tainted milk a city must inspect the farms, barns and herds of every farmer offering milk for sale. Furthermore it must insist upon sanitary improvements and the application of the tuberculin test until all danger from tuberculous or impure milk is obviated.

In furthering a milk reform it would be advisable for a city to procure a farm and provide a model establishment as is done in Rochester, N. Y., to illustrate how cattle should be stabled, fed and cared for and how clean, pure milk should be produced. This place could be open for inspection to farmers interested in obtaining more milk and would furnish a standard example for them to emulate at home.

Such a milk farm could be utilized meanwhile to produce the milk and cream needed by the municipal dispensaries and hospital to supply the demands of the consumptive poor, which these institutions would be curatively assisting. A large hennery also could be established on the farm whereby sufficient fresh eggs could be produced daily for similar use. A farm thus would fulfill a double purpose and would be an economical project in furthering these ends.

In addition to the foregoing plans and devices for prosecuting a campaign against consumption a city must require the authorities in charge of each general hospital and eleemosynary institution within its boundary to provide suitable quarters and equipment for a more scientific application of outdoor treatment for those cases of tuberculosis which always gravitate toward and accumulate within these establishments. A more severe supervision of the sanitary conditions in lodging houses, in kitchens of boarding places and hotels and in shops, factories and all working places officially must be observed; inspection of meats, bakestuff and foods exposed for sale must be more closely exercised; agitation must be aroused for the erection of better ventilated, better lighted office buildings, factories and shops; more public parks and free baths must be established that the benefit of fresh air, sunshine and water may be obtained easier by the poor; and congested living quarters must claim more earnest consideration.

Modern tenements are needed that are properly lighted, ventilated and sanitated and that will have rooms and apartments for rent within the reach of the poorer classes. These must replace the dingy, dirty ones of to-day until there shall be no excuse for a human being living amid such horrifying conditions as the poor now are often compelled to do. Such sanitary tenements are proving practical in London, New York and Chicago, and are returning a fair interest on the money invested. Hundreds of them are needed in every big city in the United States. In the smaller cities for those who are forced so often to dwell in hovels, modern dwellings, sanitarily constructed, renting for a small price are required by the thousand.

In connection herewith it is interesting to note the wise recommendations of a progressive New York City Academy of Medicine: "We call attention of the Academy to the fact that there is growing in our cities a tenement house population made up of the lowest grades of European laborers that is a menace to public health and that there are landlords who permit the grossest abuses of the health laws in the tenements occupied by these people. Before these places become more numerous and their practices more baneful they should be put under strictest sanitary regulations. Many people scoff at the refinements of modern sanitary ideals. It is pertinent here to quote from the report of the health officer of London, that since the passage of the public health act of 1901 there has been a diminution of 30 per cent. in the death rate of that city and that London's death rate for 1906 (15.1 per thousand) was lower than that of any of the large cities of the world."

Simultaneously with all other reforms an educational movement must be continuously and

intelligently kept up. Medical men and other lecturers thoroughly conversant with the tuberculosis question must be engaged to appear periodically before the labor unions and discuss this topic with the members, explaining the danger of carelessly expectorating while at work or elsewhere, of sleeping in closed, air-tight rooms, of dissipating in various ways, and of neglecting to consult a physician at once when persistent symptoms of lung trouble arise in themselves or in one of their family. Only by the early recognition *of incipient* phthisical symptoms and the prompt instituting of appropriate curative treatment can the ultimate development of the pitiful, hopeless consumptive be prevented. This fact must be impressed by education not only upon members of labor unions but upon everybody.

Children in the public schools must be taught along with geography and grammar a knowledge of tuberculosis; how to avoid and how to prevent it. This must take the place in their physiology text books—to a reasonable extent at least—of the distended, distorted chapters now devoted to the harmful effects of alcohol.

Ministers of the gospel must be encouraged to stand up in their pulpits and preach more sermons on sanitary living and health matters. A little sermonizing for the body once in a while is as beneficial as for the soul. If you doubt this fact, listen to the chorus of coughs which interruptingly emanate every Sunday morning from the throats of any congregation facing a clergyman, and be convinced. Besides, it is no more self-sacrificing for doctors of divinity to thus indirectly endeavor to diminish their income from delivering funeral orations over dead consumptives than for doctors of medicine to continuously advocate anti-tuberculosis measures whereby their professional earnings will shrink more than one-tenth in amount.

Newspapers, weekly, semi-weekly and daily must be enlisted in the fight. These publications are read by the masses, rich and poor alike, and are powerful, persistent educators of the public mind. For years, though, by pernicious, misleading advertisements appearing in their columns they have sown influences broadcast which have built up the business of numerous concerns manufacturing worthless patent alcoholic and morphine nostrums for curing consumption into rich, flourishing industries. As the consumptive poor have hopefully absorbed bottle after bottle of these fake cures and have been made worse after each one, the hard earned. sorely needed money they have given up therefor indirectly has assisted newspapers of all kinds very materially by providing a rich advertising harvest. They therefore willingly ought to educate people about tuberculosis by way of atonement.

When a city has well under motion a campaign against tuberculosis conducted according to the plans here advanced it should combine with other enterprising municipalities that laws may be enacted by State Legislatures for the founding of more sanatoria for the free treatment of incipient pulmonary tuberculosis similar to the one provided by New York State at Ray Brook in the Adirondacks.

Better laws are needed, too, for the destruction of tuberculous cows and to protect one State from another so that such cattle can not be sold or shipped into territory which has taken rigid precautions against them. Statutes must be enacted also to improve and to more closely supervise all health matters—particularly those relating to consumption—in villages, small country towns, summer resorts and rural districts.

National aid, furthermore, must be enlisted to increase the stringency and to prevent the weakening of present immigration laws which stop consumptives among the crowds of foreign aliens at our doors from entering this country.

Only by such state and national enactments can we shut off countless, unseen tributaries which little by little tend to widen and deepen the stream of tuberculosis that flows into our cities.

If one stops to consider the cost to a city of a crusade against tuberculosis such as I have proposed, with its registration of consumptives, its dispensaries and hospitals, its milk and egg farm and the other requisites which go with all these, one is likely at first thought to exclaim: "Impossible, the expense is too great!"

But on the other hand, first examine for a moment the frightful economic loss tuberculosis causes. Think of the men and women cut down in the prime of life at the period of their greatest efficiency; of the labor it has required to rear, educate and develop them into a producing power; of the time and material it takes to care for them even as we do now.

On the best authority it is estimated that every year the United States sustains an economic loss from tuberculosis of over $300,000,000! What would the figures show if we could add in dollars to this the physical suffering, the heartaches, the agonized disappointments which this monstrous disease also produces in thousands of happy homes throughout our cities?

Expense must not stand in the way of crushing out this cursed sickness now any more than it did in those days when, with wartime enthusiasm, two billions of dollars were expended in abolishing slavery. Even though the price be large each city must shoulder its proportionate burden in stamping out tuberculosis.

What a field for philanthropy is this, and yet how shamefully overlooked it is compared with other established benevolences in our cities. Reflect for a moment on the coughs that would have been subdued, on the suffering that would have been prevented, on the lives that would have been saved had tuberculosis hospitals, instead been erected in every city where libraries so willingly have been donated or universities so lav-

ishly endowed. Educational advantages are not to be decried, but they should not be given out of proportion to necessities more vital for restoring health to the sick members of our great national family.

Unfortunately, there is no remedy known at the present time which can cure consumption in a day or a week as diphtheria and other infectious diseases are cured. Bacteriologists may be on the threshold of the prison in which is locked the subtle secret of a tuberculosis serum but they can not liberate it yet. There are a few more doors to demolish, a few more locks to pick before they can produce this product and make its application practical; but the day will come, though it may be fifty or a hundred years hence, when they will set this agent free and then this dread disease—this great white plague which yearly decimates our population by the thousands and causes untold misery and suffering—will cease its ravages and disappear as easily as small-pox has vanished under the influence of vaccination. Until that time comes we must face present conditions bravely and vigorously contend to overcome them. The more successfully we fulfill this task the more sincerely will posterity venerate this generation of its progenitors.

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## MICROCEPHALUS WITH ENCEPHALOCELE.

By CHARLES C. ZACHARIE, M.D.
WHITE PLAINS, N. Y.

MONSTROSITIES as a general rule are quite rare, very few cases have been reported during the past twenty-five years. This case is one of microcephalus with encephalocele and as far as I know only four men have written on the subject, viz., Drs. Moussons, Bombarda, Lafuerza and Gioconini; the latter has formulated the following statements:

1. Microcephalism is essentially located in the central nervous system.

2. The deformity of the skull is a result, not a cause.

3. The disturbance is not limited to the brain, but extends to other parts of the nervous system.

4. Microcephalism consists in a retardation in the development of the central system beginning at various periods.

5. The nervous system exhibits no pathological condition explainable as a result of complete arrest of the development.

6. The brains of microcephalic subjects exhibit all the stages of human brain development from the earliest on.

7. In the structure of the surface there are modifications which must be referred to atavic reproduction of conditions of the brain of lower animals.

The picture shows the body of a baby boy very well nourished, born in January last of Italian parentage. The body was well formed and perfect in its proportions with the exception of the heads:

It weighed 11 pounds; length, 25 inches.
Circumference of upper head, 16 inches.
" " lower head, 10 inches.
" " shoulders 18 inches.

The lower head presented a normal appearance, as the picture shows, with the exception that protruding from the anterior fontanelle there was a second so-called head attached by a pedicle which was formed out of part of the scalp of the lower head. There was no evidence of any face or ears in second or upper head and it was only covered about one-half with a hairy scalp, the other half being smooth feeling and looking like one side of a placenta. On dissection of upper head I found a large brain communicating through anterior fontenelle with brain of lower head. The brain of upper head was not encased by bones, as was the lower head.

This was the second child born of the same parentage in three years; the first was a normal birth and a healthy child; it lived to be six months old and died of pneumonia.

The birth of this monstrosity was extremely difficult. The woman was in labor three days in the hands of a midwife; on the third day of her labor I was called in. After placing the woman under chloroform anæsthesia I made an examination and found a mass presenting itself at the vulva orifice, which at first I thought was a case of placenta prævia, or a large cephalæmatoma, but on further examination I made out a neck and second head; the fœtal heart sounds were absent. I proceeded to deliver the first head with the aid of my hands until I came to the second head, which I found to be a face presentation. I then applied the forceps and delivered the same with great difficulty, having to use much force; the two heads now being delivered I attempted to deliver the body, but found much resistance offered at the shoulders, so much so that I was compelled to sweep down the lower hand and deliver the shoulder; after that the body was delivered. The cord was cold and pulseless, the child probably having been dead for some time.

# PERFORATING GASTRIC ULCER.*

By C. L. GIBSON,
NEW YORK CITY.

THIS experience is founded on five cases occurring since May, 1907. As they present so much similarity a collective report will save time. All males, four young and one middle-aged man, who was markedly alcoholic, and the only one who gave a history of previous stomach disturbances. Four were operated on at the Hudson Street Hospital. The other, the patient of Dr. L. F. Harner, was seen in consultation, sent to St. Luke's Hospital, and operated three hours after perforation.

The time was less than twelve hours in the three recoveries. the two deaths had had symptoms over twenty-four hours, and a marked peritonitis was present.

The ulcer was about in the same situation in all cases in the pyloric quarter of the stomach. Gastrorraphy by purse string suture. Those living made a very simple recovery, two have kept under observation and enjoy excellent health.

As a general proposition it may be said that the recognition of this condition is simple, the indications for surgical treatment present practically no exceptions and the technique is for the most part easy and rapid of execution. The assumption then is that the results should be good. They are not. For many people still die as a result of this condition.

Nothing is so misleading as statistics, and while it is probable that recent results show some improvement, if the truth could be known these perforations of the stomach and duodenum would probably show that 75 per cent. or more of these operations for their relief are followed by death.

Of course the cause of death is peritonitis and its sequelæ. It is obvious then that we must prevent it, and the best way is, like the advice to those about to marry, Don't.

That is, we must attack peritonitis by its prophylaxis. It is undoubtedly true that we can guarantee a saving of life to the great majority of these cases if we can stop the outpouring of peritonitis producing agents before it has reached a point which is necessarily fatal. Operation should be done at once, and we ought to talk about relief in standards of minutes rather than hours or days. The physician who sees the patient first generally controls his destiny for life or death more absolutely than any other agency than the divine power.

It would be presumptuous for me to attempt to describe to this society the recognition of gastric ulcer. It is a waste of time to discuss the later symptoms of a perforating ulcer. These are the symptoms of peritonitis and I have nothing to tell you about this phase.

What I want to insist on is that if you see an individual within an hour or two of the first symptom and you get a history of a sudden agonizing pain in the epigastric region, followed by more or less immediate collapse, and on examination the abdomen is found flat and even visibly retracted particularly in the epigastrium, and on palpation this area is as hard as a board and very tender that is a perforating gastric or duodenal ulcer more than nine times out of ten. Never mind that there is no previous history of ulcer or other gastric diseases, or the state of the pulse or temperature, absence or presence of vomiting, or blood in the vomitus or stool. Don't waste time figuring out the misleading data of blood examinations or speculating on that mythical quantity the disappearance of the liver dullness.

Get a competent surgeon to open the abdomen as quickly as possible and the patient will be saved. Above all *don't* wait for the development of more symptoms, for the appearance of any more simply means the rapid shortening of the path leading to the grave.

All the above sounds simple enough, and yet how rarely it is done. The answer is obvious, the fear of making a mistake. Therefore it becomes simply a question of moral courage. Act as I have outlined; dare to be wrong sometimes, and you ought to save practically all your cases. Can you not afford to sacrifice yourself for such results. Proceed cautiously; hedge yourself round with multiple opinions; procrastinate for twenty-four hours; in other words, save your face and you will lose most and possibly all of your patients.

I don't see why in medicine we should attempt to make a diagnosis of a given lesion without recourse to the physical investigation that is a *sine qua non* of other forms of science. Do we ask the chemist to tell us what is in a test tube without even allowing him to take it in his hand? Would a building contractor attempt to erect a skyscraper without preliminary borings to ascertain the nature of the foundations? If there is any doubt about the existence of a perforation an exploratory incision will allow us to see it, certainty versus guess work. The diagnosis need have only the possibilities of the condition to justify the steps which shall settle all doubt. Will an average intelligent person refuse to take the chance if he is made to understand the condition? and it depends on the man who first sees him to put the question so forcibly, so clearly as to preclude the possibility of refusal. For the unintelligent person we must judge for him, better to sacrifice ourselves than his life.

If we see the patient some hours after the onset we may have misleading symptoms, particularly those simulating a lesion of the appendix. If we don't keep in mind the possibility of a perforating ulcer and ignore the initial symptoms or have not been able to elicit them

* Read before the New York Clinical Society, March, 1909.

the mistake is quite natural, particularly in duodenal ulcer, where the pain and tenderness quite regularly become referred to the appendix region. Even in this instance, if you believe there is no good appendix except in a bottle, prompt operation may still save the day, provided the surgeon has the proper experience to recognize as he easily should that the trouble is not in the appendix and promptly centers his attention on the gastric region.

*Treatment.*—The treatment is operative and as a general proposition is as follows: Put a stop to the outpouring of visceral contents by the simplest method applicable to the particular condition. Provide for the prophylaxis or treatment of peritonitis. Do not do anything more except to meet unmistakable necessities. The sicker the patient and the more extensive the peritonitis the simpler and more rapid of execution should be our procedures.

A general anesthetic will be the rule. The incision is above the umbilicus or through the upper right rectus muscle. By filling the abdominal wound with saline solution prior to opening the peritoneum, the escaping gas is more easily recognized by the formation of the bubbles of air rising to the surface. A minute prick of the peritoneum allows of the perceptible escape of any free gas, a valuable sign. Sour smelling fluid characteristic of the condition is further evidence. The perforation is usually on the anterior surface or on the upper duodenum; if not seen there exploration of the posterior surface and the lesser sac is in order. The perforation is to be closed by the method best adapted to the condition, a double purse string of fine chromicized catgut being my favorite. Very exceptionally exsection of the ulcer. Gastro-enterostomy should not be done as a routine, but reserved usually for narrowing caused by our efforts at repair of the perforation. Even when the conditions present great difficulties we should not despair, as simple drainage plus protective packing has resulted in cure.

Careful removal of the extravasated contents by wiping and mopping. Irrigation is generally contra-indicated. Pelvic drainage for twenty-four hours by a good-sized rubber tube through a supra-pubic stab wound when there is much free peritoneal exudate. Fowler position in all cases.

*After-treatment.*—Starvation and water by the bowel for one or two days. Appropriate dietary and medicinal treatment for ulcer during convalescence. With persistence of symptoms of ulcer, particularly if stenosis is apprehended or develops further surgical measures may be considered.

It is a remarkable fact that curing the perforation seems frequently to cure the symptoms of ulceration, as most of these patients afterwards enjoy much better health, especially as regards symptoms referable to the stomach.

## SOME ADVANTAGES OF A SMALL HOSPITAL.*

By WILLIS E. FORD, M.D.
UTICA, N. Y.

THERE has been such a radical change in the sentiment of people regarding hospitals within the past twenty-five years that it is interesting to study, not only the cause of this change, but also to study the effects upon the community and upon the profession. My interest in this question dates back thirty years, during which time I have continuously served, first as an interne, then as resident physician and surgeon, after which as chief of a small hospital, which has grown within the past twenty-five years from ten beds up to a capacity of seventy patients. During this time I have felt interested in the growth of hospitals about me, and in their influence in the communities in which they were located. This study has given me certain opinions, which I think may be interesting to men who have not had so long an experience in hospital work, and I venture to make my personal observations the basis of this short practical paper.

The time has long passed when hospitals were looked upon as simply receptacles for the unfortunate, the helpless, and the hopelessly sick in a community. The prejudice against hospitals, even at the beginnings of my own work, was so strong that it was thought absurd for people to leave their homes and go to a hospital if the private homes were comfortable and the ability of the friends was sufficient to secure good medical attendance. There was naturally a horror regarding hospitals which came down as a tradition from the time when inadequate funds and brutal methods were used, and sick people generally felt that the suggestion of a hospital was equivalent to the offer of a forlorn hope. My impression is that the institution of skilled nursing in hospitals, which became general in this country not much more than twenty-five years ago, is responsible for very much of the change in the opinions of the public regarding the desirability of hospital care.

In the old times with untrained attendants and with very little money to supply the needs, and even the ordinary comforts of life; and when there was a little in the way of apparatus and instruments possessed by even the best of hospitals, there was little reason to expect people to leave comfortable homes and try their fortunes among strangers during a severe sickness. Water cures and private sanitariums of various kinds arose and flourished about this time, the advertised attractions often being some mineral spring with baths, while the real attraction was the good living, good service and social advantages. Sometimes a religious cult was an added feature, and

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these places where both body and soul received attention from specialists became very profitable. Water cure establishments were very popular in England, while on the continent various kinds of natural medicinal waters led to the establishment of cures, often under government patronage. Of course all these places were patronized by people who had means to pay for their care. Physicians were a little slow in recognizing the fact that people with certain ailments recovered better in institutions than in homes, but when this was apparent it was but a short step to the private hospital, with generous diet and skilled attendants. The reputation of the physicians and surgeons connected with hospitals where comfortable private quarters could be obtained for pay came to be more important as a drawing feature than the reputation of the mineral water or the climate.

The fact that it has been recognized that a large amount of money must be expended to maintain a hospital that pretends to anything like scientific work in these days, and that instruments of precision and appliances used in the care of sick people and apparatus for mechanical therapeutics must be supplied in order to make a hospital a success in any way, has furnished an argument which physicians have used, that many cases of sickness can be better cared for in hospitals than in private houses. The people, therefore, who now go to hospitals are very different from those whom we used to see even in the best of small private hospitals fifteen years ago, so that it has come about at last that hospitals agree to furnish such attention, appliances, and skilled care as but few households can secure, even if there is plenty of money to expend. This has naturally fostered the tendency to the development of small hospitals to the extent that would have been impossible to conceive of twenty years ago.

Now in this growth of small hospitals, and especially their construction in small towns, there are some very important facts to consider which the profession ought to recognize, both in favor of and some decidedly against their interests and against the interests of the community. Among the laity it is now a common expression that if you go to a hospital you are sure to receive better care than you can in your own house; and yet it is perfectly apparent to the physicians who are working in hospitals that this depends entirely upon whether the hospital is thoroughly equipped, and whether it has funds enough to supply wholesome and even generous diet, and whether it is in the control of physicians who have skill and experience above the average man in their profession. There is no question but that the influence of the small hospital upon the community, even a small community, that is called upon frequently to subscribe for its support, can be made a wholesome influence; and this is not altogether due to the fact that better medical and surgical treatment can be secured in these small hospitals. There is the further fact that the community is benefited by the competition which it sets up among the physicians and the consequent raising of the standard of excellence of the work done in the community. A broken leg or a badly injured arm on a farm or in a shop, or on the railroad, can be perfectly well cared for in a private house, providing the medical and surgical attendance, as well as the nursing is properly carried out; but it is not likely that as high a grade of surgical cleanliness and as great skill in surgical technique will be carried out by men who have not had experience in hospitals for a long time, or possibly never had any hospital training. The improvement in the methods, especially in the surgical technique of the physicians in a community will be very largely dependent upon the tone and standard of work that is done in the hospital with which the physicians are familiar. It can not be expected that a man working alone and practically isolated from all sources of training since his student days, will keep himself up to the standard that is now required of all men who do the better kind of medical work. Therefore, this influence of the hospital is one of the strongest recommendations that can be used in the establishment of hospitals in small towns. It must, however, of necessity be said that a poor hospital, poorly equipped, and with no endowment, in the hands of the laity who have had no knowledge of the proper management or conduct of a hospital does not and can not accomplish these results. When the work of the hospital is entirely in the hands of the laity there may be a lack of experience and training to assume the direction of an enterprise that requires technical knowledge, experience and judgment, and though great humanity and charitable impulse is shown, there is apt to be a failure to secure physicians at a sacrifice of time and money to give their best efforts for the improvement of their methods and the adoption of modern ideas, which alone makes a hospital successful and valuable to any community. Such a hospital may, indeed, be a white elephant on the hands of the physicians, who feeling that they ought to do everything in their power to support what they thought to be a proper enterprise, find themselves handicapped in their work and lose their sense of responsibility and become indifferent, or feel an antagonism which embitters the lives of many good men.

The one thing which largely stands in the way of the success of the small hospital is the want of funds, for it is difficult for any class of laymen to understand why a hospital should cost so much more than a boarding-house with the same number of people in it. The truth is

that surgical cleanliness is a very expensive necessity. Common personal hygienic cleanliness is a very expensive and troublesome necessity. The absolute necessity of having trained attendants in charge of the sick, if anything more than ordinary results are to be obtained, adds immensely, and I think quite doubles the expense which laymen may think necessary in running a hospital.

Without a sufficient sum of money to endow a hospital, after it is built and paid for, or without definite promise of municipal support adequate to its maintenance, a hospital in a small town may be a positive injury rather than a good to a community. Whenever the struggle begins for the control of the hospital, and the middle-aged man begins to operate without training and without experience necessary for such work, the surgical results are appalling to the last degree. Some two years ago a distinguished surgeon asserted that the results of abdominal section for all causes throughout the United States, as shown by statistics which seemed to have been very carefully collected, indicated that the mortality was still about 20 per cent., and that there had been but little improvement in the mortality rate within the past ten years. All this was in the face of the fact that under the best circumstances, in well-equipped hospitals, with experienced operators, the mortality was, perhaps, not more than 5 per cent. This was rather an astonishing statement, it seemed to me, and I began to investigate in every way that I could as to whether this could be true of the work done in the State of New York, and I am quite convinced that these figures are tolerably accurate. Now this means that a much greater amount of surgery is done at the present time than used to be done, and that many more so-called exploratory operations are done than would be necessary if there was a correct surgical diagnosis made beforehand, and that the technique of preparation and operation, as well as the after care, must sometimes be very inadequate for such serious work. I have for some time consulted physicians who have talked to me regarding the advisability of building hospitals in small towns, and it seemed to me that while a hospital properly supported and managed is one of the greatest blessings to the profession, and through the profession to the community, there was danger from the poorly appointed and poorly equipped and inadequately supported hospital of lowering the standard of medical and surgical excellence in the work that tends to prevent the growth of the profession and tends to make young men satisfied with a training that is insufficient to fit them for the best kind of work.

A small hospital in a small town occupies an entirely different relation to the people from that of a large hospital in a great city. In the large centers where there are medical colleges and where there are largely endowed foundations for the maintenance of original research work, laboratories and dispensaries, it is not to the large hospital containing a great number of beds that the people look for their information regarding medical and scientific facts, but in the small town and with the small hospital the case is quite different. Besides the proper care of the sick in the ordinary sense of the term, the modern hospital undertakes to do for all classes of people, whether they be rich or poor, many things that can not be done for them if they were sick in their own homes. This means that the hospital must be managed in a generous way, so far as the housekeeping is concerned, and it must be supplied with apparatus and with men who know how to use such apparatus skilfully, and with laboratories in which there are well-trained workers who can give information regarding patients that could not be obtained in a private house, irrespective of the question of expense. Hence, people of all classes avail themselves of the advantages of a small hospital, which, if it properly performs its functions, must be well equipped, generally at a large expenditure of money, and must be served by men who pursue their work with single-minded purpose and enthusiasm. Otherwise the modern hospital would be patronized by no other patients than those who were obliged to go there. The small hospital, therefore, in a small town becomes an educator and takes upon itself certain responsibilities to educate its officers, and they in turn disseminate their knowledge to the patients and their friends, so that scientific medicine now has very little of the mystery of the older methods of practice and little of the pretense to exclusive knowledge or to occult sources of information which characterized to a certain extent the medical practice of long ago.

The hospital then undertakes to educate nurses, and this does not consist of simply giving them certain kinds of manual dexterity, but in giving them such information, as well as experience and practice, as shall make them useful in the families where they are called after they are graduated. If, with the proper spirit of their calling in them, they try their best to improve the hygiene of the houses of their clients the amount of good that they may accomplish can hardly be estimated. This influence after many years has become widespread, and the source of this influence in many cases is the small hospital.

But if the community receives something in the way of education and the nurse receives considerable in the way of education from the small hospital the physicians in the community, whether they are connected with a hospital or not, receive much more. The practice of our profession does not have a ten-

dency to bring men together, but rather to make them fall apart from each other, though the science of medicine binds with the strongest influences. The small hospital is an objective place where many physicians meet to exchange their views, compare results, collect facts and draw inferences, and it is about the only place where the real education of the physician goes on in a small city.

To this end the experiment was tried in St. Luke's Hospital of having a clinical meeting once a month, not only for the members of the staff, but for others who were interested in the same kind of work in nearby towns. At these meetings few academic discussions were indulged in, patients were seen, results were reported, specimens and laboratory findings were examined and discussed, and cases of unusual interest, as well as cases of unexpected death were reported and discussed. The success of this undertaking gave me the first intimation as to what the real function of the small hospital should be in a community that was remote from the larger centers of medical instruction and the large laboratories for original research.

To read a thing and fairly well understand it is not quite so enlightening and practical in the minds of most men as it is to actually see the thing and observe the laboratory work and witness the results, or hear them related by the men who did the work. These are some of the reasons, I believe, why the small hospital has such a strong hold upon the community—and this is from an educational standpoint entirely apart from the great benefit to the patients in the hospital and an additional reason why men of wealth are willing to give freely for the foundation and maintenance of hospitals, where their less fortunate fellowmen may have as good a chance to recover as they themselves have when in illness.

While a hospital of this sort does not deal very largely with pauperism, it does deal with thousands of peoiple who are self-respecting wage earners, who would not think of receiving charitable aid, but when in hard luck with a great sickness in their homes gladly avail themselves of hospital care, and it brings to their minds more strongly than anything we can do the fact that the best men in every community recognize the brotherhood of man.

Without ample endowment the small hospital can not act the role of benefactor. Forced economy usually means doing without the proper food for the sick and failure of proper surgical technique. Patients who go away from such hospitals complaining of their treatment reflect upon the physicians. It is within my personal knowledge that many physicians have thus been injured in their professional standing in a community. All this is in face of the fact that physicians have given their services gratuitously and have helped the hospital with their private means. Most good physicians have small means and the amount of private charitable work they do is not equalled by any other class of workers. They ought to have something to say about the conduct of medical affairs of the small hospital, because they are always willing to do the work upon which the real reputation of the hospital depends.

The physicians ought to decide whether a small gift, the result of transient enthusiasm or evanescent charitable impulse, should be accepted to start a hospital without adequate provision for its maintenance.

## THE TREATMENT OF SYPHILIS.*

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THE necessity for knowing the best, and most modern methods in the treatment of syphilis is apparent to any one seeing many cases of this almost omnipresent disease; but the fact remains that many cases are badly managed; consequently your president selected this topic for discussion and has honored me by asking me to introduce the subject.

Before touching upon the treatment it might be well to briefly review some of the more important points in the whole subject of syphilis.

Syphilis is a general systemic disease that can, and often does, attack every structure and organ of the body. When a person contracts syphilis there is no certain way of ascertaining when the disease will cease, or what part of the body may become the seat of the tertiary lesions; more especially is this true if the patient has not received sufficient or proper treatment.

The better known manifestations of the disease are the subjective symptoms, the primary lesions and the cutaneous eruptions.

These may be of such an unusual character that unless one has had considerable clinical experience, a mistake in diagnosis can easily be made.

No one can learn to diagnose the protean features of this disease from the study of pictures and text books, they must see the cases, and many of them.

In spite of all that has been written and said upon the subject of "syphilis insontium" many physicians still consider syphilis to be of strictly venereal origin and, consequently, a genito-urinary disease.

While the great majority of cases are the direct result of impure sexual intercourse, one should never lose sight of the fact that about four per cent. of male, and nearly ten per cent. of female cases begin with an extra-genital chancre, and these are, as a rule, innocently acquired.

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Just as soon as the syphilitic virus has gained entrance into the system, be it through a genital or digital chancre, it becomes a disorder of the general economy, and if its various phases and symptoms are recognized and understood, it can be as successfully treated by the general practitioner as by the specialist.

It should also be remembered that syphilis is no respecter of persons, for it may attack all whatever be their religious or social standing.

The most difficult phases of syphilis to diagnose are the late manifestations, and the obscure stigmata of heredity.

Often patients present themselves for treatment complaining of peculiar nervous phenomena, or some internal disturbance, and, although the physician may shrewdly surmise that syphilis is the foundation of the trouble, he is unable to obtain any history or clue to a specific infection; this is not due to lack of skill on the physician's part, nor to untruthfulness of the patient, for when a patient is suffering from a late manifestation of the disease he is usually more than willing to help the physician in the matter of history. The fact really is that either the primary or secondary lesions were so insignificant or the physician who was previously consulted treated the early symptoms so slightingly, that the patient was not sufficiently impressed with the gravity of the disease. Therefore, when patients tell you they have never had syphilis, they are saying what they honestly think is true.

The manifestations of inherited syphilis even "unto the third and fourth generation" are exceedingly difficult to understand and correctly diagnose. If the physician could know the family history, of all of his patients for four generations, it is certain that the task of curing many obscure diseases, especially those of the skin, would be greatly accelerated.

There are certain cutaneous manifestations in the progeny of syphilitics, that, while they are apparently simple dermatoses, bear to the trained eye the indelible stamp of lues.

After the diagnosis of syphilis has been made from the symptoms and clinical appearance, one should make assurance doubly sure, by hunting for the spirochœta pallida. Then he should examine the condition of every organ of the body, see if the heart is normal, if the kidneys and liver are properly performing their functions, and if there is perfect metabolism. If your patient is intemperate in eating or drinking, regulate the diet, and either absolutely prohibit the drinking of intoxicants, or in habitual drinkers reduce the amount within safe limits.

It is best to stop the use of tobacco, for it is more apt to produce cardiac disorders if the patient has syphilis than if he has not, and the mouth can not be kept in as hygenic condition if tobacco is indulged in.

The physician should, himself, carefully inspect the mouth and send the patient to a competent dentist to have any cavity or dental disease attended to, before there are any syphilitic manifestations visible in the throat or mouth.

The patient should be frankly told that the disease is of a grave nature and one that will require careful handling and that the treatment must necessarily be protracted, often for four or five years, and that the best results can only be obtained by his hearty co-operation.

The question of complete cure should be answered with great caution, for, while the syphilitic may procreate, apparently, healthy progeny, and he himself may go for years without any symptoms of syphilis, yet late in life may he become the victim of some of the late manifestations; and his children, as they approach adolescence may show some signs of the inherited disease.

The best way to answer the question is to tell the patient that if he is properly and thoroughly treated the chances are that he will remain well and that it will be safe for him to marry and beget children, but he should also be advised to take a course of anti-syphilitic treatment for a period of at least three months before the contemplated marriage, even though he has had no symptoms for over two years.

The interval between the chancre, and the appearance of the cutaneous eruption should be utilized in putting the patient in as healthy a condition as possible, so that he will be able to better resist the later symptoms of the disease; he should be frequently seen, and a careful record of his temperature kept, for much can be learned at this time regarding his general condition and powers of resistance.

In considering the treatment of syphilis the first question that is raised is, can syphilis be aborted? Theoretically, one might assume that it could, but statistics and experience have proven that this assumption is not correct.

Injections of mercury around the chancre have not prevented the disease from becoming general; early excision of the primary induration has not succeeded in inhibiting the after symptoms in a sufficient number of cases to justify this surgical procedure; still, if the chancre is so situated that it can be removed without too much loss of tissue it is perhaps wise to operate. not because we expect to abort the disease, but to give our patient the benefit of the doubt.

Cauterization of the primary sore does not abort the disease and should never be resorted to unless there are bacteriological evidences that the ulcer is the result of mixed infection.

At one time it was the custom to institute specific treatment just as soon as the primary sore appeared, and it often happened that a patient was put upon a long and tedious course of medication for nothing more dangerous than a herpes preputialis.

As a result of this and other mistakes syphilographers have insisted that all special treatment be withheld from the suspected syphilitic until the tentative diagnosis, derived from the clinical

appearance of the primary ulcer be made positive by the outbreak of the secondary eruption.

At present if one is possessed of the requisite skill to demonstrate the presence of the spirochœta in the suspected primary lesion it may become the duty of the physician to put his patient, at once, upon anti-syphilitics, not necessarily with the intention of aborting the disease, but so to inhibit and control the further development of the syphilitic organism as to prepare the system to throw off the disease. The accumulating evidence of the utility of the Wassermann test may eventually lead us to accurately gauge the benefit the patient is receiving from treatment.

While at present we are unable to say that syphilis can be aborted, there are certain drugs that, if properly administered, can so modify the disease as to render it harmless and in many instances, absolutely cure it.

The drugs that have withstood the test of time and experiment are mercury, arsenic and the iodides. Mercury is the drug that cures the disease, and the iodides act as eliminatives; arsenic has long been recognized as a useful drug in the treatment of syphilis, but only until very recently has any especial effect other than tonic been ascribed to it. Since the discovery of the spirochœta, many observers have been experimenting with various new preparations of arsenic, and some claim that the curative effect of this drug is equal, if not superior to mercury. While it is too early to predict whether arsenic will supersede mercury in the treatment of syphilis, we do know that, if arsenic is combined with mercury or the iodides, the mixed treatment immediately becomes more potent.

It has been demonstrated that mercury alone can, and does, cure syphilis, no matter how severe, nor in what stage, consequently, some preparation of mercury administered in some way should be employed in all of the stages of the disease; while the iodides should be reserved for the tertiary period, or when there are evidences of syphilitic new growths in some important organ or structure.

It must be remembered that it is bad therapeutics to give the iodides early in the course of the disease, that is at the beginning of or during the secondary period. A notable exception to this rule is in the treatment of those obstinate throat lesions sometimes encountered in the secondary stage, here a short course of iodides will hasten and perfect a cure of this troublesome complication.

When the iodides are once commenced the patient should receive tonics as iron and nux vomica to counteract the bad constitutional effect. Iodides should not be given with the meals, preferably from one to one and one half hours after or before eating. I have found that, if the saturated solution is given in milk it is not so apt to cause gastric disturbances, as when given in some other vechicle.

Little or nothing can be expected from mixed treatment tablets, supposed to contain one or more of the iodides, and they are mentioned here simply to condemn them.

The dose of iodides, meaning the iodide of potassium, which is the most reliable and the one commonly used, has to be regulated somewhat, according to the needs of the individual case; it is of doubtful advantage to give large doses as a routine, just as good, if not better results, can be procured from medium-sized doses, as from the exceedingly large ones recommended by some.

One should never lose sight of the fact that the mercury given at the same time is the real curative agent, and that the iodide aids and intensifies the action of the necurial.

There is no therapeutic objection to giving the iodides combined in one prescription, with mercury, some form of iron, like the iodide of iron, and a vegetable tonic; in fact, I have time and time again seen results obtained from such a combination that failed to materialize when each drug was given separately.

Because of its therapeutic importance, the consideration of mercury is taken up last.

The modern methods of administering mercury are by the mouth (internal), injection, inunction and fumigation.

Almost every syphilographer has a preference for some special preparation of the drug and method of administration, the choice is largely influenced by individual experience; before one can lay down any arbitrary rule regarding preparation or mode of administering, all the circumstances and conditions surrounding each individual patient must be considered and carefully weighed.

Administering mercury by the mouth is the method commonly employed by the majority of practitioners, especially is this true of our English confreres. The preparations used range all the way from metallic mercury to the newer preparations with French or German proprietory names, but the one most commonly used is the protoiodide.

While ingestion has been in vogue for many years and undoubtedly good results have been obtained there are objections to this method that should be carefully considered before deciding upon this plan of treatment.

Mercury by ingestion is very apt to produce gastric and intestinal disturbances, as loss of appetite and diarrhœa, the danger of stomatitis is greater by this method, for there is often an accumulative effect, and the patient suddenly becomes salivated, and although the drug is discontinued we are unable to remove the effect rapidly enough to prevent a certain amount of poisoning that may continue for some time.

It must be remembered that pills and tablets of mercury, even when procured from the most reliable manufacturers are often insoluble or dissolve very slowly in the intestinal tract, and that

the patient who is taking them is in danger of poisoning from a sudden liberation of the drug.

The advantages of this method are simplicity, the patient can always have the pills with him, and take them at the specified time; secrecy; and it is the only method possible where the occupation is such as to preclude frequent visits to the physician.

The dose of mercury that can be given by the mouth depends a great deal upon the individual case. A man can take a larger quantity than a woman. Sometimes it is better to give one full-sized dose only once a day, preferably with the heaviest meal; again good results can be obtained by dividing the ordinary dose into three pills, one of these to be given at each meal; if there is no counterindication the best time to give the mercurial is just before or just after eating, but if there are symptoms of gastric intolerance it is well to give the dose during meals.

It would seem needless to warn against the routine use of opium to counteract the laxative effect of the mercury. The giving of opium to a syphilitic for a long period is not without danger of producing the opium habit.

*Fumigation*—Mercurial fumigations have been practised since the sixteenth century, and for a long time were considered the ideal way of treating syphilis. It is now rarely resorted to, except when the disease is very malignant or where there is involvement of an important organ, or if the skin and gastro-intestinal tract are peculiarly susceptible; moreover, it is rather difficult to carry out this method at home and it is therefore only available in hospitals.

*Inunctions*—This is the oldest of all methods and is still resorted to by syphilographers of all countries, especially the Germans.

It consists of rubbing into the skin a certain amount of blue ointment (Unguentum Hydrag. dil. U. S. P.) or an ointment composed of equal parts of the official mercurial ointment and cold cream.

The amount required for one inunction is about one drachm. It is better to begin with a small amount, and increase the dose until the point of tolerance is reached; the inunctions are made daily for a week or more, followed by an interval of rest. The patient should receive a warm bath before the ointment is rubbed in and the part to be inuncted should be thoroughly washed with soap and water, and carbolic solution and finally wiped off with alcohol to remove the natural oil.

The patient to be inuncted should be in a warm room, and, if possible, should be seated in front of an open fire, or radiator; the rubbing should be done gently and firmly, care being taken not to injure the skin, and should last from twenty to thirty minutes; the parts should not be rubbed twice in one place in succession. The regions usually selected are where the skin is soft and thin and non-hairy, as, for instance, the inner side of the thigh, the arms and trunk. If the skin is thin and sensitive the inunctions may be made on the soles of the feet.

By selecting six or more parts it takes about a week to get around to the original spot.

The mercury enters the system by absorption through the skin and "through the lungs by the inhalation of the fumes of the mercury which is volatilized by the friction, and the warmth of the body."

The chief objections to inunctions are, that they are a dirty, repugnant and compromising method, and one that can not be used with female patients; while the dangers of stomatitis are considerably lessened when inunctions are used, if it does occur it is more violent and general.

In spite of the objections there are certain strong indications in favor of the inunction method. It is of undoubted value in severe cases of syphilis, when the integrity of some vital or important organ is threatened; in cases that have proved refractory to other methods; when the condition of the gastro-intestinal tract will not permit giving the drug by the mouth; or if, for any reason, it is desired to leave the stomach free for the administration of other drugs; this method exerts a peculiarly curative effect upon the tertiary lesions of the tongue (glossitis); it is the easiest and most satisfactory way of administering mercury to infants and young children; and, above all, the medication can be stopped almost instantly when stomatitis or gastro-intestinal disturbances become manifest.

If the inunction is properly done and a finely prepared ointment is used there is little fear of soiling the skin or clothing, and if alternate and non-hairy spots are chosen for the daily application, dermatitis can generally be avoided.

The claim that this method is only suitable for men is hardly true, for all who have had experience with inunctions have had women among their clientele.

*Intermuscular injection*—The administration of mercury by intermuscular injections has gradually grown in favor, therefore, the technic of the method and the advantages claimed for the soluble or insoluble salts will be briefly reviewed.

The injections must be made under strictly antiseptic precautions and the needle must penetrate deep into the muscle, preferably the fleshy part of the buttocks. Deep injections do not cause as much pain and lessen the danger of abscess and gangrene which sometimes occur when the needle only penetrates subcutaneously.

A glass hypodermic syringe should be used with a needle from two to two and a half inches long and of large calibre.

The injecting is in three stages; first, insert the needle deep into the muscle and observe if any blood comes up, if it does it indicates the needle is in an artery; if no blood appears attach an empty syringe and make slight suction; if blood wells up into the barrel it shows that the needle is in a vein; these two precautions will prevent embolism. When the operator is satis-

fied that the needle is properly placed, attach the filled syringe, inject the fluid very slowly, withdraw the needle and gently. but thoroughly, massage the part. Alternate sides should be selected for each injection.

The soluble mercurial salts that are generally used are the bichloride, benzoate and biniodide, the advantages of these over the insoluble preparations are the rapidity with which the patient can be brought under the influence of the drug, and if the condition of the patient is grave the medical attendant can watch the action of the drug each day. The disadvantages are the injections must be made daily, they are more or less painful, even when intermuscular, and the pain is cumulative, and in spite of many examples to the contrary the soluble salts do not always produce the rapid result desired.

The chief insoluble preparations are the gray oil, calomel and the salicylate of mercury. The latter, however, can hardly be classed with the other two, for it is feebly soluble and therefore more readily absorbed.*

The usual way of administering the salicylate is to suspend it in sterilized oil or liquid alboline. The advantages claimed for the insoluble salts are infrequency of administration, if gray oil or calomel are used the injections need only be made once in a week or two. If the salicylate in doses of from one-eighth to one-quarter grain the injections are made every third or fourth day, or if a rapid effect is desired, one-half grain, or even one grain or more can safely be used daily, for three or four successive days.

It would seem that the uniform good results and the growing favor that salicylate obtains is due to the fact that it is soluble in an alkaline medium, and when it is injected into the muscle it is dissolved by the alkaline juices and is more or less readily dissolved and quickly absorbed.

It is claimed that small reservoirs of the insoluble salts are formed in the muscles and that the mercury is constantly released by the chemical action of the body juices.

Owing to the improved technic and greater knowledge the danger of abscesses, gangrene and embolism is greatly lessened, still these accidents do sometimes occur, and therefore they become the disadvantages of this method.

In spite of the supposed chemical action it is almost impossible to know how much mercury is absorbed, and when symptoms of mercurial poisoning does appear it is difficult to limit its action.

When the gray oil or calomel are used a firm tumor frequently forms at the point of injection, often remaining for an indefinite period, giving rise to discomfort, if not actual pain; these objections do not apply to the salicylate, probably because of its more ready absorption.

One of the secrets of the successful treatment of this disease obtained in the European baths is the care given to elimination especially by the skin, and anyone having a case of syphilis to treat will find the regular treatment double in efficacy if the patient is given weekly or biweekly Turkish or sulphur baths.

I have recently been able to test the efficacy of the three principal methods of administering mercury. One hundred and seventy-five patients in the dermatological ward of the Kings County Hospital were selected. One hundred and twenty-five in the secondary stage were divided into three groups; the patients of one group were given mercury by the mouth, the second were inuncted, and for the third, injections were used.

The patients were all males, and practically in the same physical condition as to resistance, etc. The disease was in about the same period, in the early secondary stage.

It was found that those receiving the drug by the mouth did not get under control as rapidly as those who were treated by the other methods.

It is very difficult to prevent stomatitis and gastro-intestinal symptoms, consequently, it was found necessary to discontinue treatment, in a number of cases, for varying lengths of time, and in four cases where eye complications developed the administration of the drug by the mouth had to be stopped and other methods instituted.

The disease was rapidly controlled in those who received injections, there were never any eye complications or gastric symptoms, only three developed stomatitis of an insignificant character, throat symptoms were infrequent and slight. The soluble salts (bichloride) were used in a few cases but were discontinued on account of the pain, insoluble (salicylate) were used in the majority of this group. There were no accidental complications, such as gangrene, abscess, embolism or dysentery, in any of the cases, but nearly all of the patients objected to the treatment on account of the pain, this varied in intensity according to the susceptibility and nervous make-up of the patient, and in some cases was cumulative.

Those that received inunctions did better generally than those treated by the other two methods, although five developed stomatitis. In three it was a mild type, in two it was very severe and general and continued in spite of the immediate withdrawal of the drug.

A careful study of the results in these cases has led to the conclusions that mercury administered by the mouth is unsatisfactory, that injections are apt to be painful, and that inunctions are safe and reliable and can be used just as satis-

* When this paper was read the above remark provoked considerable criticism and discussion, and to clear up this point for my own satisfaction I asked a manufacturing chemist about the solubility of salicylate; his answer is as follows: "There is but one salt of mercury salicylate, the labeling, 'Neutral' and 'Basic,' is due to a misunderstanding in the trade regarding its real composition, and this has, no doubt, been misleading and must naturally give the impression that they are distinctly different compounds. This salt is soluble in a solution of sodium chloride (normal salt solution) and dilute alkalies, but is comparatively insoluble in water or alcohol; the dispensatory says that it should be dissolved with an equal quantity of potassium bicarbonate and distilled water when desired for hypodermic use." Merck said the same thing. I verified the above by experiments in the chemical laboratory.

factorily as injections, and with less risk of complications and discomfort to the patient.

The remaining fifty cases were examples of tertiary syphilis, the lesions were all cutaneous; the patients were divided into two lots; the first twenty-five received mixed treatment by the mouth, the mixture was what Professor Sherwell calls the "orthodox", consisting of the bichloride of mercury, iodide of potassium, Donovan and Fowler's solution of arsenic, strychnia, syrup of the iodide of iron, syrup of sarsaparilla and water. The other twenty-five were given saturated solution of iodide of potassium by the mouth and injections of salicylate of mercury.

Those receiving the mixture containing arsenic improved much more rapidly than the other twenty-five.

While we are discussing the treatment of syphilis it is but proper to touch upon prophylaxis, "the best way to cure a disease is to prevent it."

The prevention of syphilis is still a Utopian dream, but much can be done to modify and eliminate its inheritance. If a physician knows that the wife of a man who has had syphilis is pregnant, it becomes his duty to treat the expectant mother for syphilis for at least three months before her delivery. By this treatment the chances of inheritance are lessened, and the new born is insured a foundation of good health.

Although this paper has already assumed lengthy proportions it has only touched upon the essential points of the treatment of syphilis, as it is understood to-day. The history of this disease is entering a new era, for, with the discovery of the spirochœta pallidum, and the blood test of Wassermann, our understanding and knowledge of this disease is undergoing a change, and one can venture to predict that the day is not far distant when the proper treatment of syphilis will be by serum.

## DISEASES AND CONDITIONS WHICH MAY BE MISTAKEN FOR APPENDICITIS.*

By WILLIAM CLARK WOOD, M.D.
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THIS article is not written from the standpoint of the surgeon or that of the strictly medical practitioner, but rather from a middle ground, where one can look over the errors likely to occur in both specialties.

For the last fifteen years the surgeon has been constantly endeavoring to impress upon the profession at large the fact that appendicitis is a surgical disease and should always be considered from that standpoint; that the decision as to whether in any given case operation should or should not be performed must rest on the surgeon's shoulders and also that it is most unfair to delay submitting a case of abdominal trouble to the surgeon until the case becomes a forlorn hope or the morbid processes have reached such a point that operation may save life but can not restore health.

On the other hand, a few medical men insist that they have cured appendicitis by strictly medical means and that there is too much operating. They can see that the results of appendicitis are surgical but object to removing the appendix before it has involved the general abdomen and assume when operation is performed before gangrene a rupture of the appendix has taken place, it is unnecessary. Again, because a patient who has pain and tenderness on the right side of the abdomen does not always have a fatal peritonitis that appendicitis is not always serious.

For the proper clearing up of the subject it is therefore necessary that we should perfect ourselves in diagnosis until we can *be sure,* before we either perform or decline to have performed an operation. For so long as man is fallible, so long are mistakes in diagnosis liable to occur.

The mistakes in diagnosing appendicitis are three-fold from a surgical standpoint: first, those in which other surgical diseases exist and operation is warranted or required, the only evil that may result is to the reputation of the operator who has said the patient had appendicitis and finds instead, maybe a suppurating disease of the Fallopian tube or an empyema of the gall bladder. The surgeon in this case may be discredited in the eyes of the laity or even of his consultant but the patient is benefited; secondly, errors in diagnosing the existence of surgical disease when the patient has no such disease and an operation adds to his danger; thirdly, failure to diagnose the existence of surgical disease and the consequent jeopardising of the patient's life by failing to give him the relief that could be afforded by opening the abdomen.

Ordinarily, one may say that a patient who has pain, tenderness, and rigidity over McBurney's point is suffering from appendicitis, or at least, with those three symptoms presenting, either with or without fever it is our duty to suspect that such is the case and not to rest satisfied until the condition is made claer and a positive diagnosis arrived at. At any rate, to be sure whether it is our duty to submit the determination of the case to a competent surgeon.

But are there not non-surgical diseases that may for a time at least simulate the onset of an attack of appendicitis? There certainly are, and I purpose to enumerate some of them, for in these cases operation would be disastrous:

First, pleurisy and pneumonia; in these diseases we have pain, limited respiration, rigidity of abdominal muscles, reflected tenderness, fever, and often gastric disturbances with depression of vital forces, so that in some cases, and most often in children, our attention is directed to the abdomen and not to the chest. The reverse is also true; the reflected pains are in the chest, and

* Read before the Fourth District Branch of the Medical Society of the State of New York at Amsterdam, N. Y., October 13, 1908.

in one of my cases, both medical attendant and patient had made the diagnosis of pleurisy.

Therefore, both surgeon and medical attendant should examine chest as well as abdomen as a matter of routine; again, you may have the two diseases co-existing.

Typhoid fever is another disease that may confuse or co-exist, but I fear that there is more appendicitis diagnosed as typhoid than the reverse and in the olden days no doubt that many of the cases of so-called malignant typhoid with perforation were really cases of ruptured appendix or else a mild type of recurrent appendicitis which, recovering in a few days, led the family to believe, and even fooled the attendant into the belief that he had broken up a run of fever.

I have often operated where the patient gave a history of having had a mild run of fever a year or so previously, but in which some of the marked symptoms of typhoid were lacking; the operation, however, disclosed the presence of old adhesions about the appendix. Again, I once operated on a twelve-year-old girl who had a markedly diseased appendix but who went on with a continued fever of a typhoid character, had the typical eruption, diarrhea and nosebleed.

If in this case no operation had been performed, the patient would most certainly have died and the diagnosis would have been typhoid with perforation.

The passage of a calculus through the right ureter, the presence of a large amount of uric acid or oxalate of lime crystals in the urine may give rise to symptoms simulating chronic appendicitis, and I have in mind a case in which I diagnosed renal colic, but an eminent surgeon disagreed and removed the appendix. Three months later she passed a fair-sized stone.

In women, ovarian disease or even congestion of the pelvic organs may confuse, and, when as sometimes occurs, there are adhesions of the appendix to the ovary the case may present the symptoms of appendicitis at one hour and at another they may be absent, according to the occupation of the patient and disturbances of the menstrual function. In two cases with confusing symptoms I found segments of tape worm in the appendix.

Floating kidneys sometimes confuse the diagnosis and at the same time often accompanies chronic inflammation of the appendix.

I think the combination of neurasthenia, intestinal indigestion, floating kidney and chronic inflammation of the appendix, with or without a retroversion of the uterus and menstrual disturbances is not uncommon and such patients are put to bed and starved because a diagnosis of gastric ulcer is made; they are stimulated or sedativised for their neurasthenia, physicked and peptonised for their digestive organs and tamponed and douched for their uterine troubles to no avail.

In such cases removal of the appendix is the first step towards a cure, and lest both doctor and surgeon get too easily discouraged, they must remember it is but the first step.

Even so common a disease as tonsilitis coming on alone or in connection with the grip may simulate, on account of its rheumatic soreness, appendicitis. The symptoms of accute indigestion and chronic intestinal indigestion may be mistaken for appendicitis though it is much more common for acute and chronic disease of the appendix to be diagnosed indigestion until too late for conservative surgery; for, be it known that surgery that waits and delays while disease progresses, cripples and ofttimes kills, is not conservative surgery but negligent medicine!

I have not thought to go into the matter of differential diagnosis, for that would be to write a volume on the practice of medicine, but have simply tried to call attention to the need of exactness in diagnosis and the wisdom of early division of responsibilities between surgeon and physician.

For I can not too forcibly insist that there is no more justification in continuing to treat without surgical council appendicitis than there is to treat strangulated hernia or fracture along strictly medical lines.

The diseases of the abdomen, surgical in their nature, which may be mistaken for appendicitis include all which are not positively differentiated by gross physical characteristics, like large tumors, and error here is likely to work harm to the patient only by causing operation to be done at an inopportune time or place, and, as I said before, harm the surgeon by casting doubts on his ability to make a correct diagnosis, and even then it may be the patient is benefited by being hurried into consenting to have an operation performed that would otherwise have been postponed too long.

The most common error is the failure to differentiate between appendicitis and right-sided pelvic disease and there is scarcely a surgeon who has not operated for appendicitis and found a pus tube, an extra uterine pregnancy or a small cyst with a twisted pedicle, and while such a mistake may have reflected upon his ability as a diagnostician, it has most likely saved a life.

It is but lately I was called to see a patient who had awakened in the early hours of the morning with pain, nausea, tenderness and rigidity, sub-normal temperature and partial collapse. The picture of appendicitis was typical and only a knowledge of the patient's habits and history caused me to hedge and suggest that while the symptoms were those of appendicitis, there was a possibility of a rupture of the Fallopian tube.

Operation showed a healthy appendix and a large quantity of free pus in the abdomen with a ruptured tube.

After all, when we have excluded purely medical conditions, the question to be decided is between immediate and postponed exploration for the exact conditions can not always be diag-

nosed and careful aseptic exploration is comparatively safe.

I have in my limited surgical experience seen such diseases as tubercular peritonitis, tubercular disease of glands about the cecum and strangulation from bands of adhesion simulate the symptoms of appendicitis. Operation, while it disclosed the uncertainty of diagnosis, undoubtedly saved the patients.

In one case I found an enlarged diverticulum of the intestine inflamed and almost on the point of ulceration and rupture, the removal of which cured the patient but puzzled the surgeon mightily to know just where and what he was at.

The lessons which this paper would teach, are: First, be sure you have a surgical disease before advising operation. Second, be sure and hedge in your diagnosis enough not to discredit surgery. Third, be prepared to deal with what you find, and, Fourth and mostly, be honest with yourself, your patient and your consultant and ask, and honestly answer this question in each case: Would I, knowing what I do, under similar circumstances, want an operation performed upon myself?

## THE CRY OF THE UNBORN.

By IRVING D. STEINHARDT, M.D.
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MOST unfortunately for the future of our own nation and of civilization at large, the cry of the unborn could be a mighty and very just uproar against very many things we allow in our daily life, which at the very beginning of their lives, will be detrimental to the welfare of the little ones who are to come into this world in the natural course of events; but in this paper, I shall limit myself to voicing a protest against blindness—that particular kind of blindness that can be prevented by moral prophylaxis and by medical prophylaxis both of which concern us as true physicians looking forward, not only to treat disease, but to prevent it by education of the laity; to remove the causes which foster disease and to recognize and treat it when it exists. It is a not very creditable fact that some children are not only blind because of the immorality of one or both parents before or after marriage, but also through the fact of the attending physician who has neglected to make use of what his medical education has taught him to be preventative against destruction of the eyesight in such cases, before and after the birth of the child. In this paper I shall deal only with ophthalmia neonatorum; probably later, in other papers, I shall call to your attention other causes for complaint that the unborn have which can and should be corrected, both for the benefit of the little innocents for whose being we are responsible and for the future of our civilization.

Ophthalmia neonatorum, sometimes called infantile purulent conjunctivitis, is an acute purulent conjunctivitis, which statistics show to be responsible for from 25 to 30 per cent. of all the blindness in the world to-day. Certainly a terrible indictment against the lax methods in vogue to-day, when thirty blind persons out of every one hundred could have been saved from this "dreadful eternal darkness" and were not.

*Etiology.*—The predisposing causes of ophthalmia neonatorum are gonorrheal pus in the birth canal during delivery, with direct infection of the eyes of the child as it is being born, or indirect infection during or after delivery, from the hands of the physician or attendants, instruments, towels, dressing, etc., which have become contaminated with the purulent gonorrheal pus.

*Bacteriology.*—The gonococcus of Neisser alone, or in conjunction with other pyogenic germs, can usually be demonstrated, but with the characteristic symptoms of this disease, even the failure to find it should not interfere with the immediate proper treatment.

*Bacteriologic Test.*—A very simple way to prepare smears for microscopic examination is as follows: On a sterile platinum loop get a little of the pus and spread this in a very thin layer on a clean glass slide. As soon as it is dry pass the glass slide through the flame several times to prevent any danger of infection. Now drop on this smear a few drops of a watery methyl blue solution allowing the same to remain but a few minutes. Wash off the surplus stain and allow to dry. When dry examine with an oil immersion lens. It is also worthy of note that the gonococcus is negative to the Gram stain and will take the Bismarck brown and carbol-fuchsin stain. The gonococcus of Neisser is a diplococcus varying in size from .8 micromillimeters to 1.6 micromillimeters as to length, and from .5 micromillimeters to .9 micromillimeters in breadth. It always occurs in pairs or some multiple of two, with its flat or inner border in apposition to its neighbor. The shape of the gonococcus has been variously described as biscuit shaped, kidney shaped, and coffee berry shaped.

*Symptoms.*—While the early symptoms of this disease may be almost immediately apparent, they are markedly noticeable from the second to the fifth day after birth, usually on the second or third. Some authors claim that if the symptoms do not manifest themselves until after the fourth day, it indicates that the infection has taken place after delivery. Both eyes are usually involved. If not, extra precautions should be taken to prevent the extension of the infection to the eye that escaped it. Fortunately, in most cases, the symptoms are limited to the palpebral and

retrotarsal conjunctiva. The cornea is involved in a certain number of cases, and these are the most serious ones, although with immediate proper treatment, it may escape altogether or with very slight injury to it. The first signs are redness and a beginning edema of the lids, the latter increasing so markedly that it becomes a difficult matter to keep the lids from adhering together which is a very important thing to do. The conjunctiva of the lids becomes very much swollen and congested. The exudation of a large amount of inflammatory products in the loose connective tissue causes a granular and uneven surface. The extension of this process to the conjunctiva of the eyeball, causes it to become involved, and the swollen condition which results, is known as chemosis. In a few days from the appearance of the initial symptoms, a discharge appears, which is usually serous in nature, but may be tinged with blood. This soon changes to a pure secretion of pus, and with this comes a slight lessening of the original redness, swelling and edema. If the cornea now becomes involved, the prognosis is very grave and with its destruction, blindness of course becomes inevitable.

The appearance of a dullness and cloudiness involving any or all parts of the corneal surface, is the first sign that the disease has spread to this important part. If unchecked, this involved part becomes grayish in color from the infiltration that has taken place, turning later to a yellowish tinge with ulcerations. These ulcers may or may not perforate into the anterior chamber of the eye. If this ulceration forms the so-called annular abscess which is an infiltration and consequent ulceration around the entire margin of the cornea, the outlook is extremely grave, as destruction of the cornea in whole or in a large part of it will result, and blindness will supervene. In favorable cases, all the symptoms gradually subside and in three or four weeks, athough in many cases not until twice that time has elapsed, the baby's eyes have become normal.

*Diagnosis.*—It is advisable, I believe, to take no chances and treat as gonorrheal, all eye discharges in the newborn, until they are proved not to be so. No harm can result from following this course, whereas delay in treating the genuine disease may mean entire loss of sight to the child. With the usual initial symptoms of redness, swelling and edema of the eyelids occurring from two to five days after birth, one should not hesitate in deciding on his diagnosis, and with the beginning purulent discharge it is impossible to be mistaken. Also demonstration of the gonococcus of Neisser is conclusive evidence.

*Prognosis.*—With prompt, proper and careful treatment after a reasonably early diagnosis, the outlook is good, but with every hour, one might say with every minute in fact, that the proper treatment is delayed, just so much graver becomes the outlook; therefore the importance of prompt action of the right kind, can not be emphasized too much, or ever estimated in its value to the patient. It is what we do, and how quick we do it, that helps in making the prognosis good or bad.

*Moral Prophylaxis.*—Slowly but surely the time is arriving when the venereal diseases will be fought against as vigorously, and as steadily as to-day both the laity and the medical profession at large are fighting against tuberculosis. And it should be so for these diseases in their immediate and future results certainly cause more mental and physical suffering than tuberculosis does, and are probably the underlying indirect cause of as many deaths. Certainly tuberculosis does not wreck homes and happiness, add to the number of divorce suits and increase the population of our insane asylums. Every medical man knows that the different venereal diseases do all of these things. The laity must be educated out of the false ideas that there is such a thing properly, as a double standard of morals. That a man may indulge before marriage in the sexual relation when, where and with whom he will and yet be considered a proper party for marriage to a good, pure and respectable girl. That this indulgence is necessary to the good health of the man. (Every medical man should denounce most emphatically this lie whenever he meets it.) That a man may properly expose himself to the various diseases liable to be contracted in illegitimate intercourse, in fact may contract them and still offer himself, without fear of being violently illtreated, as a suitor for the hand of a decent woman. We must educate our girls to look for and to demand the same purity and abstinence in the male sex as that sex demands of them. And even at the present time to be assured through inquiries of their fathers, brothers or other male relatives that the man they are going to, pure, undefiled and good, is at least free of active or chronic venereal diseases as a result of past immoral practices. Already too many victims of this vicious double standard of morality have been offered up as sacrifices to it on the operating tables of the gynecologists as they can tell you with records showing that about 75 per cent. of female troubles are due to innocently contracted venereal disease. Let us educate our male population not only by word of mouth, but by actual example, as to the real sacredness of the marriage relation. That it is something to be respected and to be considered a holy act and to go through it merely to satisfy an animal heat or animal passion, for that is what it really is when there is no real love existing, is to commit a most unpardonable sin against God and mankind. Educate our growing boys to look upon the

opposite sex as their especial charges to be respected and protected as they would respect and protect their mothers and sisters. Teach them the nobleness of purity in the male sex as well as in the female sex. Show them the advantages of personal purity as against the great risk of immediate and future diseases from consort with immoral women; diseases which may ruin their own life, the life of the future wife and of their future children. Endeavor to convince these that employ, that starvation wages tend to produce immorality by preventing men from marrying, who would like to be settled down in their own little homes. And so long as we are tolerating the "social evil" in our midst at present, let us at least regulate it, so that diseased women cannot ply their unspeakable calling, by exacting registration and frequent medical examination. So that the display of vice shall not be everywhere in our midst; let it be segregated to restricted spots and let those found in that district, whether male or female, receive the social ostracism that the gradual education of the laity against this vice will gradually entail.

*Medical Prophylaxis.*—As it will take some time to eradicate the social evil or even perhaps to regulate it in such a way as to lessen its evil effects on the human race, the medical preventative measures against ophthalmia neonatorum are all important. What shall they be?

*First.*—The agitation for the passage of laws requiring the filing of health certificates by persons desiring to marry, given to reputable physicians and sworn to by them, certifying that the person mentioned therein has upon medical examination been found to be free from all signs of active or chronic venereal diseases. This certificate shall be required of both males and females alike. To prevent deceit, a physician who for cause refuses to give such a certificate shall immediately notify the proper authorities stating in his report his reason for refusal. Then if a certificate shall come in within too short a time to admit of rational treatment for the cure of the reported existing condition, the proper authorities shall cause an examination to be made by their own physician to see if this later certificate is justified. A physician who wilfully gives a false certificate shall be adjudged guilty of being unfit to be allowed to continue longer the practice of his profession, and shall have his license revoked.

*Second.*—All midwives in the pursuit of their calling shall be forced by law to take prophylactic measures against blindness in every child they deliver immediately after birth, and must make an affidavit to this fact to be attached to the birth certificate of the child. They should state in this certificate what these measures were. All midwives should be registered with the local health authorities who should be compelled to furnish the aforementioned midwives printed directions necessary for the carrying out of prophylactic measures. It might even be advisable to apply such a law to doctors also.

*Third.*—The physician under whose care there shall come to be patients suffering from gonorrheal infection in either the acute or chronic form, shall explain to these patients the dangers to themselves in the present and future, to their future wife or husband and offspring also, of allowing their condition to go untreated or of abandoning treatment before being entirely cured—and then the physician himself must treat the case properly to bring about a cure, or if he fails, he must be honest with his patient and tell of his failure, recommending the patient to another doctor whose skill, in this particular disease is greater than his own. Don't let patients leave your office imagining themselves cured when you know that such is not the case. Remember that almost every case of chronic gonorrheal infection is a reproach to the physician who treated it in the acute stage and shows incompetency on his part so far as his therapeutics of this disease goes. While not commendable to be unable to properly treat an acute case of gonorrhea, it is criminal to allow patients to think themselves cured when they are still infected, and to let them go forth to spread the disease.

*Fourth.*—When the physician is called upon to examine a woman, and in the course of his examination finds that she has a gonorrheal discharge, he shall insist upon this patient taking a thorough course of treatment for her condition and especially so if she is pregnant. He should consider in his own mind at least, all suspicious looking discharges as gonorrheal, particularly if there is any evidence of the sexual relation ever having taken place, until he can prove them to be different.

*Fifth.*—The physician in attendance on a pregnant woman with a discharge which he regards as suspicious, besides simple cleansing douches daily, shall from time to time, himself give antiseptic douches, and in the final two weeks, the well known obstetrician, Dr. Edgar, recommends that the maternal passages be given two douches daily in this class of case, one of a mild alkaline solution and another of bichloride of mercury 1.5000. He also recommends that when delivery begins, that a douche of a one per cent. lysol solution be given to act as a lubricant in the vagina to take the place of the normal lubricant washed out in the douching.

*Sixth.*—Just as a physician should regard every vaginal discharge as suspicious, so should he look upon every eye discharge in the newborn, as a case of ophthalmia neonatorum until he can demonstrate it to be other-

wise, and prophylaxis here, is very important. The Crede method of prevention is to clean the eyes of the child with sterile water immediately after birth, and instil into each eye one or two drops of a two per cent. solution of silver nitrate.

*Seventh.*—Whether or not there is an eye discharge at birth take no chances, but treat the eyes of all children with a silver nitrate solution, or a solution of one of the newer silver salts.

*Treatment.*—Get a good ophthalmologist when you can and get him early. If you can't, and must treat the case yourself, use cold compresses and antisepsis. The lids and conjunctiva must be kept clean of pus and prevented from sticking together. Antiseptics must be applied to them frequently. In the beginning and before the discharge becomes purulent, ice compresses must be applied almost continuously for several hours a day. Also several times during the day, the eyes must be washed out with antiseptic solution. Various ones recommended by different authorities are: Saturated solution of boric acid; 1.2000 potassium permanganate; and 1.10000 bichloride of mercury. These washings should be sufficiently numerous enough to keep the eyes clear of discharge, so that the lids will not stick together. When redness and swelling begin to diminish and the discharge grows less profuse, start daily instillations of two per cent. silver nitrate solution which must be continued until the papillary swelling subsides. "In cases of corneal infiltration, cold compresses must not be used too continuously for fear of injuring the cornea" (May). In the declining stage, soothing washes may be applied. In case only one eye is involved measures should be taken to protect the other eye, and also precautions should be taken to burn all dressings and to boil all instruments used near the infected eyes to prevent contamination in others.

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## TUBERCULIN DIAGNOSIS OF BONE AND JOINT TUBERCULOSIS.

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### Introductory.

BONE tuberculosis is recognized as being far reaching in its results in the production of more or less marked deformity; in the lessening of earning capacity, whether temporary or permanent, and in the production of tuberculous meningitis and consequent death.

The study of hospital statistics discloses the fact that three-quarters of the indigent crippled and deformed children have tuberculous lesions of bones and joints. The danger to life is direct and indirect and this varies greatly with the part that is affected and with the age of the patient.

The most direct and constant danger is from prolonged suppuration that follows septic infection, such infection resulting when a tuberculous abscess has opened spontaneously or when it has been incised, and it occasionally occurs before a communication with the exterior has been established.

The indirect danger of tuberculous disease of bone is its dissemination to more important organs (Whitman). It is very probable that most cases are secondary to some primary, usually insignificant focus elsewhere in the body. It may safely be assumed that tuberculosis of the bronchial and mesenteric lymph nodes, especially the former, is not uncommon in individuals of apparently perfect health as it is often found at autopsy in those dying from other causes. This latent tuberculosis is presumably the kind that precedes the local disturbance in the bone or joint.

"Tuberculin for diagnostic purposes, commonly used in Germany, feared in England and France, has been but little used in this country, except in cattle, prior to 1906" (Brown).

Koch, the discoverer of the tubercle bacillus, first introduced tuberculin in 1890.

In this country Halsted, of Baltimore, was one of the first men to make use of it for the detection of bone tuberculosis. This was over a decade ago. Trudeau and Brown, of Saranac, have used it for a long period, very largely, however, in cases with pulmonary lesions. Ochsner, of Chicago, has used it extensively. During the past year or two medical journals have revealed a wealth of articles, many of them incomplete, pertaining to the detection of pulmonary tuberculosis by the use of tuberculin administered either subcutaneously, cutaneously or ocularly. The cutaneous and ocular or conjunctival methods were discovered in the spring of 1907.

A careful search of pathologic literature shows very little space given up to the diagnosis of bone and joint tuberculosis by similar means.

This is doubtless due to the fact that phthisis pulmonalis by reason of its just claims to the title of the Great White Plague has so concentrated the energies and time of most workers as to permit of little effort on a subject of lesser importance.

It is the aim of this paper to give in detail as briefly as possible the results accruing from a study of 300 consecutive cases of suspicious bone and joint disease tested by the subcutaneous method, to speak in a comparative way of the other means of administration and to touch in passing upon the value of early diagnosis.

The cases were in the service of Dr. A. W. Elting, of Albany, N. Y., to whom I am indebted for the records.

*The Cases (a) Distribution.*

As has been intimated the cases were non-selected; any case presenting a suspicious bone lesion was subjected to the test.

Most of the cases were those of involvement of bones of spine, hip, ankle, knee, elbow, shoulder and wrist. Their respective positions denoting their approximate relative frequency of distribution.

A few cases showed multiplicity of joint lesions and still fewer disease which was limited to shaft of bone.

*(b) Age.*

Most of the cases were in children.

The youngest child examined was 2 years old, the oldest adult 40; the average age 12-14 years.

Fully 90 per cent. of the cases revealed no evidence of pre- or co-existent disease of the lungs or of other internal organs.

*(c) Duration of Disease.*

Unfortunately for the patients quite a large number had had the diseased condition of joint for a period of from three months to a year and a half before admittance to hospital, during which time irreparable damage had resulted from improper treatment. About 30 per cent. of the cases were seen early, that is, within a month's time from onset of first symptoms and the results in the after treatment of these cases has been most satisfactory.

*Value of Early Diagnosis.*

In all diseases the question of early diagnosis is important, and particularly is this true in regard to bone and joint tuberculosis.

It is the consensus of opinion that a great deal can be done to cure tuberculosis involvement of bone with the minimum amount of deformity and lessened function if the cases are seen and diagnosed early and suitable treatment instituted.

To quote Ochsner: "If patients with joint tuberculosis come to the surgeon early enough, if they are placed under proper hygienic conditions, if suitable measures are adopted for the prevention of secondary infections, if the joints are perfectly immobilized for a sufficient length of time, and if vaccine therapy is instituted under control of the opsonic index, I believe that the great majority of patients will secure perfect or nearly perfect functional and anatomic results."

*Subcutaneous Test.*

The subcutaneous test has as a basis a temperature reaction. It is essential to the establishment of a satisfactory positive or negative diagnosis that the temperature be normal, or practically so, before making the injection. The temperature is taken every four hours, in some instances every two hours, for a period of twenty-four hours. This gives a good idea of the range of temperature, and if the temperature is normal late in the afternoon of the day fixed, eight (8) minims of tuberculin solution are injected subcutaneously, preferably in part of body rather remote from suspected area. The arm or leg is usually chosen.

*Reaction.*

If the case be tuberculous in nature, the temperature begins to rise in from four to ten hours, reaching its maximum eight to fourteen hours of 101 degrees, 102 degrees, 103 degrees F., occasionally a degree or two higher.

Accompanying this elevation of temperature are symptoms of general malaise, slight headache, occasionally nausea and vomiting. Increase of pain and discomfort in joint involved. Pulse is accelerated, skin of face flushed. Locally there are increased heat and tenderness, which can be demonstrated at height of general or systemic reaction.

Patients as a rule do not complain of the slight discomforts following the injection.

The temperature curve shows a gradual rise from normal for two or three degrees, although it may show a sharp rise in a relatively short period of time. All the symptoms subside in eighteen to twenty-four hours, and the patient is in no wise made worse by the injection.

Of all the symptoms enumerated above the rise in temperature to at least 101 degrees F. is the one on which a positive diagnosis is based.

Every case must be taken as a case by itself and each may differ from its fellow by some non-essential point, but the picture as presented stands as a type. The more acute the lesion the more prompt is the appearance of the reaction.

The reaction is so sensitive that it seems not improbable that in quite a considerable number of the cases only the active focus responded to its influence. Some cases did not develop temperature until sixteen, eighteen, and rarely twenty-four hours, thus constituting a delay or late reaction. The large majority of cases tuberculous in nature reacted under first injection.

It is usual, however, if no reaction is obtained, to wait twenty-four hours, and then on the afternoon of the third day to inject mxvi.

If no reaction follows it is presumably not a case of tuberculous bone disease, for the writer regards a negative reaction in a suspicious case of quite as much value in ruling it out as a positive reaction is of including it.

In this list of cases there have not been any positive cases where a number of negative reactions were subsequently followed by actual demonstration of the existence of the disease. There were about twenty-five cases that gave negative reactions and these were tested a number of times and most have been kept under observation since then.

*Puncture Reaction.*

Have spoken of the local and general reactions and now just a word in regard to puncture reaction. The puncture reaction is seen not infrequently. It consists in the appearance at and about the site of the injection of a red, tense, slightly œdematous, tender, painful swelling—in size not over the diameter of a half-dollar. There is no sense of fluctuation. The swelling makes its appearance in from three to ten hours after the injection, lasts from two to seven days, disappearing gradually.

It is the opinion of most observers that it has no special significance as a diagnostic factor.

*Ocular and Other Methods.*

Have used the ocular method in a few cases, found it satisfactory in acute lesions, but variable in results in the subacute and chronic cases. One has to be sure that there are no old ulcerations of cornea or conjunctiva, tuberculous or non-tuberculous, as some men have experienced harmful results in such cases.

The cutaneous or vaccination method I have never used, and the same may be said of the percutaneous or inunction method introduced by Moro about a year ago.

*Form of Tuberculin Employed.*

Koch's original tuberculin consisted of 5 per cent. glycerin bouillon on which human tubercle bacilli were grown, evaporated by heat to 1-10 of its volume and filtered through a porcelain filter.

Later his other products came out, his tuberculin new bacillæ emulsion, which contains the pulverized bodies of crushed virulent tubercle bacilli, much weakened by repeated dryings and not capable of reproducing tuberculosis.

Deny's tuberculin is a bouillon filtrate, not exposed to heat. There are on the market at least eight commonly used varieties, and no matter which kind is used it is essential to the establishment of a satisfactory positive or negative diagnosis that the tuberculin be in fresh solution.

The tuberculin itself, a yellowish liquid, conveniently put up in half or one ounce bottles, should be kept in a cool, dark place.

The method for making solution is as follows:

Have on hand a bottle of a half per cent. solution of carbolized water. Take 5cc. of this solution, add mgiii of tuberculin, shake together, and it is ready for use and will keep for three or four days.

The cost of pipette, solutions, etc., is but a couple of dollars, the carbolized water will last indefinitely and the stock tuberculin for a year or even more.

*Control.*

When purchasing new bottles of tuberculin, no matter of what company, it is desirable to know if it is a reliable article. Hence mviii of this tuberculin solution are injected in a known case of joint tuberculosis and upon the resultant reaction or absence of it the tuberculin is accepted or rejected. As a rule the tuberculin will be found to be a thoroughly good article.

*Objections to Use of Tuberculin.*

The main objection that has been made to the use of tuberculin by the subcutaneous method outside of the one that it can not be used in febrile conditions is relative to the dangers of large dosages, three to five milligrams.

It is not unlikely that *marked* general and local reactions do work harm to the general condition of the patient, and more especially by producing aggravation and extension of the local lesion.

As has been pointed out, such large doses are absolutely unnecessary and such marked reactions are not sought for in diagnosis any more than in the treatment.

In the more chronic conditions about joints the dosage is sometimes doubled; rarely a third injection of twenty minims is given, but even so, only a small fraction of the original three milligrams is given.

*Conclusions.*

1. The subcutaneous injection of minute doses of tuberculin is a delicate test of the existence of tuberculosis.
2. Used in conjunction with a painstaking physical examination and X-ray findings it is a valuable aid.
3. It will demonstrate the presence of chronic as well as acute lesions.
4. Tuberculin properly used is a harmless agent.
5. The onset of many acute conditions about joints is so obscure and insidious that diagnosis is often difficult, and yet it is of the greatest importance at this stage for a favorable prognosis and successful treatment.

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## FINAL RESULTS IN 182 OPERATIONS FOR INGUINAL AND FEMORAL HERNIA. THE NECESSITY FOR RESECTION OF THE CREMASTER MUSCLE WHEN HYPERTROPHIED.*

By J. M. BACHELOR, M.D.
NEW YORK CITY.

THERE is no classical operation in surgery that, by virtue of its statistically proved value, occupies a more important and steadfast place in the estimation of surgeons than

* Read before Orleans Parish Medical Society, November 28, 1908.

does that operation for radical cure of hernia, which is to-day, almost uniformly accepted by operators—the operation of Bassini. If surgery has accomplished this triumph for the cure of hernia, it was attained only after many years of endeavor and much groping in obscurity, the result of defective knowledge of the principles of asepsis, combined with a false conception of the true nature of cicatricial tissue, a too vague appreciation of the nature and importance of primary wound healing. For example, in the early days the cure of hernia was attempted by means of pressure—Hood's truss, prominent for awhile, but doomed to that oblivion necessitated through failure. Scarification and sub-cutaneous ligature of the sac, invagination of the scrotum, injection methods, all occupied a brief space upon the surgical stage, then passed away. The second epoch, and final one, in the development of the cure for hernia was ushered in by those surgeons who attempted to cure by means of free incision. Many ingenious operations were proposed and most of them proved to be ineffectual. Thus, those designed to cure by the production of a mass of scar tissue to fill the canal, as for example, the granulation method of McBurney. The operation of McEwen also, in which the sac is employed as a plug for the ring. The truer conception of the means necessary to a cure of hernia is idealized in the operation of Bassini, and, to a less degree, by those embraced under the head of the Bassini group. The operation of E. W. Andrews of Chicago and of Halstead fall in this category and are brilliant conceptions.

Since December, 1896, I have operated 182 times on 176 patients for the radical cure of hernia; inguinal hernia, male, 155; female, 12; femoral hernia, male, 5; female, 10.

Cases operated on were as follows: 1896, 1; 1897, 1; 1898, 7; 1899, 4; 1900, 9; 1901, 14; 1902, 21; 1903, 38; 1904, 14; 1905, 12; 1906, 25; 1907, 22; 1908, 13. Total, 182.

Age of patients were as follows: 1 to 5, 2; 5 to 10, 7; 10 to 20, 27; 20 to 30, 31; 30 to 40, 32; 40 to 60, 54; 60 to 70, 10; 70 to 80, 5; age not recorded, 8. Total, 176.

The method employed has been in every instance, both in the femoral and inguinal varieties, that of Bassini with just one modification, which, in view of the remarkable results that are presented in these cases, is distinctly worthy of placing before the profession. In many cases of inguinal hernia, particularly in scrotal hernia of long duration, and more especially, in old incarcerated hernias, the cremaster muscle is often found to be remarkably hypertrophied. Many years ago I noted the difficulty with which the parts concerned in the Bassini operation were apposed where this marked hypertrophy of the cremaster existed. My conception of the operation embraced two absolute essentials, first primary union; second accurate and close apposition of the parts, the external oblique and Poupart's ligament, without the intervention of extraneous tissue. It has always been my idea that any intervening tissue must, at some portion of the canal, hold the parts asunder and there prevent intimate union and, as a result, favor the ultimate weakness of the canal and recurrence. Bassini merely strips away the lobules of fat that are found in the canal, but this is not enough. Accurate coaptation can not be had in these cases unless the cremaster muscle be resected, and this has been my modification of the Bassini operation, and a routine habit wherever hypertrophy of the cremaster has been encountered. The further steps attending the operation as performed by myself have been the use of kangaroo tendon for the deep sutures; suturing and tying from the inner ring down, and placing a sufficient number of sutures to completely close the canal. I have ignored the possibility of strangulating the cord by tying too near the internal ring. It has been sufficiently proved by the results obtained in Bevan's operation for undescended testicle that the artery of the vas and its return blood supply is quite sufficient to insure the integrity of the testicle. For the external oblique cat-gut iodized, or Cumol No. 3, and for the skin I have finally settled upon No. 9 twisted silk. I believe the continuous suture more accurately co-apts the edges of the wound, and that the resulting scar is far less discernible than interrupted sutures. The after treatment of the patients consist in rest in bed for 21 days. I believe these two factors: 21 days rest in bed, which is somewhat more lengthy than that employed by most surgeons, with resection of the cremaster where it is found hypertrophied, will account for the remarkable results obtained in this series of cases. The average time required for operation was 20 minutes, the minimum 14 minutes. The cases operated were mostly hospital cases, brought in from the street, and were actual herniæ with the exception of 11, which were operated upon in boys for undescended testicle. Among these cases were 52 strangulations requiring immediate operation, and in six cases double herniotomy was done. In four cases gangrene of the bowel had taken place and resection required. In one case 6 inches of the small bowel was resected; in one case 16 inches resected; in one case 8 inches, in one case 10 inches, this latter case representing one of the two deaths that occurred in 176 patients. In these four cases of bowel resection I performed circular enterorrhaphy. The following is the history of the fourth and fatal case, that in which 10 inches of gangrenous gut was resected.

### History of W. B. I.

Strangulated oblique inguinal hernia. Strangulation in existence three days prior to entrance in hospital. Profoundly depressed, stercoral vomitus, immediate operation. Contents of sac,

9 inches small bowel and a large mass of omentum, both gangrenous. Resection of omentum and 10 inches of small bowel. Circular enterorrhaphy. Death on fifth day. Autopsy disclosed gangrene of bowel extending from, and slightly beyond, suture line.

This death therefore can hardly be charged to an operation for hernia. It should therefore be eliminated as belonging more properly to the category of bowel resection.

I have been able to find but one recurrence in this series—the following are the notes taken at the time of operation.

History G. H. R.—August, 1901.

Strangulated oblique inguinal hernia following radical operation at the hands of another surgeon one year prior to present strangulation. Bassini radical cure. A severe and persistent cough set in on the day following operation, causing much pain in the wound. Primary union. Patient reported to me February, 1902, six months later. Recurrence of a small hernia. Truss advised.

This recurrence you will observe was in a patient who had previously undergone the operation for radical cure, therefore, one in whom recurrence might have been expected. This was manifest within six months after the operation and bears out very well the statistical fact that 65 per cent. of the recurrences occur within six months, 80 per cent. within twelve months, and 62-3 per cent. only after two years. A patient may then be classed as cured after a lapse of twelve months. After two years a cure may be considered to be firmly established.

In this series of 182 operations 103 patients were traced beyond the two year limit, 23 of them beyond six years. Only one recurrence was found, the history of this case being cited above. The percentage of recurrences in the cases thus traced from two to ten years being less than 1 per cent., which I believe is less than that shown by any statistics hitherto published. There was two deaths in the 176 patients, representing a gross death-rate of 1.14 per cent.

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## LEUKEMIA.—COMMENT ON REPORT BY DR. HENRY G. WEBSTER IN JULY ISSUE.

By A. L BENEDICT, M.D.
BUFFALO, N. Y.

DR. WEBSTER'S case of "leukemia" in an old syphilitic, seems to require some criticism from a diagnostic standpoint, although most praiseworthy in regard to the successful therapeusis. It may be conceded that there is probably a stage of leucocythæmia in which the white cells number 20,000 per cubic millimeter, but the disease is almost never detected at this stage, any more than we detect diabetes when there is a mere trace of sugar or internal cancer at its incipience. The progressive decline of the white cells from 20,000 to about half this number in three weeks, as well as the recuperation of red cells and hæmoglobin shows plainly that there was merely a leucocytosis and not an exceptionally high one at that.

Again, the very peculiar fluctuation of percentages among polymorphic, and large and small uninuclears, suggests that differences in staining, spreading, etc., influenced the count. Practically, it is very difficult to draw a line between large and small lymphocytes and I confess that I have never been able to perfect my technic so as to rely at all closely on this division. Again, while theoretically the myelocytes are distinguished by the shape of the nucleus, something like the alpha as we made it in algebra to distinguish it from the small Roman a, and by their granulations, the nuclear form and the granulations do not stand out sharply in every case and it is a safe rule to be very conservative in calling a cell a myelocyte. With all allowance for fluctuations in a disease and with the most optimistic view as to the curability of leucocythæmia, a reduction of myelocytes from 16 per cent. to 4 per cent. and 2.1 per cent. in respective four day periods and then to zero for the rest of the year, must be regarded with scepticism.

I don't want to appear discourteous, but there are three things in Dr. Webster's report that the average clinician or pathologist would not accept unless on a consensus of expert authority:

1. The diagnosis of leucocythæmia on the minima of 3,500,000 reds, 20,000 whites, and 58 per cent. of hæmoglobin;

2. The rapid fluctuation of percentages of the various white cells mentioned;

3. The practical cure of a case of leucocythæmia in less than a month, especially by methods of therapeutics, mainly arsenic and iron, and a few X-ray exposures, which have already been tried and found wanting.

I may say that my experience with blood examination dates back about eleven years and that I have examined an average of at least two actual cases a week besides availing myself of such opportunities to examine the work of others and to get instruction and criticism as have been presented in laboratories and at meetings. I do not pretend to be an expert hæmatologist, but have become fairly familiar with the work as presented in practice and can see that even if the absolute accuracy of Dr. Webster's report were accepted, it would lead to dangerous fallacies by men like myself, or less experienced, and would lead to an immense statistic increase in leucocythæmia and a decided change of view as to its prognosis.

## CORRESPONDENCE.

HUDSON, N. Y., August 20, 1909.

*Editor of the New York State Journal of Medicine:*

DEAR SIR: I wish to enter a protest against some of the statements appearing in the editorial of Dr. Robinson in the August issue of the JOURNAL.

My only reason for thus stating my personal views is that a general acceptance of some of the ideas expressed in the editorial mentioned tends to promote in our profession a spirit of carelessness and indifference in observing the wise provisions of our Public Health Laws, and discourages efforts to protect and render more secure the lives and health of our people.

The statements concerning the prevention and treatment of pulmonary tuberculosis which appear in the fourth and fifth paragraphs of the article mentioned, seem decidedly contradictory to the opinions of our oldest and most experienced authorities upon this disease.

Surely all reasonable efforts to lessen danger of infection with such a deadly disease should be made to secure the safety of the unaffected; and there is no doubt but that a much larger proportion of the tubercular, particularly among the poorer classes, recover under sanitarium care, than in the bad surroundings of their own homes. I believe that allowing patients for whom sanitarium care is obtainable, to remain at home, often insures the death of curable incipient cases, and greatly promotes the continuance of the disease, by infecting the home and its remaining occupants.

While I realize that there will be abundant supplies of tubercle bacilli after all our efforts, yet we have good reasons to believe that a lessened frequency and quantity of infection may oftener be successfully resisted.

Replying to the questions in the fifth paragraph of this editorial concerning the acute contagious diseases, I believe we have accomplished the saving of many lives, and great reduction in expenses of caring for the sick, by preventing as we certainly do every day, in the various parts of the State, the extension of costly and deadly epidemics, by modern methods of quarantine, isolation of the sick, and destruction of infected materials.

The idea that sooner or later every non-immune person must be affected with diphtheria and scarlet fever seems ridiculous. It is a well known fact that by far the larger proportion of our population never suffer from an attack of diphtheria; while one attack is no protection against a subsequent attack. The number of persons who now escape suffering from scarlet fever throughout life is also very large, and the death rate compared with that when no efforts to control these diseases were made seems to be decidedly reduced. I believe it is the duty of every physician to do all in his power to sustain the health authorities in preventing the spread of these diseases, and to discountenance the idea that such diseases are unpreventable, and not to be avoided.

Surely the results obtained in modern surgery by the application of newer principles, chiefly developed by the "microscopic and bacterioscopic fiend," have been of untold value to the human race; and let us hope that still greater good will be achieved in the field of preventative medicine. Surely in the light of our present knowledge of the nature of contagious and infectious diseases, no man is justified in neglecting to employ every means at his command to lessen the danger of infecting his fellow men with the diseases which are rather often with us, as well as with those diseases which sanitary precautions have already eliminated, as cholera, typhus fever, etc. I am optimistic enough to believe that the day will come when modern sanitary methods will add diphtheria and scarlet fever to the list of rare diseases, and believe that the conscientious and united work of a progressive medical profession thoroughly informed in matters relating to the contagious and infectious causes of disease, which must be acquired through newer and advanced ideas, will at last attain this result. Respectfully yours,

L. VAN HOESEN.

# Medical Society of the State of New York

## DISTRICT BRANCHES.

### FIFTH DISTRICT BRANCH.

ANNUAL MEETING AT WATERTOWN, OCTOBER 14, 1909.

MORNING SESSION.

1. President's Address, "The Duty of the Medical Profession Toward the Cancer Problem," G. D. Gregor, M.D., Watertown.

2. "Cancer of the Uterus," A. B. Miller, M.D., Syracuse.
Discussion to be opened by W. E. Ford, M.D., Utica.

3. "Some Personal Experiences with Diseases of the Breast," J. W. Eddy, M.D., Oswego.
Discussion to be opened by C. N. Bibbins, M.D., Watertown.

4. "Cancer of the Rectum," Nathan Jacobson, M.D., Syracuse.
Discussion to be opened by Frederick Flaherty, M.D., Syracuse.

5. "Ulcer of the Stomach," E. S. Van Duyn, M.D., Syracuse.
Discussion to be opened by F. R. Calkins, M.D., Watertown.

6. "Remote Symptoms from Intestinal Irritation in Children," C. A. Frost, M.D., Utica.
Discussion to be opened by E. J. Wynkoop, M.D., Syracuse.

7. "Corea in Children," J. A. Barnette, M.D., Watertown.
Discussion by Paul von Zierolshofen, M.D., Croghan, and A. Walter Suiter, M.D., Herkimer.

AFTERNOON SESSION.

Meeting of House of Delegates, 1.30 P. M.

*Scientific Program, 2 P. M.*

8. "Treatment of the Latter Stages of Valvular Diseases of the Heart," W. M. Gibson, M.D., Utica.
Discussion to be opened by W. D. Garlock, M.D., Little Falls.

9. "Uterine Malpositions," J. H. Glass, M.D., Utica.
Discussion to be opened by G. B. Broad, M.D., Syracuse.

10. "Sanitation of Summer Resorts," C. E. Low, M.D., Pulaski.
Discussion to be opened by D. M. Totman, M.D., Syracuse.

11. "Typhoid Fever Epidemics," W. C. Todt, M.D., Oswego.
Discussion to be opened by C. P. Kirley, M.D., Lowville.

12. "Appendicitis in Children," W. L. Wallace, M.D., Syracuse.
Discussion to be opened by H. A. Hoyt, M.D., Watertown.

13. "A Panacea for Catarrh," T. H. Farrell, M.D., Utica.
Discussion to be opened by G. Cannon, M.D., Watertown.

14. "The Practical Value of Bronchoscope and Esophagoscope," T. H. Halsted, M.D., Syracuse.

15. Title to be announced, F. W. Marlow, M.D., Syracuse.

## SIXTH DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

THIRD ANNUAL MEETING, ONEONTA, N. Y., SEPTEMBER 28, 1909.

BUSINESS SESSION.

The following officers were elected for 1910: President, Frank DeW. Reese, Cortland; Vice-President, Sherman Voorhees, Elmira; Secretary-Treasurer, Herbert W. Fudge, Elmira.

The next annual meeting will be held at Cortland.

Oneonta being on the extreme eastern end of the district and a small place at that, the meeting was not as well attended as usual, there being twenty-four registered, but what it lacked in number it made up in enthusiasm. The papers read were exceptionally high class and were freely discussed by those present.

In the scientific program, which was as follows, every paper was presented, a rather unusual occurrence.

President's Address, S. A. Mereness, M.D.

"Toxic Amblyopia," R. P. Higgins, M.D.

"Roentgenology for the General Practitioner," D. R. Bowen, M.D.

"Strangulated Hernia," M. M. Lucid, M.D.

"Prostatic Hypertrophy," A. W. Cutler, M.D.

"Some Remarks on the Bier Hyperæmic Methods of Treatment," R. G. Loop, M.D.

"Extracts from Chirurgia Curiosa," by M. G. Pusmanus, between the years 1657 and 1705, J. H. Martin, M.D.

## EIGHTH DISTRICT BRANCH.

ANNUAL MEETING, SEPTEMBER 8TH-9TH.

The Fourth Annual Meeting was held in Buffalo, Wednesday and Thursday, September 8th and 9th. Nearly one hundred signed the attendance register. The program was perhaps the most interesting and varied of any that have been presented before this Society.

On Wednesday evening a subscription dinner was held at the University Club at which sixty members were present. After dinner toasts were responded to by Dr. Stockton, President of the Medical Society of the State of New York, Judge North, of Genesee County, and the Rev. George B. Richards. Dr. F. C. Busch, of Buffalo, sang several songs and responded to repeated encores.

At the business meeting the following officers were elected for 1910:

President, Edward Munson, Medina; First Vice-President, Thomas McKee, Buffalo; Second Vice-President, J. S. Wright, Perry; Secretary, C. S. Tompkins, Buffalo; Treasurer, C. A. Wall, Buffalo.

The time and place of holding the next annual meeting was referred to the Executive Committee with power.

The Scientific Session was as follows:

1. President's Address, E. E. Snow, M.D., Batavia.
2. "Care of the Sick and Injured," J. C. Young, M.D., Cuba.
3. "Addison's Disease," F. C. Busch, M.D., Buffalo.
4. "The Need of Special Schools for Crippled Children," Prescott Le Breton, M.D., Buffalo.
5. "Finkelstein's Views of Intestinal Intoxication," Irving M. Snow, M.D., Buffalo.
6. "A Psychological Study of Joan of Arc," Herman G. Matzinger, M.D., Buffalo.
7. "Report of a Case of Acute Fulminating Gangrene of the Penis," James A. Gardner, Buffalo.
8. "Vaccine Therapy," Norman K. MacLeod, M.D., Buffalo.
9. "A Case of Lues of Intervertebral Discs," R. O. Meisenbach, Buffalo.
10. "Fractures," Marshall Clinton, M.D., Buffalo.
11. "A Case of Intracranial Injury with Misleading Focalizing Symptoms," R. C. Conklin, M.D., Batavia.
12. "Minor Pelvic Ailments," Jane L. Greeley, M.D., Jamestown.
13. "Childbirth as a Factor in Pelvic Disease," J. E. King, M.D., Buffalo.
14. "Skin Diseases Illustrated by the Stereopticon," Grover W. Wende, M.D., Buffalo.
15. "Perforating Ulcer in Typhoid Fever," E. R. McGuire, M.D., Buffalo.
16. "The Persistence of Abdominal Symptoms after Operations for Their Cure," Allen A. Jones, M.D., Buffalo.
17. "Nasal Tuberculosis with Report of a Case," W. Scott Renner, M.D., Buffalo.

# COUNTY SOCIETIES.

## MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

REGULAR MEETING, SCHENECTADY, N. Y., SEPTEMBER 15, 1909.

"A Study of the Arch of the Human Foot; Its Weakness and Support," Edward J. Mountain, M.D., New York City.

## RICHMOND COUNTY MEDICAL SOCIETY.

REGULAR MEETING, STATEN ISLAND ACADEMY, SEPTEMBER 8, 1909.

"Some Difficulties in the Diagnosis of Intra-Abdominal Diseases with Report of Cases." L. G. Baldwin, M.D., Brooklyn, N. Y.

## ONONDAGA MEDICAL SOCIETY.

QUARTERLY MEETING, SYRACUSE, N. Y., SEPTEMBER 21, 1909.

"Report of a Case of Prostatectomy," D. M. Totman.
"Gun Shot Wounds of the Abdomen," G. M. Price.
"The Physician's Duty," E. J. Wynkoop.

## MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

SPECIAL MEETING, SCHENEDTADY, N. Y., OCTOBER 8, 1909.

PROGRAM.

"The Relation of the Medical Profession to Life Insurance," Oscar H. Rogers, Medical Director New York Life Insurance Company.

## MEDICAL SOCIETY OF THE COUNTY OF ST. LAWRENCE.

ANNUAL MEETING, OGDENSBURG, N. Y., OCTOBER 5, 1909.

PROGRAM.

President's Address, "The Nervous Invalids," E. A. Nevin, M.D.

"Thyroid Feeding," W. B. Hanbidge, M.D.

Should a New Subject be Added to the Curriculum of our Public Schools, viz: "The Causes and Prevention of Preventable Diseases," W. C. Smith, M.D.

"The Examination of the Cerebro-Spinal Fluid as an Aid to Diagnosis in Nervous Diseases," Robert King, M.D.

"Gastro-Intestinal Disturbance in Infancy," H. J. Morgan, M.D.

"Report of a Case of Pneumonokoniosis," D. M. Taylor, M.D.

"Report of a Case of Anterio-Poliomyelitis," W. G. Cooper, M.D.

"Report of a Group of Cases of Anterio-Poliomye," H. A. McIlmoyle, M.D.

"Report of a Peculiar Case of Abortion," J. Q. Flood, M.D.

"Report of an Unusual Case of Rupture of the Small Intestine," R. L. Leak, M.D.

## MEDICAL SOCIETY OF THE COUNTY OF SARATOGA.

ANNUAL MEETING, SCHUYLERVILLE, N. Y., SEPTEMBER 28, 1909.

BUSINESS SESSION.

The following officers were elected: President, George Hudson, Stillwater; Vice-President, A. W. Johnson, Mechanicville; Secretary, J. T. Sweetman, Jr., Ballston Spa; Treasurer, T. E. Bullard, Schuylerville.

Delegate to State Society, F. F. Gow; Alternate, F. J. Resseguie.

Delegate to District Branch, J. F. Humphrey; Alternate, F. J. Sherman.

Censors, W. Van Dorn, J. R. McElvoy and J. B. Ledlie.

SCIENTIFIC SESSION.

President's Address, W. C. Crombie, M.D.

"Landry's Paralysis," F. F. Gow, M.D.

"The Hæmatology of Anæmia," F. A. Palmer, M.D.

"Morphine-Hyoscine Anæsthesia," T. E. Bullard, M.D.

"A Plea for a More Liberal Diet in Typhoid Fever," J. F. Humphrey, M.D.

"Diagnosis of Extra Uterine Pregnancy," W. Van Doren, M.D.

"Report of a Case of Acute Septic Thyroiditis in a Young Child," F. J. Sherman, M.D.

## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

All books for review should be sent to the business office of the Medical Society of the State of New York, 17 West Forty-third Street, New York.

A PRACTICAL TREATISE ON RECTAL DISEASES: Their diagnosis and treatment by Ambulant Methods. By Jacob Dissinger Albright, M.D., with thirty-two plates, four of which are in colors, and thirty-nine illustrations throughout the text. Published by the author, 3228 North Broad Street, Philadelphia, Pa. Cloth, $4.00; full flexible leather, $5.00.

MEDICAL SOCIOLOGY. A Series of Observations Touching upon the Sociology of Health and Relations of Medicine to Society. By James Peter Warbasse, M.D., Surgeon to the German Hospital; Attending Surgeon to the Seney M. E. Hospital; Member of the American Medical Association, American Association for the Advancement of Science, American Society of Sanitary and Moral Prophylaxis, American Medical Library Association, Ethical Social League, etc. D. Appleton & Co., New York and London.

PRACTICAL DIETETICS. With Special Reference to Diet in Diseases. By W. Gilman Thompson, M.D. Professor of Medicine in the Cornell University Medical College in New York City; Visiting Physician to the Presbyterian and Bellevue Hospitals. Fourth Edition. Illustrated, enlarged and completely rewritten. D. Appleton & Co., New York and London.

TUBERCULOSIS. A Treatise by American Authors on Its Etiology, Pathology, Frequency, Semeiology, Diagnosis, Prognosis Prevention and Treatment. Edited by Arnold C. Klebs, M.D., with three colored plates and 243 illustrations in text. D. Appleton & Co., New York and London.

MINOR OPHTHALMIC AND AURAL TECHNIQUE. A Short Treatise with Minor Procedures about the Eye and Ear. Adapted to the Use of Those Requiring a Comprehensive Knowledge of this Subject. By Alfred Nicholas Murray, M.D., Chicago. Assistant in the Department of Otology and Laryngology, Rush Medical College (Children's Memorial Hospital). Formerly Clinical Assistant in Ophthalmology, Rush Medical College. One time Voluntary Assistant in the Universitæts Augenklinik, Breslau. Member of the American Medical Association, Mitglied der Ophthalmologischen Gesellschaft, Heidelberg, etc. With 98 Illustrations in the Text, Reproduced from Photographs and Original Drawings, 1909. Cleveland Press, Chicago.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pædiatrics, Obstetrics, Gynæcology, Orthopædics, Pathology, Dermatology, Ophthalmology, Otology, 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, Oxford; John H. Musser, M.D., Philadelphia; A. McPhedran, M.D., Toronto; Frank Billings, M.D., Chicago; Chas. H. Mayo, M.D., Rochester; Thos. H. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Richard Kretz, M.D., Vienna. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Vol. III. Nineteenth Series, 1909. Philadelphia and London. J. B. Lippincott Company. 1909.

MEDICAL GYNECOLOGY. By Samuel Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists; Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital; Associate Attending Gynecologist to the Beth Israel Hospital, New York City. Second Revised Edition. With original illustrations. Philadelphia and London. W. B. Saunders Company. 1909. Price: Cloth, $5.00.

THE PRINCIPLES OF HYGIENE. A Practical Manual for Students, Physicians, and Health Officers. By D. H. Bergey, A.M., M.D., Assistant Professor of Bacteriology, University of Pennsylvania. Illustrated. Third Edition, thoroughly revised and enlarged. Philadelphia and London. W. B. Saunders Company. 1909. Price: Cloth, $3.00.

A TEXT BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals, etc. Sixth Edition, revised and enlarged with 847 illustrations, 43 of them in colors. Philadelphia and London. W. B. Saunders Company. 1909. Price: Cloth, $5.00 net.

Modern Materia Medica and Therapeutics. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine, Women's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes's Hospital; Assistant Physician to the Philadelphia General Hospital; Fellow of the College of Physicians of Philadelphia, etc. Fifth Edition, thoroughly revised in conformity with the Eighth Revision (1905) of the United States Pharmacopœia. Philadelphia and London. W. B. Saunders Company. 1909.

A Handbook of Medical Diagnosis. In four parts. I. Medical Diagnosis in General. II. The Methods and Their Immediate Results. III. Symptoms and Signs. IV. The Clinical Applications. For the Use of Practitioners and Students. By J. C. Wilson, A.M., M.D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College, and Physician to its Hospital; Physician to the Pennsylvania Hospital; Physician-in-Chief to the German Hospital, Philadelphia. 408 text illustrations and 14 full-page plates. Philadelphia and London. J. B. Lippincott Company.

## BOOK REVIEWS.

Treatment of the Diseases of Children. By Charles Gilmore Kerley, M.D., Professor of Diseases of Children in the New York Polyclinic Medical School and Hospital. Second Revised Edition. Octavo, 628 pages. Saunders & Co., Philadelphia, Pa. 1909.

That a second edition of this book has been called for within two years is evidence of a ready reception of the first edition.

The final object of all medical practitioners is, or should be, the successful treatment of the sick. While the diagnosis and natural history of disease are essential, these subjects consume about four-fifths and often nine-tenths of the space in most treatises on medical diseases. It is for this reason that a well written and comprehensive book devoted chiefly to the management and treatment of the sick is eagerly sought after by a large proportion of the profession. Dr. Kerley has written a book full of sound practice, common sense and in most instances, definite, usable suggestions for treatment.

The second edition has been somewhat enlarged by the addition of a number of new subjects. There is much in the book besides treatment of disease. It treats of the general care of all children, the production and care of milk, general diet, hygiene, instruction of mothers, etc., things not properly included under the title. While the author is not a therapeutic nihilist he is rather over-cautious in the use of drugs, lest the digestion be disturbed. While caution in this respect is advisable we think that he is too cautious in the treatment of certain serious diseases. He emphasizes the use of all known non-drug treatment, and in this respect has presented an up-to-date manual of treatment. It is to be recommended especially to the general practitioner as a companion to one of the larger text-books on the diseases of children. E. H. B.

Legal Medicine and Toxicology. By R. L. Emerson, A.B., M.D. (Harvard). New York and London, D. Appleton and Company. 1909.

The present work is concisely put and enables the general practitioner to get at with little difficulty the main points which may come within his actual experience. In the first chapter the author takes up the natural causes of death, later the signs of death and identity. He clearly states the causes of death other than natural, *i. e.*, by asphyxiation, cold, heat, electricity and starvation.

He defines rape and gives the signs in the virgin and in married women.

Chapter XXIII is of especial interest as it deals with the responsibility of the parent or guardian for the care of minors under their charge.

Toxicology is taken up very thoroughly considering the space devoted to it.

Part III is very useful, giving up to January, 1909, Extracts from various state laws affecting the practice of medicine.

We have a work that is modern in treatment and which can not fail to be of practical value to the physician. E. D. F.

Common Disorders and Diseases of Children. By George Frederic Still, M.A., M.D. (Cantab), F.R.C.P. (Lond.). Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1909.

As the title implies, Dr. Still's book deals with the disorders of children most frequently encountered by the practitioner and it is to the general physician in active work that the book will particularly appeal. A commendable feature of the work rests in the fact that it is largely personal. The author gives the reader the results of years of observation, and when one knows the author as a most careful and competent observer, the value of the book can be readily appreciated. From cover to cover the book shows keen observation, common sense and honesty, a triad most desirable in book building. The articles on Pyloric Stenosis and Abdominal Tuberculosis are to the reviewer the most interesting in the book. The chapters on mentally defective children, cerebral palsies and nervous disorders generally, are treated in the most instructive manner. Dr. Still's book is highly commended to those who will appreciate a practical guide in the management of the common disorders of infancy and childhood.

C. G. Kerley.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Edited by W. T. Longscope, M.D. Vol. III. Eighteenth Series, 1908. Philadelphia and London, J. B. Lippincott Co., 1908. Col. front, viii, 298 pp., 17 pl., 1 col. pl. 8vo. Price: $2.00, net.

Twenty-five papers by twenty-six authors make up this volume of the *International Clinics.*

Out of so much material, of uniform excellence, it is difficult to cull especially interesting data for presentation in a review, for all these papers are very interesting throughout.

Tissier, of Paris, has found fluoroform water almost a specific in pertussis.

Almagia and Mendes, of Rome, have found cholesterin curative in tetanus in daily subcutaneous doses of about one gramme.

Scott, of Philadelphia, writes a thorough article on typhoid perforation. Operation should take between four and fifteen minutes. One in four cases should recover. The lesion is almost always found immediately above the cæcum.

A noteworthy paper is that of Corner, of London, on direct internal splintage of fractures. He thinks the prevailing methods relatively crude and that they should play a rather supplementary part to the method of direct fixation. Massage is begun under this method as soon as the wound has healed—certainly a very great advantage.

Knox, of Johns Hopkins, concludes that summer diarrhœa infection is carried by fomites, water, insects and the common house-fly. The dysentery bacillus is associated causally. It is present in about 63.5 per cent. of the cases.

In Gilbert's article on marasmus the term chronic milk infection is used in place of the vague classical one. In describing how to give a colonic irrigation he says that no harm will result from passing the catheter as far up as the transverse colon. We are strongly of

the impression that there never need be any fear of a tube reaching that far. Eastmond, of Brooklyn, has made skiagraphs of rectal tubes passed as high as possible by an experienced clinician, and has found that the distance they have reached has been but a few inches. The reason for this is obvious enough.

Joseph Jastrow, the University of Wisconsin psychologist, writes delightfully about the much discussed subconscious mind. As to the prevalent attempts to regulate human life by an appeal to the mental nature, Jastrow well says: "The wise incorporation of mental healing can be entrusted only to the trained wisdom of the medical practitioner." Impudent clerical charlatans please take notice. This was one of the Harvey lectures for 1908.

New views on the etiology of appendicitis are elaborated by Kretz, of Prague. He inclines strongly to the theory that this disease begins as a metastasis from the adenoid tissue of the throat and nose and that an angina of some sort often, if not usually, precedes the appendical trouble.

There are several excellent papers on opthalmological topics.

Haste seems always to be evidenced in the getting up of these *Clinics* on the part of the publishers. Proofreading leaves much to be desired. Thus on page 101 we note "many of our ideas . . . *was* wrong" and "oblique fractures . . . *has* been found to be spiral . . . "On page 174 we note the astonishing statement that the operation for cleft palate may be performed as early as the first month of fetal life!

A. C. J.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Edited by W. T. Longscope, M.D. Vol. IV. Eighteenth Series, 1908. Philadelphia and London, J. B. Lippincott Co., 1908. Col. front, vii, 310 pp., 8 pl., 1 fold. ch. 8vo. Price: Cloth, $2.00, net.

The twenty-four papers making up this volume of the *International Clinics* touch upon a variety of topics—obstetric, gynæcologic, neurologic, pædiatric, pathologic, hygienic, therapeutic, laryngologic, medical and surgical.

Pratt, of Boston, points out how the neglect of physical therapeutics in America, in contrast to the notable advance in Europe, has tended to encourage quackery and the exploitation of the profession on the part of the proprietary interests. We must get rid of the still deep-rooted belief that most diseases must be treated with medicines. Pratt also thinks we must abandon to a large extent the morphologist's view of disease and clinical problems and adopt that of the "physiological clinician." One may have a damaged valve, according to this writer's point of view, and yet not be diseased, physiologically speaking. Much more can be accomplished by the utilization of advanced methods of physical therapeutics than by the use of drugs. Pratt holds the drug obsession responsible in large part for much alleged backwardness. Many will agree with him.

The paper on psychotherapeutics by Palmer, of Cincinnati, is a diffuse effort which rehearses about all the commonplaces of life and of illness that could well be cited. It is an article such as one might encounter in one of the uplift magazines and would doubtless be very acceptable to lay readers. The space it fills among these *Clinics* could have been more effectively used.

One of a number of valuable conclusions reached by Brown, of Baltimore, at the end of his paper on the visceral ptoses, is that gynæcologists should not forget that in many cases a retroflexed uterus is but a part of a general splanchnoptosis, and that it is not rational to expect a disappearance of symptoms by the suspension of this organ alone.

Benedict, of Buffalo, reports an interesting case of gangrenous appendicitis with spontaneous cure due to discharge through the intestine. Benedict thinks that this event takes place rather frequently, but he finds it of no weight in considering the indications for treatment, either as regards operation or the use of opium.

That subject, which of late has received so much attention at the bedside and in the medical press—acute dilatation of the stomach—is very thoroughly dealt with by Nicholls, of McGill. Under medical treatment he makes the valuable point that posturing in connection with the employment of lavage is quite often an essential factor, lavage alone frequently failing. Elevation of the foot of the bed or the knee-chest position will often render the lavage effective where it would otherwise fail. Another thing that will often stop vomiting is lying upon the abdomen. This is the position that the patient should take when the foot of the bed is elevated. Surgery has not given a very good account of itself in this affection.

In his paper on the rôle of insects in the transmission of disease, Brown, health officer of Cincinnati, draws up an indictment against the common house-fly, which he holds responsible for much typhoid infection. The typhoid bacillus has been repeatedly isolated from the bodies of these pests and the relation of these insects to several epidemics conclusively shown.

Dunn, of Boston, has a thorough article on the serum treatment of epidemic cerebro-spinal meningitis. Flexner's work at the Rockefeller Institute is chronicled. As to the frequency of permanent sequellæ, a formal comparison has not been made between the frequency in serum-treated cases, and in cases not so treated.

The volume shows some evidence of haste in preparation—on the part of the publishers. Thus on page 29 we encounter the somewhat cryptic statement that "soldiers are *obnoxious* to gunshot wounds."

We fail to see how a man who has not been in practice for a number of years and whose livelihood is derived from commercial sources is exactly fitted to write a practical paper on a practical subject. This is the case with one of the papers and we don't think that the readers of such a paper will derive much profit from its perusal. This isn't a square deal for the readers of the *Clinics*, which profess to present the conclusions of clinicians.

A. C. J.

THE CURE OF CONSUMPTION WITH SUBCUTANEOUS INJECTIONS OF OILS. By Thomas Basset Keyes, M.D., Representative for The Antiseptic, India, Vol. III, No. 12: 96 pp., 16mo. Price: Cloth, $0.50 net.

According to Keyes we are dealing rather stupidly with a disease the cure of which is the simplest and surest kind of a therapeutic proposition.

Immunity against and the cure of tuberculosis are essentially bound up in the use of fat foods. Where the patient can not take sufficient or any fats by the stomach, or in cases where rapid restoration of tissue nutrition is imperative, they must be used hypodermatically in the form of certain oils (olive, cod-liver, peanut, etc.). They are digested by the white blood cells.

That this is a specific therapy, positively effecting cure, Keyes dogmatically affirms.

The author says it is the greatest therapeutic advance in the treatment of tuberculosis that has ever been made and that by such treatment the disease is absolutely curable in every climate.

*No cases are recorded.* A. C. J.

## DEATHS.

J. J. BABINGTON, Brooklyn, N. Y., died September 27, 1909.

JOHN DAMBACH, M.D., of Buffalo, N. Y., died September 15, 1909.

WILLIAM C. KRAUSS, M.D., of Buffalo, N. Y., died September 21, 1909.

# NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

ALGERNON THOMAS BRISTOW, M.D., Editor
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## EDITORIAL DEPARTMENT

### GREGOR MENDEL, AND THE MENDELIAN LAW.

DURING the years 1865-1869 two publications were issued by Gregor Mendel, one, read at the meeting of the Society for Natural Research in Brünn, from February 8th to March 8th, 1865, entitled "Experiments on Plant Hybrids"; the other read before the same society at a meeting on the 9th of June, 1869; and both were published in the society's transactions, the first, IVth Vol., 1865, pp. 3-47; the second, VIIIth Vol., 1869, pp. 26-31.

Gregor Mendel, a German through and through, was born at Heinzendorf, near Odrau (Austrian-Schlesia), on the 22d July, 1822. After completion of his studies at the gymnasium in Olmütz, he entered the Augustiner-Stift in Brünn in 1843. During the years 1851-1853 he studied physics and natural sciences in Vienna, and, after returning to Brünn in 1854, assumed the chair of natural history and physics in the Oberrealschule in that city. Here he worked as a "splendid teaching force," honored by his pupils and colleagues, until 1868, during which year he succeeded to the vacancy occasioned by the death of the Prelate C. Napp. Mendel died on January 6, 1884. German loyalty, strength of character and a lovable personality won for Mendel everywhere high regard and reverence; and memory of him will be undying. From the year 1858 Mendel busied himself with botanical studies, making his experiments in the Stiftsgarten. He placed the results of his experiments in the crop fertilization of the Pisum and Phaseolus families, further with Hieracium in 1865-1869, in papers before the Society for Natural Research in Brünn. After his election to the abbacy, Mendel unfortunately, found no more time to continue his observations systematically. To be sure, the experiments instituted by him were not thus exhausted. The reports of the transactions of the Natural Research Society in Brünn state that Mendel demonstrated two bastards in fresh condition, reared by himself, from Verbascum Phœniceum, crossed with white budding Verbascum Blattaria, and further Campanula Media-pyramidalis. He speaks further in the first treatise also of personal experiments on Lathyrus (p. 9) and Dianthus (p. 37). The stimulus to the investigation of plant hybrids was, to all appearances, given Mendel by the lively discussions in the years 1850-1860 over the manner of conception of, and especially the results at which Nägeli had arrived for the form-cycle of Hieracium. Nägeli gave Mendel directions personally by letter for the culture of Hieracium. Just such a sober and exact thinker as Mendel would feel in peculiar degree the necessity of pursuing such difficult questions, especially within the province of hybridism, through personal and well-planned experiments regardless of time and trouble, and avoiding premature generalizations and speculations. Next to botany, Mendel's interest was principally in meteorology. He published the results of his many years of observations, which were regarded by all experts as classical, in the above-cited transactions from 1862 on; and through them brought about

an extension of the system of meteorological observations throughout Mähren and Schlesien. Mendel busied himself also for many years with measurements of subterraneous water, the results of which unfortunately remained unpublished, in consequence of his ultimate condition of real and severe suffering; and there was nobody who could utilize his records of observation found in the cloister. Upon the occasion of a cyclone in 1870, which severely damaged the cloister, Mendel reported to the Society of Natural Research observations of the phenomenon, partly his own, partly sought out, and partly made afterwards in the environment of Brünn, and he published an abstract of his report in the Transactions of the Society. As an ardent bee-master Mendel studied the bastardizing of bees, which he often pointed out, but never published his observations. His busy, alert mind and active body led him to the promulgation of profound problems, based upon extensive work of a most scientific character.

Priest, scientist, gentleman, gentle Gregor Mendel, in his quiet and unobtrusive way, thus laid the foundations for the study of heredity. He is dead, but ever liveth in his works, which are indeed a beacon light to the many mariners on a storm-tossed sea of science, yearning for vision of safe conduct to port.

His published works appeared exclusively in the Transactions of the Society of Natural Research in Brünn:

Bemerkungen zu der graphisch-tabellarischen Uebersicht der meteorologischen Verhältnisse von Brünn. Bd. I, 1863, S. 246.

Meteorologische Beobachtungen aus Mähren und Schlesien für die Jahre 1863-1866. Bd. II-V; in den späteren Jahren mitbetheiligt.

Versuche über Pflanzenhybriden. Bd. IV, 1865, S. 3.

Ueber einige aus künstliche Befruchtung gewonnene Hieraciumbastarde. Bd. VIII, 1869, S. 26.

Die Windhose am 13 October, 1870.

Mendel's praises for the systematic production of bastards have been sung in numerous publications, and his teaching on the variation in value, according to definite law, of the characteristics of species for heredity is further treated and developed.

The deductions upon which Mendel's law is based were made from experiments on 10,000 plants from the sweet pea family. Healthy plants were selected, and seed and pollen plants were crossed, having some characteristics which strongly differed in details. It was a well-known fact at that time that, when two such plants were crossed, those characteristics which resembled each other in them were permanently perpetuated in the successive generations, and those characteristics strongly differing were combined to make a new characteristic, which was commonly found in the offspring. These changes in the dissimilar pairs of characteristics led Mendel to observe them, and to formulate a law, according to which they appeared in successive generations. They were the basis of his investigations.

The characteristics noted in the experiments were:

1. Difference in form of the ripe seeds.
2. Difference in coloring of the seed-albumen (endo-sperm).
3. Difference in coloring of the seed skin.
4. Difference in form of the ripe pods.
5. Difference in color of the unripe pods.
6. Difference in placement of the flowers.
7. Difference in axis length.

The cross fertilizations were so conducted that those varieties crossed as seed plants in one series of experiments were crossed as pollen plants in another series, and vice versa, with similar results.

It had been shown in earlier years in experiments on ornamental plants that the hybrids (first generations) did not represent an exact middle form between the two ancestors. In single more prominent characteristics they did; but others so closely resembled the characteristics of one of the parent plants, that the corresponding characteristics in the other parent were either completely lost or almost impossible of recognition by experts. This circumstance is of great importance in the determination and classification of the forms appearing in the descendants of the hybrids.

Those characteristics which persist in the descendants of automatically fertilized hybrids, Mendel denominates *dominant,* those which remain latent, *recessive;* a term chosen because these characteristics are recedent, or vanish, to again appear in later generations unchanged. In the first generation of hybrids the dominants were in the proportion of 3-1 of the recessives, so that in every four plants three contained dominants and one recessives.

In the second generation of hybrids those forms which possessed recessives in the first generation do not vary, but retain these characteristics throughout successive generations. The relation is different in those hybrids of the first

generation possessing dominants. From these come two groups of descendants bearing dominants and recessives in the ratio of 3-1, which is exactly the same relation existing in the hybrids; only a part retain the dominants as constant characteristics.

The relations according to which the descendants of the first and second generations develop and divide themselves probably hold for all other races.

The descendants of the hybrids divided themselves in each generation in the ratio of 2-1-1 in hybrid and constant forms.

If A denotes one of the two constant characteristics, *e. g.*, the dominant, a, the recessive, and Aa the hybrid form in which both are united, the formula $A + 2Aa + a$ expresses the developmental series for the descendants of hybrids, with two different characteristics.

J. M. Van Cott.

## ORGANIZATION.

THE results of organization in our state and national bodies are quite familiar to all, so they need not be dwelt upon in detail at this time, though it may be interesting to know that in 1900 not one-third of the regular medical profession of the United States was affiliated with any medical society, and since that time that the membership in the American Medical Association has increased from 8,000 to 34,000. And our own State society shows about the same relative increase in membership, yet there remain in our own State 3,000 regular physicians who are not affiliated with any society. I believe it to be our moral obligation to interest and bring them into our society, and this work must be done by the county societies. The way to bring this about is an open question.

There are those who do not believe organization is as essential as I do, and they may inquire why is it not to the personal advantage of these physicians to be affiliated with our society, and why special effort should be made (on our part) to bring them in. The reasons to my mind are clear, and are:

*First.* Because the more nearly our membership represents the entire profession, the more powerful we will be as a body politic; such power is often desired to enact legislation for our professional protection, as well as to prevent pernicious legislation directed in some particular against the interests of our profession.

*Second.* Complete organization tends to harmony, and is a splendid prophylactic measure against discord; if an example of this were desired we might with some force refer to our own State society before and since amalgamation occurred.

*Third.* The clinical experience of every general practitioner of medicine is of value at our scientific meetings. This is particularly true of the isolated general practitioner who usually has a fund of experience acquired under the most trying conditions, the narration of which in occasional cases would make the specialist green with envy. As you well know these men are the most difficult to induce to take part in our scientific program, though, as I have intimated, they possess the richest all-around experience.

In making these statements I am not unmindful of the great work done by the specialists, nor to our obligation to them for presenting their subjects in detail, to the state and national bodies. But I do believe that their ultra-scientific conclusions, drawn from conditions and surroundings possessed only by a few, are not the teachings to attract the general practitioner, who works under different and less favorable conditions. Thus I believe it should be the aim of those preparing the scientific program for our district branch and county meetings to arrange a program *for* the general practitioner essentially *by* the general practitioner.

That I may not be misunderstood or accused of retrogression, I would call your attention to the fact that the majority of our profession do not have either hospitals, laboratories or clinics at their command; yet they must continue their work under conditions as they find them. How much more interesting, attractive and instructive to this portion of our profession would be a program which considered their every-day experiences in minor surgery, diagnosis, fractures, anesthetics, contagious diseases, prophylaxis, etc., than the reporting of a large series of cases by specialists, accompanied by an elaborate technique quite outside the possibilities of the general practitioner.

It may be asked how the knowledge possessed by such men educated along special lines is to be disseminated. I would say first the specialists would be most useful and welcome at our meetings to discuss the papers of the general practitioners if they would temper their discussions with mercy and consider the disadvantages under which many of us work and the fact that we are obliged to form our conclusions from clinical deductions, without laboratory findings. Second, the conclusions and suggestions of the specialist are accessible to the profession through the medical press, while the members of our organization may find a complete résumé of recent findings in our national and state journals.

In conclusion, let me say that, to my mind, the isolated general practitioner who meets successfully the demands of a busy practice, is quite as big a man in the profession as the specialist who masters a limited field under the most favorable conditions. So, in order to help complete our organization, I would arrange to attract the general practitioner; I would try to make him feel that his experience is needed at our meetings, and that at all times he is most welcome in our scientific discussions.

D. C. Moriarta.

# THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

By HENRY S. GOODALL, A.B., M.D.
LAKE KUSHAQUA, N. Y.

THE diagnosis of pulmonary tuberculosis in its early or incipient stages depends upon the proper correlation of various symptoms and signs, which vary in importance and of which few or many may be present in any particular case. It also requires that the patient shall present himself as soon as symptoms develop; not after they have existed for months. The public still needs education in this direction. Such education is now being furnished with very satisfactory results by the tuberculosis exhibitions which are being held in various parts of the country.

The family history is of importance if it shows exposure of the patient to infection through the occurrence of tuberculosis in other members of the family with whom the patient has been thrown in contact. Direct congenital inheritance is probably very unusual, although it is a possibility.

The patient's previous history should be closely scanned. The manner of feeding as an infant, whether on cow's milk or not, is important, as is any history of direct exposure to infection. Protracted measles, whooping cough, pneumonia, or influenza; atypical history of typhoid fever or of malaria in a climate where true malaria is rare or unknown; previous disease of the bones, joints or glands; chlorosis; ischiorectal abscess; repeated colds and repeated loss of voice should all arouse suspicion, because in some instances they predispose to tubercular disease, while in others we may reasonably suspect that tuberculosis was the real condition. The excessive use of alcohol or tobacco, unsanitary surroundings; habits of dissipation; overwork, poverty, certain occupations such as rag picking, grinding, etc., are to be weighed as predisposing factors.

It is safest to consider every pleurisy as tubercular until the contrary is proved. Pleurisy with effusion is frequently followed after some months by the appearance of pulmonary tuberculosis on the same or on the opposite side.

The various symptoms complained of are cough, with or without expectoration; blood streaks or a small hemorrhage; lassitude, loss of strength or loss of weight; cardiac palpitation; pain in the chest; disorders of vocalization, undue perspiration, night sweats, and gastro-intestinal disturbances, especially hyperacidity and poor appetite with abdominal distension and constipation, or alternating constipation and diarrhœa. A condition of nervousness and irritability in a person of previously even disposition, with or without sleeplessness, and sudden changes from despondency to buoyancy may first attract attention to a pulmonary lesion. Menstruation may be delayed, scanty or absent. Rarely it becomes more profuse or frequent.

Upon inspection the patient will probably be fairly well nourished and will not look particularly sick. He may, in fact, look particularly well. The emaciated, tottering man can lay no claims to incipiency. The pupils may be of unequal size or reactivity. We may observe or be told that the color of the face is unstable and variable, or that it is unequal on the two sides. There may be a red line along the edge of the gums.

The larynx must always be examined and may show pallor, slight thickening of the mucous membrane at the posterior commissure, or elsewhere, or unequal motion of the vocal cords in phonation. It may be negative. Marked infiltration or ulceration will usually be absent in early cases. Faint crackling or similar sounds made in the larynx or trachea may be heard by holding the stethoscope in front of the patient's open mouth while he breathes. The nose and pharynx may present local lesions of tuberculosis, but will probably be negative, except in so far as obstruction to respiration caused by enlarged turbinateds, adenoids, tonsils, etc., is to be considered as a predisposing cause.

The lymphatic glands and bony system should be examined and it is well to look for a thickened epididymis in the male. If there is a history of piles we should determine whether we are really dealing with piles or with a fistula or a fissure. Either of the latter should be viewed with suspicion. The skin may present lupus or a local tuberculide of some sort. Pallor and other changes accompany the later stages of the disease.

The blood picture is usually either normal or that of secondary or of simple anæmia. It may be identical with that of chlorosis. A normal leucocyte count is fairly good evidence of the absence of cavities of any size. In bone disease a low leucocyte count indicates the probable absence of an abscess or the absence of secondary infection, if an abscess be present. A high lymphocyte count in the blood is not diagnostic of tuberculosis, as it may be due to other wasting diseases, but in a serous effusion it points strongly to tuberculosis. A high polymorphonuclear count usually indicates some organism other than the tubercle bacillus, either as the prime cause of the disease in hand, or as a mixed infection with tuberculosis. In acute miliary tuberculosis and in tubercular meningitis we may have a relative polymorpho-leucocytosis with an absolute low count of leucocytes.

The blood pressure is likely to be lowered. The toxines of tuberculosis seem to have a strong vaso-dilator effect. The pulse is soft and more or less rapid. Both pulse and blood pressure are unstable and unduly effected by change

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of position and other causes. An increased pulse rate is often one of the earliest symptoms noted, and if above 90 with the patient at rest always demands an explanation.

A rise of temperature which persists from day to day is of great importance, even if it be of slight degree, 99.5 to 100. Its presence can only be excluded by taking the temperature every two hours for several days, taking it upon the even hour one day and the odd hour the next day, beginning when the patient awakens in the morning and continuing until bed time. If the patient is restless at night it is possible that fever is present at this time and observations of the temperature during the night should be made. The maximum temperature may be found at any hour of the day or night, but occurs oftenest in the afternoon or evening. In some cases a rise of temperature occurs only at the menstrual epoch. In others we find that the temperature is raised unduly after exercise and does not subside promptly. A wider range of temperature than normal during the twenty-four hours is also suspicious.

We come now to the physical examination of the lungs. For this one condition is absolutely indispensable. The clothing over the chest, down to the waist, must be entirely removed to the skin. A cape cut out to fit round the neck should be provided to cover the patient. This may be made of cotton flannel or other material. The examination must be made with a stethoscope, and if possible with the patient sitting or standing.

Inspection may be negative, or we may note one clavicle too prominent, one shoulder too low, or deficient movement at one apex or at the base. Litten's sign may show unequal descent of the diaphragm. The cutaneous veins of the chest may be too marked and the same may be true of the veins of the neck and temples, or of the finer capillaries over the apex of the lungs. One scapula may be more prominent than its fellow, its lower angle projecting backward and outward.

Palpation will confirm the results of inspection and may add altered vocal fremitus. We may also find upon pressure with the end of the finger that certain small, more or less circular areas, usually over the upper part of one lung, are more sensitive to pressure than the corresponding opposite areas, probably because of slight involvement of the pleura by a sub-pleural infiltration.

Percussion usually gives no very definite information except in cases that can hardly be called incipient, or when the observer's ear is remarkably acute. It may, however, show slight narrowing of one apex—Kroenig's sign. This is perhaps best developed by percussing lightly along the anterior border of the trapezius.

Auscultation is the most valuable method of investigating pulmonary disease. We note: (1) Changes in the breath sounds; (2) changes in the transmission of vocal or whispered sounds, and (3) the presence of rales, of friction sounds. The breath sounds may be increased or decreased; increased by infiltration, producing increased conductivity of sound; decreased by imperfect expansion of the lung, by the plugging of bronchioles with mucous, and by the partial closure of a tube by pressure from an enlarged lymphatic. The inspiratory or expiratory sounds may either or both become high-pitched, bronchial or tubular. The expiration may be prolonged to equal or exceed the inspiration. The breath sounds may be granular, or rude or harsh, as if rales were almost on the verge of production. A venous hum above or below the clavicle is very suspicious. A cardio-respiratory murmur if localized is suspicious; if found over a whole lung or the whole chest it is probably due to nervousness.

In the second intercostal spaces, near the sternum, *i. e.*, over the large bronchi, spoken or whispered words and the breath sounds are normally louder than elsewhere and the relative length and loudness of the expiratory sounds, as compared with the inspiratory sounds are greater. As we move from this spot outward or downward, spoken or whispered words and the breath sounds become less loud than at the starting point and the expiratory sound becomes much fainter and shorter than the inspiratory sounds. As we move upward from the second space on the left side they should become less as far as the clavicle, and above the clavicle should be less or at least no louder than at the starting point. On the right side these sounds should be less or equal below the clavicle and equal or perhaps slightly louder above the clavicle than in the second space. These sounds are all more marked on the right than on the left, comparing identical areas on the two sides. The same relative intensity and length of sounds are found in the back; loudest over the bronchi near the spine, and changing in the same general way as we pass to the apices. In some cases the voice and breath sounds are normally more marked posteriorly over the left lower lobe than over the right one and this should always be considered when rales are absent. Any deviation from these conditions means something abnormal in the region involved.

Prolonged expiration and increased whisper are among the earliest of all the physical signs of tuberculosis; sometimes one appears first; sometimes the other. Expiration which equals inspiration in length or a well defined whisper is very likely to be abnormal at the right apex, while at the left apex, or at any other point not over the root of the lungs these sounds may safely be considered pathological. They may mean beginning disease or the result of fibrosis in a healed lesion, but are never normal.

Rales of all sorts are of greatest importance,

both for diagnosis and for estimating the progress of the case. Rales heard during ordinary breathing may be accepted as marking a more or less advanced stage of disease. Incipient cases show either no rales or only rales produced by cough. Of these there are two varieties; one produced by the ordinary cough, followed by a rather quick and deep inspiration, and one produced by forced cough, at the end of expiration, followed by a quick deep inspiration. Rales may be brought out over a diseased area by the latter method when they cannot be demonstrated otherwise and are then usually very fine and frequently faint. Rales must never be said to be absent until we have failed to develop them after trying both kinds of cough, for while the expiratory cough is usually the most searching, it occasionally happens that the ordinary cough will develop rales where the expiratory cough fails to do so. Rales are best heard in the morning, on damp days or when a patient has a fresh cold, and in doubtful cases it is well to make examinations under one or all of these conditions. Rales may be present one day and absent the next.

Any form of rale may occur in tuberculosis or in simple bronchitis. In the former, however, they are found over localized areas, usually in the upper part of the lung, and are accompanied by increased voice or whisper, prolonged respiration, or bronchial breathing and possibly dullness; in the latter they are diffused over the whole chest, but most marked over the lower portions, and signs of consolidation or infiltration are absent. Also in bronchitis the large rales in the bronchial tubes usually appear first, and the finer rales are absent or develop later; in tuberculosis the reverse is the case. A sonorous rale heard constantly at one spot and unaccompanied by other rales, suggests a local peribronchial infiltration, an enlarged gland or a foreign body. If abnormal signs appear at the top of the lung the presumption is in favor of tuberculosis; if at the base the presumption favors a non-tuberculous cause in adults.

On taking a deep breath, fine crackling rales may at times be produced at any point along the borders of the healthy lung, by the expansion of previously closed air cells. Such rales are transient and are most frequently at the base of the axillæ and do not justify a diagnosis of tuberculosis in the absence of other evidence. If the patient is lying on the side the lower lung is compressed on account of the position, and shows more or less signs of infiltration which disappear with change of position. It is therefore wise to examine in the upright position when possible.

Swallowing causes sounds which closely simulate small moist rales at the apex. If the arms are folded, a skin rub often simulates a loud pleuritic friction sound or a sonorous rale, but is found to be loudest at the shoulder and to disappear on changing the position of the arm. Sounds made in the nose or pharynx may appear to be rales in the upper part of the chest until they are traced to the point of greatest intensity. Crackling from a dry skin or from hair under the stethoscope must not be confused with rales. These sounds may be prevented by wetting or greasing the surface.

The respiratory sounds, the voice and the whisper, that are heard over the cervical vertebræ lose their cervical qualities as we pass downward and acquire the pulmonary characteristics rather suddenly at about the second dorsal spine. If they retain the cervical characteristics much below this limit, we are fairly safe in diagnosing enlargement of the lymphatic glands within the chest. The same applies to the vertebral dullness. Enlarged intra-thoracic glands may produce dullness between the spine and the scapulæ and also a systolic murmur over the upper end of the sternum when the head is thrown back. Engorgement of the veins of the chest, front or back, or of the veins of the neck or temples, paresis of a vocal cord, unequal pupils, and a spasmodic cough, simulating pertussis, but not quite typical, cardiac arythmia and tachycardia, pain under the sternum or along the upper dorsal vertebræ, all suggest pressure effects from enlarged intra-thoracic glands.

In children the signs of glandular enlargement are more easily found than in adults, while pulmonary signs are usually atypical. Frequently the only signs of pulmonary involvement at first will be harsh or diminished breathing, or faint sibilant whining, squeaking or fine crackling rales after cough. The area near the nipple or to the outer side of or below it, is frequently the seat of these slight sounds. The base of the lung behind is also a not uncommon seat of trouble in children.

The presence of tubercle bacilli in the sputum is positive proof of pulmonary tuberculosis, if their origin from the upper air passages or from the patient's occupation (work over tubercular patients, handling dry bacilli, etc.) can be excluded. Our inability to demonstrate tubercle bacilli in no way negatives a diagnosis based on other evidence. Holt induced cough in young children and then wiped out the throat with gauze on an applicator and thus obtained sputum showing tubercle bacilli. By washing out the fasting stomach in the morning, Hausman found tubercle bacilli in many cases where sputum was said to be absent. They may also be found in the feces, urine and blood, and, according to the seat of the disease, in the cerebro-spinal, pleural, or other fluids. Rosenberger found tubercle bacilli in the blood of a considerable series of cases examined, but most other workers have been unable to duplicate his results. Sputum or other secretions or fluids may be inoculated into guinea pigs. Elastic fibres in the sputum are of importance only when tissue-destroying processes other than tuberculosis can be excluded.

Yamanouchi injected the blood of a tuberculous patient into the peritoneal cavity of a young rabbit and found that the rabbit became so highly sensitized that on the following day an injection of tuberculin, not large enough to effect a normal rabbit, would produce the immediate death of the sensitized animal. This test is still under trial and opinion seems to be divided as to its reliability.

The tests by agglutination and by hemolysis, the opsonic index, and some other laboratory methods are still either unreliable or else unavailable for general use.

Tuberculin was first used for diagnosis by the hypodermic method. This test, using graded doses of Koch's old tuberculin from 0.0002 cc. up to 0.005 cc., or possibly 0.008 cc., at intervals of three or four days, is often very helpful where the diagnosis is doubtful. The highest dose, 0.008 cc., is likely to produce reaction in some cases of latent or inactive tuberculosis. The subcutaneous test should never be used if fever above 100 is present at any hour of the day; if the area involved is extensive, or the signs show intense consolidation; if marked dyspnœa, weakness, palpitation or other symptoms indicate severe toxemia; if tubercular or other complications are present; if hemoptysis or febrile attacks have occurred within the preceding month; or when Addison's disease cannot be excluded. It produces both fecal and a general reaction and if improperly used is by no means devoid of danger. This test may react in latent or healed lesions and may fail to react in far advanced or generalized forms of tuberculosis, and in a small percentage of other cases of tuberculosis without apparent reason.

In the eye-test a drop of a one-quarter of one per cent. solution of precipitated tuberculin or purified tuberculin is placed in the conjunctival sack, the lower lid being drawn down. Only the weak solutions should be used and the test should never be employed in an eye not perfectly healthy or where there is a suspicion of past scrofulous or phlyctenular disease of the eye. A few cases of permanent injury to the eye and a good many cases of severe and alarming inflammation have occurred, and I am inclined to avoid this test. Some claim that the eye test reacts only in active cases, but this lacks definite proof.

The skin test of Von Pirquet is, so far as I know, without any record of bad results. A drop of old tuberculin is placed on the skin, which has been washed with alcohol, and a very small scarification is made through the drop, which is allowed to soak in for five minutes. A control scarification is usually made. After a period varying from a few hours to three or four days, a red elevated papule appears with a red areola and gradually subsides. Variations of this test consist in using several dilutions of old tuberculin at once, from one per cent. up to full strength, making the scarifications in a row. It is claimed that the more active the disease is the lower will be the strength of the tubrculin solution needed to produce a reaction. Detre uses old tuberculin, a bovine filtrate and a human filtrate at once, and claims to be able to differentiate human and bovine types of disease, and also the active and inactive stages. General reactions from the skin test have been reported. To avoid this the scarification should be very small—not larger than the head of a common pin. With such a scarification a red spot 5 to 10 mm. in diameter or larger results, while the control shows nothing at all.

Moro, in the percutaneous test uses a salve made by mixing 5 cc. of Koch's old tuberculin with 5 gm. anhydrous lanolin. A piece of salve the size of a pea is rubbed with the finger into an area of skin on the back, not over 5 cm. square, for one minute, left for ten minutes to dry and any surplus removed. After some hours or days papules appear with more or less general redness. There may be vesicles or pustules. These are limited to the area inoculated or extend round it, lasting for from one to several days or longer. A general eruption over the body is possible. This test is, according to Moro, very closely parallel in its manifestation with the Von Pirquet test. He says that the skin is only slightly sensitive to tuberculin during the first half year of life, so that a negative result at this time cannot be allowed to set aside a clinical diagnosis of tuberculosis. Negative results occur with both forms of the skin test; (1) in healed cases, especially of serous membranes and joints; (2) in the presence of measles and for a time after it; (3) in far advanced cases and in cases of generalized tuberculosis, miliary tuberculosis and meningitis, and (4) in about five per cent. of cases showing positive clinical signs of tuberculosis. In these latter cases Moro recommends the repetition of the inunction at the same place two or three times, when a reaction will sometimes appear. He does not consider either skin test as being of prognostic value. The only noteworthy advantages of the percutaneous over the Von Pirquet test are its simplicity and ease of application, and the absence of any instrument for scarification, which makes it less objectionable to some patients.

A prompt Moro or Von Pirquet reaction in a child is of great value, as latent or healed tuberculosis is rare at this age. A late reaction with undiluted old tuberculin is probably due to an inactive focus. A positive early reaction with a very weak solution of old tuberculin speaks strongly for the presence of tuberculosis. The absence of any reaction with undiluted old tuberculin speaks against the presence of tuberculosis, except in the classes of cases mentioned above, in which the system is no longer able to react. A positive decision either for or against the presence of active tuberculosis should never be made on the unsupported result of any tuberculin test. The tuberculin test does not tell any-

thing as to the location of the tuberculosis, as a tubercular lesion produces the same reaction no matter where the lesion is located.

The value of the X-ray is still a disputed point. The fluoroscope is not of much value in diagnosing early pulmonary tuberculosis. X-ray photographs, if taken and interpreted by an expert, frequently give us a much clearer conception of the extent of the disease present than is gained from physical signs alone, and may also reveal cavities or enlarged glands, which could not be otherwise recognized. A slight infiltration at the apex can usually be detected by physical signs as soon or sooner than by the X-ray, though the reverse is sometimes true. A diagnosis of active tuberculosis should not be made on X-ray findings alone, as we cannot tell whether the shadows are due to tubercular or other causes, and if it be tuberculosis we can tell nothing as to its activity.

In weighing the evidence for and against tuberculosis, we must remember that as a rule no one sign can justify a positive diagnosis, unless it be the presence of the tubercle bacilli, and even here we must be sure that the organism is not of accidental occurrence in the specimens or on our slide. The general symptoms due to tubercular toxæmia are of equal importance with the physical signs and local symptoms, and with the results of the tuberculin test, for they tell us whether the patient is sick or not; *i. e.*, whether he has active tuberculosis or is merely a latent or arrested case, or one who is a bacilli carrier but who is not incapacitated thereby.

A diagnosis may be safely made on symptoms alone, when no other cause for the symptoms is to be found, especially if a positive reaction to the skin test with a weak solution of old tuberculin is present. Hemorrhage should be taken to mean tuberculosis in the absence of other definite cause.

Definite localization is the characteristic which distinguishes the physical signs of tuberculosis from those of bronchitis. On the other hand, one must remember that peribronchial infiltration, or the presence of inflamed bronchial glands, may produce sonorous and sibilant rales exactly simulating an ordinary bronchitis. Here the increased pulse and temperature, the history of the cause and of the manner of onset, the tedious course and the disturbance to general condition out of proportion to a simple bronchitis will put one on the right track. Dullness and rales, if localized, are pretty sure to mean tuberculosis. Increase in the sounds of the voice or whisper over a localized area means a tubercular process, either new or old, as does localized prolonged expiration. These signs might be caused by chronic influenza, by cancer and several other conditions, but these are uncommon and no harm would be done by calling the case tubercular, as the treatment for tuberculosis would be as good as anything for the other conditions.

Unexplained increase in pulse rate, with a temperature above normal, or with a range of temperature of wide daily variation, though not above normal at any time—*i.e.*, a range of 1½ or 2 degrees between a low morning and a normal evening temperature—would justify a diagnosis of tuberculosis, especially if other symptoms were present. Either of them alone, without other symptoms, would call for close observation until the cause could be determined.

It is sometimes impossible to make a positive diagnosis at the patient's first visit, and in such cases one must see and examine the patient at repeated intervals until he has had sufficient time to observe and study the case from all points of view.

In all cases of doubt I believe we are justified in making a diagnosis of tuberculosis—on the ground that to tell the patient that he has incipient or latent tuberculosis, and to put him on treatment for it does him no particular harm, even if we are in error, while an error in the other direction may cost our patient his chance of recovery. Many patients have complained bitterly of not having been told that they had tuberculosis and of having been treated for other things until the disease was quite advanced, but no one has yet complained to me of having been told too early.

In the present state of public opinion, however, it is most desirable that the diagnosis of tuberculosis in all uncertain cases be imparted only to the patient or to such immediate relatives as can be trusted.

(NOTE.—The following articles are listed as having been referred to above or as taking up at length some of the individual symptoms of tuberculosis.)

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## THE MANAGEMENT AND CARE OF TUBERCULOSIS.*

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IN the present widespread interest in this subject and the numerous excellent contributions to all phases of it, I must not be expected to say anything novel as to the management of tuberculous patients. The most that I can do is to pass on some thoughts which an intimate contact of some years with this disease shall have impressed upon me, and perhaps present them in a different way.

It is safe to say that most of the tuberculous patients must be treated at their homes by their family physicians, and therefore a consideration of what ought and can be done by him will be most pertinent. A term of residence in a health resort or sanatorium is at best a short one, and though increasing opportunities are being placed at the disposal of favorable cases, the greater number of patients continue to pass over the line before resorting to effective measures of treatment. Too many, indeed, are doomed to a progressive course, or chronicity at the outset. The very fact that year by year more institutional treatment is available makes it incumbent on the family physician to acquaint himself with the details of the modern management of such cases, because the patients return home in many cases partially arrested, to continue their régime. Too often they are prone to assume that they can receive no judicious guidance from their home physician, whose knowledge of or interest in tuberculosis is confessedly superficial. He would certainly regard himself deficient if, in the no more important disease of pneumonia and typhoid, such a statement could be made about him. Hence, the matter must be taken seriously. It is not always interesting to sit down with one of the hopelessly progressive tuberculous patients and plan out every detail of his daily life, but sometimes the results are favorable. The patient may improve markedly. The doctor becomes cheerful, some become enthusiasts, and one success makes him understand the secret of it afterward.

There should be no essential difference between the confident manner with which the specialist lays down simple rules for a tuberculous patient and the same thing done by the family physician for pneumonia. The care of such cases cannot be disposed of in a fifteen-minute visit or office consultation, however, and the first requisite is a thorough diagnosis, including that of the family history and temperament. All the possible complications must be considered. For example, is there sugar in the urine, or is the hoarseness due to a deep-seated tuberculous laryngitis? Both affect the prognosis unfavorably, and the plan to be advised as to diet and rest of the voice. It may require a second interview before the system of routine is thought out by the physician, but anyhow it should be preceded by a real examination. The public is rapidly becoming educated as to what this means, and the painstaking man is rewarded with confidence, though his experience may be limited.

It is often necessary to confer with relatives or employers in order to refute statements made by the patient as to what can or cannot be done. Much tact will often be required in persuading the patient to sacrifice the time needed for rest. The problem is often best solved by frightening the family, but seldom by using the same method with the patient, who must be regarded as a neurasthenic and dealt with gently. Having decided on the most desirable plan for carrying out the hygienic life essential for the patient, and

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determined how much of it can be obtained, it is well to write down a series of regulations for a daily routine in addition to the arrangements provided for his environment.

Generally the first thing to insist upon is a complete rest, for the patient seldom comes to our notice without symptoms of progressive disease, even if no fever exists. Dyspepsia weakness, rapid pulse and anemia are each sufficient indications of a recent active process and call for medical treatment. In arranging for the needed rest and quiet a veranda or balcony is to be selected, preferably on the rear of the house and on the second floor. This makes it easier to secure privacy and prevents friends "dropping in to see how he is" with the same ease that is possible on a front veranda. This can be used for sleeping out at night if sheltered properly, but the question of sleeping out or in is to be decided by the circumstances in each case. While not essential to best results, it is to be favored for those who are not timid and who are undisturbed by noises, light, etc. It is especially desirable in hot weather. The proximity of some relative or nurse is important at night. If a sleeping balcony is not feasible, the windows removed from a corner room may furnish a good substitute.

Having secured a place for the patient to pass most if not all his time, the next thing is the plan for the day to which the family can adjust itself without interference with the patient. It has become an excellent custom to have printed diet lists and specific suggestions for the guidance of the patients, in which the hours are noted when food, rest and exercise shall be taken. Such a list is used in private practice with advantage and leaves nothing to indefinite, verbal instructions. I have one which has no claim to special excellence but meets my requirements well. In this, which is here exhibited, there is space for notes about different items, such as walking, driving, recreation, nourishment, etc., and the hours printed on the margin. The daily routine program is filled in or scratched out after consulting the patient about his symptoms and ability to take various foods.

The day usually begins at seven or half-past seven by a cool sponge bath to the chest and neck. It depends on the resistance of the patient whether it shall be warm, tepid, or cold, in or out of bed. The toilet of the mouth follows. A mouth wash of Dobell's solution or the like is advised after the morning sputum is raised. A spray is used if laryngeal ulceration exists. Next comes breakfast, with one to two glasses of milk. A rest follows and the calls of nature answered.

Exercise is permitted if no fever over 99.5 occurs, provided other symptoms are favorable. It usually is begun for ten minutes at 9.30 or 10.30, and gradually increased up to two hours both morning and afternoon. This increase obtains only in the presence of good nutrition and general improved strength and lessened symptoms. Fatigue is always carefully noted, and increased expectoration is also taken as an indication for less exercise. Absolute rest is enjoined in case the temperature reaches 100 degrees, or the pulse is persistently high, except in old, chronic incurables. Rest is always important before and after meals. Lunches may be omitted if the patient can thereby take more food in three meals, but generally it is found advisable to use milk between meals, according to the digestive power. Exercise is less safe in the afternoon hours, and each case must be studied as to its effect and the amount adjusted to the safe limit. Often it is wiser for the patient to lie down until the supper hour. Mental excitement is equally capable of injury with muscular exercise, whether from conversation, games, study, reading or writing—the last being a serious factor at times with patients away from home and business. Arbitrary rules must be written out even though they be tentative; they can be modified from week to week.

Rest of the voice is very important if laryngitis is present. Smoking is generally discouraged. Coughing should be restrained to the least necessary amount. Strict cleanliness with the sputum is only possible when the beard and mustache are closely trimmed, and for handkerchiefs are substituted gauze or cloths held before the mouth in coughing and for wiping the mouth. These are burned and the hands frequently washed with soap and water. Antiseptics, unless soapy, are best avoided, for they coagulate sputum and often imperfectly. Nothing of this kind should be left to the judgment of the patient except that his taste may be consulted as to minor details. These concessions relieve the physician from the charge of arbitrariness and stupidity and show his sympathy with the human side of the patient. The patient as well as the disease is being managed. His temperament must be considered.

Often in these days fears of infection must be allayed, both on the part of the patient for himself and family—and, on the other hand—of the family for themselves.

For example, the existence of danger from table utensils after being simply washed with soap and hot water has been shown by hospital experiments to be negligible.

The exhibition of fear of contagion by the physician is both stupid and cruel to the patient.

Exceptionally, a severe lecture may be needed to bring a careless, indifferent or selfish patient to a reasonably good behavior with his cough and sputum. The impression made on the patient of sincerity and sense on the part of the physician goes far to make him responsive. It is highly important to successful care and cooperation. Not every doctor is so constituted as to make a good pediatrist; likewise not all have

the mastery of details and the patience to make good managers of tuberculous invalids. Yet it is to a large degree a matter of choice or determination with the doctor in the latter case, and willingness to devote the attention to it. He must be an arbiter of many little questions: whether the patient should put on his thinner or thicker underclothing, wear a sweater or overcoat, take six or eight glasses of milk a day, take his eggs raw or cooked, with or without sherry, go to a ball game or on a boat ride, smoke one or two cigars a day or none, etc., etc. I believe the physician must be prepared with a ready answer, confidently expressed, to all such questions—of course after investigating the symptoms and conditions bearing on the particular question. Clearly common sense must be the guide in most cases, for rules have to be elastic.

Medication has lost much favor in the last few years of fresh air propaganda, but one must be prepared to relieve symptoms such as hemoptysis, fever, cough and sweats, with mild treatment, if other measures fail. It should be given with assurance, too. Many people are unable to keep up their interest in their physician's directions unless supplemented by some specific which they have faith in, either through hearsay or someone who has been "cured" in their acquaintance. It is better to give some medication to patients who need such a mental support, provided it is harmless to the stomach or otherwise desirable, and I believe we should recognize the fact that creosote, guaicol, iron, arsenic, phosphorus, are capable of usefulness, though often used to the detriment of patients in the past. The same is true of tuberculin, although specific treatment of this kind requires even greater circumspection. All the aid that psychic measures can give is welcome and at times of great value. In the presence of unfavorable symptoms which, alas! in these days of popular education, are often well understood by the patient, the physician must cast about for some favorable aspect to lay stress on, yet always within the bounds of truth. Whether it be under the name of Christian Science or New Thought, I do not hesitate to encourage the helpful principle involved, without advocating the particular cult as the only true exponent of it. Let the patient understand our desire to give him the benefit of all the good influences he or his friends may advocate, provided he keeps up his hygienic life. The phthisiotherapist should himself be a psychotherapist in the broad sense.

These are a few of the thoughts that present themselves prominently to my mind, but I realize how many other things I have passed over. There are the questions of convalescent care, or return to full or part work, change of residence, of breathing exercises, recreations, return to school or college, and many others, both medical and social, that one must consider. Fortunately good books are now available in which a vast amount of experience is summed up for our guidance. I hope that not a few general practitioners will possess them, and not allow the often distorted albeit necessary popular educational campaign to mislead them or leave them behind.

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## SOME SURGICAL ASPECTS OF TUBERCULAR LESIONS.*

By EDGAR A. VANDER VEER, M.D., Ph.B.

DURING the last four or five years a great anti-tuberculous crusade has been sweeping over the United States. Leagues for the prevention of tuberculosis, for the educating of the people up to a better understanding of the disease and its prophylactic treatment, have been formed without number. Like everything else that the American people undertake, it has been gone into with their characteristic energy, so that at the present time there is hardly a State in the Union that does not have, in some form, its hospital for the treatment of incipient tuberculosis, and in many States there are hospitals for the treatment of advanced cases. Here, in New York State, some of the counties and cities are building tuberculosis hospitals of their own, in addition to the tuberculosis hospitals built and maintained by various societies, besides private and charitable sanitaria.

These steps are very well in their way, but is there not great danger that the education will be carried too far and that the mass of people will become as fearful of tuberculosis as they are of leprosy and small-pox, and will shun the victim of the disease as they do the cancer or small-pox patient? Even now we see, for instance, when a tuberculosis hospital is to be established in a certain locality, that the inhabitants invariably protest against it, fearing the white plague, which is coming within their midst, when in reality we all know that we run a much greater risk of infection in the larger cities and unprotected rural districts than we do in the vicinity of these self-same tubercular hospitals. In other words, we, as a nation, have been seized with a tubercular hysteria, which is doing almost as much harm as the anti-tubercular crusade is doing good. The good sense of the American people, however, will come to the rescue and the great white plague will eventually be conquered.

So far as the medical profession is concerned, the physician and the internist are having their say, and it would seem as if the surgeon was not to have much, if any, share in the matter of the prevention or the treatment of the dread disease. But when we come to analyze the situation thoroughly, I have no doubt you will agree with me that it is really more of a surgical than

* Read before the Fourth District Branch of the Medical Society of the State of New York at Plattsburg, N. Y., July 8, 1909.

a medical disease, and one that, except where it involves the lungs, is best treated surgically. In time we may even be able to operate upon the lungs and remove the infected areas.

Twenty-five years ago, or even a little less, the opening of the abdomen for the removal of any of the diseased conditions there present, aside from ovarian tumors, was considered well-nigh impossible. At the present time we all know how simple a matter it is to remove the appendix or some kindred lesion in the abdominal cavity. If, therefore, we make even one-half the progress in the next fifty years in lung conditions that we have in the past thirty years in abdominal conditions, then I doubt not but that pulmonary tuberculosis will be considered a surgical lesion.

Different methods for the treatment of tuberculosis have risen and had their vogue, some with a fair degree of success, only to give way to others. But none have been so successful as the complete removal, whenever possible, or even the partial removal, of a tuberculous process by surgical intervention.

Within the last two years the treatment of tuberculosis by means of hypodermic injections of the salicylate of mercury has come into vogue. This method of treatment has been used more particularly in the army, where it originated, and where it seems to have had its greatest success. However, in the army syphilis is widely prevalent, and it is very probable that the use of the mercury, by curing the syphilis, has put the patient in much better condition to withstand the ravages of tuberculosis.

Within the last four or five years our means of diagnosis of tuberculosis have become so much more accurate that there is hardly any excuse for not recognizing it in its earliest stages and adopting at once the proper surgical treatment. With the Moro test, so simple in its application, also the Eisenbach test, we have two almost infallible means of diagnosis at our command.

The Moro test consists, as you know, of tuberculin and lanolin, made up into the form of a paste, and a small amount, about the size of a pea, is rubbed on the skin of a suspected tuberculous patient. Within thirty-six hours, small reddish vesicles appear on the site of the application (usually over the infected area), if the patient is tubercular.

The Von Pirquet test consists in scarifying the skin and touching it with a solution of tuberculin, thereby obtaining, if the patient is tubercular, a blush, or erythema, of the skin, the same as a mild vaccine reaction.

By means of these simple tests our horizon in the diagnosis of tuberculosis is greatly widened, with so much gained in the fight against the great white plague.

Within the past three months there has occurred in Albany an epidemic of what has been called (for want of a better name) "glandular fever." The disease has usually occurred in school children between the ages of five and ten years. The trouble usually starts in with a sore throat; after a few days the temperature rises to a high degree (104 or 105 F.), and the cervical glands, usually on the left side, become greatly swollen. These glands seem to be the only ones involved. The child has some cough, and the case assumes all the appearances of an acute miliary tuberculosis, with a bad prognosis.

Just about this time the surgeon is very much tempted to remove the enlarged cervical glands, which, he thinks, are undoubtedly tubercular, though they show no signs of breaking down and discharging pus. Then he applies his Moro test, when, much to his surprise, he obtains no reaction. This causes him to doubt his original diagnosis, and he is inclined to reconsider the advisability of operation. Meanwhile the patient commences to improve and eventually recovers, the swollen glands entirely disappearing. A good illustration of the value of the Moro test.

"Perhaps nowhere in the surgery of tuberculosis is the treatment more unsatisfactory and discouraging than in that of tubercular sinuses.* By the term 'sinus' I refer to suppurative channels or tracts leading into blind pockets in bone or paranchymatous tissues.

"These tubercular sinuses persist sometimes for years and generally never heal. No matter how radical an operation is performed the sinus or sinuses persist and the operation is practically a failure, the failure being due to the fact that we could not reach the bottom of the disease or else could not dissect out all the fistulous tracts.

"About three years ago Dr. Carl Beck, of New York, suggested a new method of anatomical diagnosis of these fistulous tracts, which seems to have had a great deal of merit. His method consists of filling the fistulous tract or abscess cavity with a paste made of 33 per cent. bismuth subnitrate and 67 per cent. of vaseline, and then taking a radiograph of the region so injected. As is well known, bismuth offers great resistance to the penetration of the X-ray and, therefore, it is a suitable material for this class of radiographic work.

"A radiograph taken by this method shows clearly the boundaries of the fistulous tracts or cavities, tracing distinctly the ramifications of the same, no matter how extensive or tortuous they may be. The most unexpected and surprising findings are often thus obtained. In cases where repeated surgical operations have failed to effect a cure, these radiographs have disclosed the cause of failure. They demonstrate that the surgeon's incorrect anatomical diagnosis was the cause of the failure, many ramifications having been left

* Dr. Emil G. Beck's Reports, Sixth International Congress of Tuberculosis.

unexplored after what he considered a radical operation had been performed.

"Dr. Beck's brother, Dr. Emil G. Beck, of Chicago, presented a paper on this subject before the Sixth International Congress on Tuberculosis, held at Washington last fall, and it is from this paper that I am quoting rather freely.

"He began by using this method for the purposes of anatomical diagnosis, and then operating upon all possible cases, and as thoroughly as possible. A certain number of cases, however, are inoperable, owing to the fact that the sinuses extend into inaccessible regions.

"He soon discovered that patients on whom he employed the injection for diagnostic purposes returned to him after months entirely cured. This suggested to him the use of the bismuth-vaseline paste for curative effects, and a number of obstinate cases were at once injected, and in each case the result was most gratifying; namely, a rapid closure of the sinuses.

"The technique of the operation, which is very simple, is as follows:

"Bismuth subnitrate....33 per cent.
Vaseline.....67 per cent.

This preparation is used for diagnostic purposes in the early part of the treatment.

"No. 2 contains:

"Bismuth subnitrate.....30 per cent.
White wax..... 5 per cent.
Paraffin (120 degs. melting point).... 5 per cent.
Vaseline .....60 per cent.

The second formula is used in the latter part of the treatment, where it is desired to retain the paste within the sinuses, and where there is no danger of producing retention of pus by obstructing narrow connecting channels.

"The vaseline, wax and paraffin are sterilized by boiling, and the bismuth subnitrate gradually stirred in after the mixture has been removed from the fire. The only instrument used is a glass syringe, with a pointed nozzle, similar to the urethral syringes.

"The opening of the fistula is cleansed with 95 per cent. alcohol, the nozzle of the charged syringe pressed against the opening, and under moderate pressure a quantity of paste is forced into the fistula until the patient begins to complain of pressure. The syringe is then removed and a pledget of gauze quickly pressed against the opening and held there until the paste has sufficiently set, thus preventing its escape."

By this treatment brilliant results have been obtained, and it seems that at last we have a reliable and sure method for the treatment of tubercular sinuses.

I have so far tried this method in four cases, with good success, though the length of time since the preparation has been used (three weeks) is hardly a fair criterion. One of the cases is that of tuberculosis of the hip, which has existed for some thirteen months. Here the discharge was very profuse, but since the introduction of the bismuth the discharge has let up very materially and the child speaks of feeling very much better.

Another case is that of tuberculosis of the first lumbar vertebra, which has persisted for several years, and which it was impossible to reach by surgery. In this case the discharge, while moderate in amount was still persistent, and has been greatly helped by the use of this paste.

The other two cases were tubercular pleurisy, in which the sinuses failed to close, one after nine months, and the other after three months' duration. In both of these cases marked benefit has resulted from the use of the bismuth.

At the meeting, recently, of the American Surgical Association and of the American Medical Association, this method of treatment was very favorably discussed and a number of successful cases reported.

Among the other surgical tubercular lesions with which we come in contact there might be mentioned those of the face, lips, etc.—cases which were formerly called "lupus," and which occur in people almost constantly exposed to the elements. Here an early diagnosis is very essential, as upon the diagnosis depends favorable or unfavorable prognosis, and the condition is essentially a surgical one. If the case is diagnosed sufficiently early the use of the X-ray or radium is of great value and generally has a curative effect. We very rarely see a case now of lupus of the face which has progressed very far, and the disgusting sights which we formerly saw (due to the ravages of this disease and to inability to make proper diagnosis) are seldom observed.

In cases of growths about the glands of the neck, especially in the cervical region, and which occur most frequently in young children or adults between the ages of 15 and 25, these glands seem to be a vulnerable point, the infection undoubtedly being conveyed through the medium of the tonsils. In a majority of these cases, when the glands first appear they alone are infected, and the lungs are entirely free from involvement. If now we can reach these glands early and thoroughly eradicate them, we have removed the cause of the trouble and also eliminated the liability of the lungs becoming involved. Here also early diagnosis is very desirable, which is also true of other parts of the body, and particularly about the glands in the groin we should always be on the lookout for tuberculosis.

During the last two or three years in Albany, as well as in other places, we have been using the high frequency current for the treatment of these glands, with considerable success. Just how the current combats the disease nobody

seems to know, but it certainly does have a beneficial effect.

In cases of pleurisy, a majority of which are tubercular, early diagnosis, with resection of a rib, is particularly desirable.

Then in cases of tuberculosis about the joints, especially the knee-joint, an early diagnosis and proper treatment of the disease are very desirable and important. In former times it was advocated to open up the knee and remove all the diseased tissue and then close it up again, allowing, however, for free drainage. The most modern treatment seems to be the injection into the knee-joint of a 10 per cent. solution of iodoform and glycerin, not exposing the knee-joint at all to the air. In the majority of cases this seems to be of great benefit, especially if the trouble has not progressed too far. In cases of tuberculosis of the joints we have a wide field entirely surgical, and non-medical in every respect.

In the treatment of cases of tubercular peritonitis there are two methods; one advocating the usual medical procedure in the treatment of tuberculosis, the other advocating the opening up of the abdominal cavity, and if the condition of the patient permits it, removal of the primary focus of infection, if it can be found. This latter school has by far the greater number of followers and seems to be the most successful.

I said in the beginning of my paper that I believed all tubercular lesions could be reached surgically, except tuberculosis of the lungs, and here the outlook is bright, for within the past few years a specially-constructed apparatus has been devised by which the pleural cavity can be opened and the lung exposed without injury to the organ. If such is the case, why would it not be possible some day to thoroughly expose the diseased portion of the lung and remove it by means of thermo-cautery or otherwise, the same as we do now with tubercular lesions in other parts of the body?

With regard to cases of tuberculosis of the genito-urinary organs and the various other organs of the body, time will not permit me to speak, but in all these conditions it is becoming more and more recognized that they will only yield to surgical intervention.

Few lesions, as studied in the laboratory, present such pleasing results as the use of the guinea-pig in investigating obscure cases of tuberculosis.

In conclusion, then, let me say that in all cases where the diagnosis is obscure we must first of all consider tuberculosis and treat the patient accordingly; second, that there is no tubercular lesion that cannot be treated surgically; third, that by the different means of diagnosis now at our disposal no case ought to be allowed to progress to that point where even a layman can make a diagnosis.

## TUBERCULOSIS IN EYE DISEASES.*

By J. W. STIRLING, M.D., Etc.
MONTREAL, CANADA.

IN the diagnosis and treatment of the diseases of the eye, a point of much importance is too often lost sight of, namely, that the eye being an integral portion of the general body, it is of necessity closely associated with the body in all diseased conditions, but more especially in general constitutional states.

These affect the eye either functionally in its visual power or organically by setting up actual pathological changes. Not infrequently a general toxic condition may first evidence itself in ocular changes. These changes may direct one's attention for the first time to the special constitutional cause, the other symptoms of the dyscrasia being so slight as to escape notice. For example, albumuric retinitis may be the first symptom indicative of the severe renal condition, or diabetic retinitis or cataract may indicate the presence of diabetes, or again, a paralysis of accommodation may show that a previous slight throat affection has been a true diphtheria. More locally an optic neuritis may be the first symptom of a cerebral tumour.

Just as in other constitutional states so in tuberculosis the eye may exhibit lesions characteristic of it and the ocular lesion may be the first one noted indicative of a general tuberculosis.

The percentage of eye lesions due to tuberculosis was until recently considered to be limited, about one in some thousand cases, but this percentage has lately rapidly risen until as Helbron stated the other day nearly one-half of the cases of scleritis, episcleritis and uveitis are tubercular, uveitis, including inflammations of the iris, ciliary body and choroid.

This rapid increase in the percentage is due to our improved methods of diagnosis.

Now, as to our methods of diagnosis, they have so far been three in number. The first was the injection subcutaneously of old tuberculin, but the severity of the local and general reaction caused this gradually to fall into disuse. After this came the instillation of the Calmette serum into the eye, but in this test the reaction produced in the eye was frequently so severe (if there had been any previous inflammation, or more especially any active inflammation at the time) that it has led to its discontinuance. The last method of diagnosis and one that bids fair to come into general use is the so-called inoculation test of Pirquet. This consists in the vaccination of a 50 per cent. solution of old tuberculin in distilled water into the skin of the arm. We inoculate two spots on the arm and have a third or control spot into which we simply rub some distilled water.

* Read before the Fourth District Branch of the Medical Society of the State of New York at Plattsburg, N. Y., July 8, 1909.

If the test is positive, as a rule within twenty-four hours there is marked redness and induration round the inoculation spot with the formation of some small vesicles, in a few days the scab dries off and there is no other general or local effect produced in the patient. The reaction which takes place within twenty-four to forty-eight hours produces little or no constitutional disturbance. In addition it does not interfere with the patient moving about and attending to his business. Pirquet's test originated from observing a reaction in vaccination for small-pox. The reaction in these cases occurs in twenty-four hours where the patient has been previously vaccinated. Accordingly, in cases affected with tuberculosis a similar reaction occurs after the inoculation with the tuberculin. The reaction is generally earlier in the more recent cases, whereas, those in which the reaction is deferred until forty-eight hours or more have been found to possess old healed tuberculous lesions. The reaction sometimes fails in miliary tuberculosis and sometimes in measles, etc., but although it may fail at first it can be repeated and may then succeed. In cases in the last stage of tuberculosis it also fails. In infants a positive reaction gives a very serious prognosis, indeed, it does so up to six years old. In regard to cases in which it fails Eisner's explanation of the action of tuberculin may hold. Eisner says that the tuberculin depends for its action on fragments of bacilli which contain an endotoxin, and this can only be liberated by lysins formed in tuberculous individuals. The tubercular individual develops tuberculin in his own body, and this when in excess, as in tuberculosis of the third stage, prevents a marked reaction when more tuberculin is introduced from the outside.

Until lately it was thought that tubercular lesions of the eye were characterized by the presence of the typical tubercle formation, but Axenfeld and Stock have clearly shown that many lesions of the eye due to tuberculosis are decidedly atypical. The diagnosis only being rendered certain by the tuberculin reaction.

It may be held that a positive Pirquet reaction does not determine whether a given eye lesion is tubercular or not. In syphilis the constitutional taint influences any pathological lesion and determines the general treatment; and one cannot help but assume that in tuberculosis any lesion must be correspondingly affected. In the conjunctiva the tubercular ulcers of the palpebral conjunctiva have been long known, with their former treatment with iodoform. I have seen a similar one at the cornea-conjunctival limbus in a young child—a large ulcer with a granular surface—the preaural gland was enlarged.

A conjunctival condition—the immediate etiology of which is obscure—is Parinaud's conjunctivitis. Here we have huge granular outgrowths on the palpebral conjunctiva—the preaural gland is enlarged—there is an evening rise of temperature. In one of the cases which I have seen the bacteriological findings were uncertain. The cervical glands were enlarged and marked improvement only followed their excision. A year later the patient developed marked lung tuberculosis. The question suggests itself if this disease may not be a manifestation of tuberculosis, but only further investigation can elucidate this point.

In the cornea the lesion which has most frequently been found to be tubercular in origin is interstitial keratitis. Until comparatively recently it was supposed to be almost invariably due to hereditary syphilis, although many of the cases did not present any other specific stigmata. In nearly one-half of the cases which I have seen during the past year, in which there were no signs of syphilis, I have obtained a positive reaction by the Pirquet test. It would seem to me that these cases are characterized by a patchiness in the capacity of the cornea, by its occurring at a rather more advanced age than the usual specific keratitis, by its running a much more prolonged course and by its marked sluggishness in clearing up. This being in marked contrast to the comparative rapidity with which the specific condition improves under suitable treatment. In some of my cases there were, of course, other symptoms of tubercular disease, either in the joints or the lungs.

One would expect phyctenular keratitis to be essentially tubercular, but here the reaction to Pirquet's test has been very uncertain and it would appear as if a very small percentage of the cases were tubercular in origin.

The phyctenulæ themselves are purely lymphoid and do not show the typical tubercular formation, but this may be one of the atypical forms to which Axenfeld's researches point. Phyctenular trouble is associated with the strumous diathesis, which the most of us regard as being a modified tubercular dyscrasia. Wolff Eisner holds that if a minute amount of tuberculous material be present the structure of the lesion may be lymphoid, whereas, if a great amount of tuberculous material is present we may have a true tubercular formation. Muller inoculated animals with the material from twenty phyctenulæ and in one he succeeded in producing tuberculosis. Of course, this is too small a percentage to draw an exact inference from, but it may serve as an indication.

In the iris, ciliary body and uvea have been found, so far the greater number of tubercular eye lesions. The characteristic formation of tubercles at the periphery of the iris may or may not be observed. This may be due to the fact that the tubercles are too small to be seen, or that they are hidden behind the iris in the ciliary body, but there is no doubt that we may have a simple serous iritis of tubercular origin. In one case which came under my notice the initial lesion was apparently a simple iritis or iridocyclitis with some keratitis. No rheumatic, specific or tubercular history could be obtained; the local

examination of the lungs failed to show any lesion. In a subsequent attack there was a considerable outpouring of lymph into the anterior chamber which I finally had to remove. This exudate came away en masse and the microscopic examination showed the typical tubercular formation. The patient soon recovered, just as occurs in tuberculous joint disease where the opening of an abscess is followed by rapid healing and improvement. Later on the iritis recurred in the other eye, but this time the typical tubercles appeared and also a re-examination of the lungs showed now decided signs of tuberculosis. The tuberculin test was positive and if we had been at the time of the patient's first attack in possession of the Pirquet method I would have tried it for diagnostic purposes. In the severe cases of tubercular iridocyclitis which I have treated there has been a marked tendency to recurrence leading finally to atrophy of the eyeball. This form has a tendency to chronicity, relapses and intraocular hemorrhages due to the diseased vessels, thus differing from other types.

Scleritis, episcleritis, are also frequently of tubercular origin and formerly, for want of a better etiology have been referred to rheumatism as a cause. These cases have a tendency to patchiness, to chronicity and to recurrence. Another not uncommon disease of the eye which has often baffled us is recurrent hemorrhages in young people. These intraocular hemorrhages come from the choroidal or retinal vessels, frequently without any apparent cause or without any other lesion being observable elsewhere in the fundus. These hemorrhages Axenfeld and Stock have shown to be undoubtedly due to tubercular disease of the ocular vessels. Two of the latest cases that I have seen were as follows: One, a young man of twenty-five, who had previously suffered from pulmonary tuberculosis with its attendant hemorrhages, but who has improved greatly. The ocular hemorrhages came on without any warning and recurred from time to time. The second case was that of a young man who at the time of the hemorrhages was apparently robust and showed no signs of tuberculosis, but who within two years died of acute tuberculosis.

As to the treatment of these cases I am chary of the use of tuberculin hypodermically; as you all know the injection of tuberculin is followed in lung cases by rather marked reaction associated with some fresh exudation; this is but of slight import vitally in the lungs, but in the eyes it can lead to a further and may be complete obtunding of vision before it cures the tubercular local lesion. In cases of iridocyclitis in which I have used T R, I have started with about 1-3,000 of a milligramme of tuberculin once or twice weekly, being guided by the general reaction of the patient. In these cases there has been improvement in the local condition, but without the improvement in vision that I hoped for. In other cases it seems to me I have achieved as good results from general treatment.

In keratitis cases I have seen severe œdema of the cornea following the subcutaneous injection, blebs or bullæ developed in the cornea, which, however, I am glad to say disappeared upon the cessation of the injections. This would correspond to the local pulmonary exudate that occurs after injections for pulmonary tuberculosis. Various writers have claimed much for the subcutaneous tuberculin injection, but I must say I side with the numerous others who stand out for great caution in the use of these injections in ocular tuberculosis. It has been proven without doubt that the injections of the tuberculin do not seem to protect against relapses. Lately, however, in Gottingen, Hippel has shown that the use of the bacillary emulsion hypodermically does not cause such severe reaction and that it would appear to give very good results in ocular tuberculosis. It would also appear to confer a certain immunity and protection against relapses. Of this I have as yet but little experience as I am only now beginning to use it in practice. The treatment, otherwise, of the patients must be that of the general treatment of tuberculosis, rest of the eyes and body and general tonic treatment with plenty of fresh air.

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## ARTIFICIAL DILATATION OF STOMACH AND COLON AS AIDS IN ABDOMINAL DIAGNOSIS; WITH A HELPFUL SIGN IN CHRONIC APPENDICITIS.*

By W. A. BASTEDO, M.D.

WHILE we owe much to the laboratory for assistance in abdominal diagnosis, we have still certain measures, not yet in common use, by which we may increase the value of our own bedside observations. Among such are dilatation of the stomach, or of the colon, or both.

When both of these viscera are dilated with air or gas, the abdomen is fairly well split into two regions, an anterior and a posterior, separated by a layer of air or gas (see illustration). We can, therefore, by the dilatation, not only determine accurately the position of stomach and colon, but also locate and determine the relations of an abdominal mass, through its relation to the dividing layer of air or gas.

It goes without saying that the dilatation should always be preceded by the examination of the undilated abdomen.

### I. Dilatation of the Stomach.

To dilate the stomach, about half a level teaspoonful of tartaric acid dissolved in two or three ounces of water is administered, fol-

* Read before the Medical Society of the County of Richmond, March 10, 1909.


lowed in a moment by a solution of similar strength of sodium bicarbonate. The carbon dioxide liberated distends the stomach. If the stomach appears to be one of small capacity, or if there is suspicion of pyloric obstruction, only half the bicarbonate should be given at first for fear of overdistension, the rest being given a moment later if the first distension is insufficient. In routine dilatation of a very large number of stomachs by this method, we have noted over distention in only four, one of them a case with small stomach, the others with obstruction, and in all these too large amounts of sodium bicarbonate were used. Because of the abdominal resistance of the patient, and the comparative awkwardness of the method, we have abandoned, as routine practice, the dilatation of the stomach by injection of air through a stomach tube.

Dilatation of the stomach is useful in determining the following:

1. *The Size and Position of the Stomach.*—With a lax, thin-walled abdomen the dilated stomach appears clearly outlined; with a flat or tense or capacious abdomen, inspection fails, and determination of the stomach limits requires simple percussion, auscultatory percussion in any of its several varieties, succussion, simple palpation if the stomach is thick and hypertrophied, or Glénard's method of palpation when the abdomen is lax. In Glénard's method, when the patient takes a deep breath the ends of the fingers are dipped suddenly to catch the stomach against the vertebral column and are drawn downwards; the gurgle under the fingers and the stomach's lower border are often distinctly felt.

We do not attempt accurate location of a stomach without a preliminary dilatation for if the stomach is empty it may give a small area of tympany, even limited to Traube's space, while if it contains food it may percuss dull. Many of the X-ray pictures show contracted stomachs and thus deceive.

In cases where the stomach and intestinal tympany cannot be satisfactorily distinguished, the patient may be stood up and the dull area (seldom flat) of the liquid in the stomach located by percussion. Especially is this necessary, when, owing to the intestines being full of gas, the dilatation of the stomach pushes them out, and results in a bulging of the abdominal wall not only over the stomach but over the intestines as well, and gives one the impression that the whole prominence is stomach.

2. *The Muscular Condition of the Stomach.*—Good left to right peristalsis is frequently set up by the dilatation, or by the subsequent examination; or it may be elicited by vigorous tapping over the stomach. Its presence practically rules out atony or myasthenia; its absence as indicating atony is of value only if it persists at repeated examinations. Marked peristalsis always suggests the possibility of pyloric or duodenal obstruction with hypertrophy of the muscular coat of the stomach.

3. *The Location and Permeability of the Pylorus.*—We have seen a number of pyloric tumors to the left of the mid line, and at least two at some distance below the umbilical level. These have usually been taken to be in the anterior wall of the stomach or in the colon. But in each of these cases dilatation of the stomach has determined the real site of the tumor by throwing the wandering pylorus into the normal pyloric region. The position of the pylorus, especially if there is stenosis, may also be indicated by palpable vibration as the gas or fluid passes through it, or by the loud, close-to-the-ear gurgle on auscultation. Peristalsis with absence of pyloric gurgle indicates complete closure of the pylorus; and this is usually due to pyloric spasm whether associated with an organic lesion or not. One gastro-enterostomy case sent to us for observation showed this marked peristalsis towards the pyloric region without pyloric gurgle; and we were puzzled till we learned that the pylorus had been completely removed, and a gastro-enterostomy had been done too far to the left. It is to be remembered that where pyloric obstruction is suspected, the sodium bicarbonate solution should be used cautiously.

4. *The Location of a Tumor of the Upper Abdomen.*—Of a wandering pylorus we have just spoken. Dilatation of the stomach throws *forward* tumors of the anterior abdominal wall, of the anterior wall of the stomach, of the greater curvature, of the gastro-colic omentum and of the left lobe of the liver, and in consequence these become more distinct, or at least not less distinct; while the dilatation throws backward and causes to disappear tumors of the posterior stomach wall, of the lesser curvature and of the pylorus, as well as tumors posterior to the stomach, as of the pancreas, left kidney, or transverse meso-colon. We have had two cancers of the gastro-colic omentum which were well pushed forward by the dilatation; two tumors which were diagnosed as tuberculous omental tumors, but which disappeared with the dilatation and were both found to be cancers of the posterior gastric wall; three diagnosed to be in the enlarged left lobe of the liver but found to disappear with the dilatation, and to be, one a cancer of the pancreas, and the other two cancers of the lesser curvature; and other tumors of similar import.

5. *The Location of the Site of Tenderness.*—The same rules apply as in the location of a tumor. A patient complains of soreness in the stomach region. On palpation no tumor is felt, but there is a tender area; after dilatation the tenderness cannot be elicited except on very deep palpation, and after the gas has disappeared from the stomach the tenderness returns. In such a case the tenderness must either be in the posterior gastric wall, or behind the stomach. A few cases in which pain at the same spot resulted each time the stomach was dilated, at intervals of several days, were thought to have chronic ulcer with adhesions, and in some there was a good ulcer history; but none of these cases have come to operation, to confirm or upset the diagnosis.

## II. Dilatation of the Colon.

To dilate the colon a soft rubber rectal tube is inserted about twelve inches and air forced through it by means of an atomizer bulb. The introduction of the tube is facilitated if air is forced through it during its passage up the rectum.

Dilatation of the colon, or the attempt to dilate it is useful in determining the following:

1. *Rectal Obstruction.*—If the rectal tube cannot be passed into the sigmoid flexure, even when the rectum is dilated in advance of the tube by the forcing in of air as the tube is being passed, an obstruction is suggested, and should be looked for with the pneumatic sigmoidoscope. If the tube passes readily we may elicit information as follows:

2. *Colon Obstruction.*—An obstruction in the transverse colon is usually easily determined, the failure of the air to pass the obstruction being obvious. But an obstruction at the splenic or hepatic flexure may not be readily located. If the air easily distends the sigmoid without passing into the transverse colon, a splenic flexure obstruction should be suspected. We have had but few cases of splenic flexure obstruction; but have had a number of cases in which splenic flexure obstruction was thought to be present, but was shown not to be so by the easy passage of air into the transverse colon. Hepatic flexure obstruction is still less common, but if the air fills the transverse colon but not the cæcum it may be suspected. One case in which failure of the air to pass, and other signs, indicated an obstruction of this kind, proved to have a tuberculous stenosis through which a lead pencil could scarcely be passed.

3. *The Location of the Sigmoid Flexure.*—Occasionally the flexure is so long that it becomes pathological. In one of my cases of marked constipation it was found to extend to two inches to the right of the mid line, and from navel almost to symphysis pubis.

4. *The Location of the Transverse Colon and the Condition of Its Muscle.*—One may use this dilatation to determine enteroptosis, and especially to distinguish colon from stomach in some doubtful cases. As to the muscular power a flabby non-sensitive atonic colon may become enormously distended without much discomfort; while a colon abnormally sensitive and vigorous will result in either prompt expulsion of the air by rectum, or hard colicky pains.

5. *The Location of the Cæcum.*—This is frequently bulged so that its outline is clearly visible, or at least is easily determined by percussion.

6. *The Site of a Tumor or Tender Spot.*—The dilatation fairly divides the lower abdomen into anterior and posterior regions, pushing forward and making more prominent a tumor or organ of the anterior region, and pushing backward and causing to disappear a tumor or organ of the posterior region. The important anterior structures are the anterior wall of the colon, the adjoining omentum, spleen, gall-bladder, a Riedel's lobe of the liver, and any intra-abdominal mass attached to the anterior abdominal wall. The posterior structures include the posterior wall of the colon, the mesocolon, duodenum, kidney, ureter, aorta and anything else that is retroperitoneal as lymphnodes, psoas abscess, etc.

Therefore, by dilating the colon, supplemented in some cases by dilatation of the stomach, it is possible to differentiate a right kidney from a gall-bladder or a Riedel's lobe, or a left kidney from a spleen, or a tumor of the anterior wall of the colon or a tuberculous omental sausage from a tumor of the pos-

terior colon wall. A few cases will illustrate: (a) A man of 35 years with a slight tuberculous lesion at the apex of the right lung had a slightly movable tender mass two inches to the left and just below navel level. It seemed to several to be tuberculous peritonitis, but on dilatation of the colon it disappeared and as blood was found in the feces, it was diagnosed as carcinoma of the posterior wall of the colon. This diagnosis was confirmed at operation. (b) Patient had been in bed eight weeks with some symptoms of colon obstruction and a palpable tumor in the left flank thought to be either kidney or a carcinoma of the colon. On dilatation the mass moved forward, thus ruling out kidney, and began to present a free edge as of a spleen. Further dilatation resulted in the moving of the mass up beneath the ribs. It was a movable spleen. (c) The next case illustrates what can be done in diagnosis in a busy clinic. A Greek of 50, rather emaciated, with a two-inch incision scar in the gall-bladder region, complained of several weeks soreness beneath this scar. He spoke no English, and nobody at hand spoke Greek. A rather tender mass, distinctly cystic, had been made out, and as the diagnosis of various observers included cystic kidney, hydronephrosis pancreatic cyst and gall-bladder he was sent to us for further data. The cyst, felt to be two inches or more in diameter, was centered beneath the lower end of the scar. It could not be moved up and down, and was independent of the respiratory up and down excursions of the liver, therefore was probably not gall-bladder. After dilatation of the stomach the mass was unaffected, but on dilatation of the colon it was pushed forward so that the abdominal wall looked as if it had a small apple beneath it raising it up. It was positively, then, neither kidney nor pancreatic cyst, which would have been pushed backward. But, though immovable up and down, it could be slowly moved from side to side through a distance of two inches, unless the rectus muscle was held tightly, when it could not be moved at all. The case was therefore sent to the hospital as an intra-abdominal cyst attached to the anterior abdominal wall. Repeated attempts by several physicians failed to elicit any hydatid succussion, but the surgeon found an echinococcus cyst attached to the inner sheath of the rectus muscle.

7. *The Presence of Chronic Appendicitis.*—In the routine examination of digestive patients by colon dilatation, I noted, some three years ago, that acute pain or tenderness in the region of McBurney's point on dilatation of the colon regularly meant appendicitis. I have now many cases in which the finding has been proved by operation, and in every case operated upon in which the sign was positive, a diseased appendix has been found. I have a few cases thought to be appendicitis in which the sign was negative; in some of these from one to three years have passed without any appendix manifestations; in the others operation was performed and the appendix found normal. In no operation case with the sign negative was appendicitis found. I would ask all surgeons to employ this method so that we may determine its exact value; for it would seem to be especially useful in those cases in which slight tenderness to finger point pressure at McBurney's point, still leaves doubt as to the advisability of operation.

We for a long time believed that the pain and tenderness were due to adhesions, but in one case with much indefinite abdominal distress in which the sign was positive, operation by Dr. Walton Martin showed a four-inch perfectly free appendix that was swollen and inflamed at the end. I surmise that the dilatation of the cæcum made pressure on the inflamed area, or on some sensitive nerve-filaments, and so caused the pain and tenderness, but there were no adhesions.

In several cases of right-sided salpingitis and ovarian trouble, the sign has been negative, though a diffuse tenderness low down and extending to the middle line has been present in three or four of them. In one case of salpingitis in which the sign was positive, the appendix was found involved as well as the fallopian tube.

8. *The Presence of Adhesions.*—Pain and tenderness are regularly brought out at the site of old abdominal operations, and occasionally in various parts of an abdomen that has not been operated upon. Their occurrence in the same spot at repeated examinations suggests adhesions.

These few examples will suffice to show the usefulness of stomach and colon dilatation, particularly the latter, in abdominal diagnosis.

In closing I might add that I have had a number of obscure epigastric hernias, in which the diagnosis became easy after the dilatation. A recent case will illustrate. A large woman with prominent abdomen and considerable adipose had much pain in the stomach region which became worse as the day progressed and was often relieved only by vomiting. After a day or two in bed she would feel well again, but on getting up was as bad as before. The question of exploratory operation was considered. We saw the case after she had been kept in bed for two days, and after her pain had ceased. In dilating the stomach, and palpating, a vibratory gurgle was felt in the middle line above the navel. On cough a little prominence appeared, and finally became as big as one's fist. Operation was performed for epigastric stomach hernia with adhesions, and the patient has had no recurrence of the old trouble.

# THE EARLY DIAGNOSIS OF INTESTINAL CANCER.*

By IRVING S. HAYNES, Ph.B., M.D.

## Frequency and Mortality.

CANCEROUS disease is rapidly increasing. The mortality rate is more than double what it was forty years ago. Nearly 40,000 people die annually in the United States from cancer (Park). After the age of 35, one man out of seventeen and one woman out of nine will die from cancer (McGlinn).

## Curability.

There is no medical cure for the disease. There is no surgical cure except with certain varieties in accessible regions early in the disease and after wide excision. Even then the surgical cure is only about 25 per cent. for external cancers, very much less for those within the abdomen, and none at all for those arising within the thorax.

Surgeons, then, do not feel flattered by their record of cures in this disease.

Improvement in the mortality rate can come only in three ways. Wide excision, earlier operation, or by an anti-cancer serum. The first is now attained by experienced operators; bacteriologists are striving for the last, but so far without any certain results. Our only hope then, of lowering the mortality rate, is by an earlier diagnosis and operation.

## Difficulty in Diagnosis.

The early diagnosis of superficial cancers is often a difficult problem and many times definitely settled only by the microscope during or after the operation. Internal cancers are very much more difficult to recognize, and it is at times impossible to draw any conclusion beyond the fact that there is something serious the matter, its exact nature unknown to us, but which ought to be subjected to an ocular examination.

I am gradually growing into that frame of mind which makes it necessary in intestinal (and gastric) disturbances to *prove* that the condition is *not cancerous* than to leave this as the last alternative. It is wise then, I think, to suppose that cancer may be present and arrive at the true diagnosis by exclusion.

In order to keep within the time I shall limit this paper to a brief consideration of cancers of the small intestine below the duodenum and the large intestine above the rectum. Inasmuch as cancers of the small intestine bear a very small proportion, one to ten, to those in the large bowel, this paper virtually deals with cancer of the colon, with brief references to growths in the small intestine.

## Carcinoma. Morbid Anatomy.

Although there are a variety of malignant growths, which may invade the small and large intestine, carcinoma occurs so much more frequently than all the others that it is a safe statement to make that tumors of the intestine are almost invariably carcinomata. They are not very malignant at first, grow slowly along the line of the blood and lymphatic vessels, that is circularly around the bowel, and with only a moderate tendency to invade the lymphatic nodes or be disseminated to other organs until late in their course. The cancer ring around the intestine is often very narrow, less than an inch in width, and not more than one-quarter of an inch in thickness.

Its obstructive symptoms are not due to a large mass of cancerous tissue, but to the constriction and finally total occlusion of the intestinal canal by the contraction of this narrow cancerous ring.

## Symptoms.

The symptoms of intestinal cancer may be considered under three heads or stages.

1. The pre-stenotic stage.
2. The stage of stenosis.
3. The stage of obstruction.

This classification is purely arbitrary. One stage merges into another, and all are only phases of the onward march of the disease to a fatal termination. Yet, a consideration of the symptoms under this classification is not without some advantage, for it may serve to fix our attention upon some few symptoms in the earlier history of the growth so that, when the next case comes to us, we may *suspect* the cause and secure an operation before the onset of terminal symptoms.

In all stages of the cancer the symptoms might be considered under two heads, those produced by and due to the growth per se, and those caused by its effects upon the function of the bowel.

## The Pre-stenotic Stage.

In the pre-stenotic stage there are no symptoms due to the growth itself, these (pain, emaciation, tumor, cachexia) are only late manifestations of the malignant process and, when present, indicate an absolutely hopeless condition. The effects upon the function of the bowel are slight, if any, so slight that, as a rule, the physician is not consulted. Practically we are at present powerless to make a diagnosis in this stage. We are groping in the dark. A faint glimmer is seen, and we hope it will grow into a light that will guide us to a sure diagnosis, in the recent discoveries of the hemolytic reactions of the blood in cancer. But the method is yet in the stage of investigation, and its execution and results too uncertain for our dependence.

The earliest symptoms we could expect would be those of intestinal indigestion. A very indefinite phrase, that covers anything from overeating to the early symptoms of cancer, or from gall-stones to chronic appendicitis. Be this as uncertain and indefinite as it is, we can yet hope that we may become sufficiently interested in such

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a case of intestinal indigestion proving rebellious to ordinary treatment to carefully consider the possibility of something serious as the etiological factor, and thus be on the lookout for the earlier symptoms of stenosis.

### The Stenotic Stage.

The earliest symptoms of this stage, those which attract the attention of the patient to himself, are indigestion, constipation, gas in the bowels and attacks of colic which gradually grow worse. Gas accumulates, there is a feeling of fullness and discomfort after eating, while nausea and vomiting will appear later. Constipation is the one significant symptom which must be carefully investigated. It is steadily progressive. Cathartics must be taken in increased doses to obtain any results. With this there is the growing frequency and severity of the attacks of colics. To avoid errors in diagnosis our examination must be methodical, careful, critical, exhaustive.

First, the history. This must be minute and complete. Second, the physical examination, inspection, palpation, percussion, auscultation, sigmoidoscopy are all systematically employed. Third, the examination of the stool.

The *macroscopical* examination takes in the color, consistency, form, food remnants, pathological constituents, as blood, pus, mucus, foreign bodies, concretions, gall-stones, etc., and parasites.

The *microscopical* examination covers, besides food remnants, blood, pus and mucus, the possibility of masses of cancer tissue. The chemical examination determines if there is occult blood present.

As the stenosis increases, the colicky attacks become more numerous and severe. The gas will be heard and may be felt in accessible portions of the abdomen passing through the constricted intestine.

As a result of the obstacle to the fecal current the segment of intestine above the constriction becomes hypertrophied. During the attempts of the bowel to empty itself, active peristalsis may be visible through thin abdominal walls, and the intestine may be felt as an elongated mass, the "intestinal stiffening" of Nothnagel. Diarrhœa may alternate with the constipation, because a catarrh of the intestine develops above the obstruction, the free secretion mixes with the feces, softens and liquifies them, so that a looseness of the bowels results. After a few movements, however, the constipation is again present as bad as ever. The feces will be pencil or ribbon-shaped, or they may be in small lumps like sheep-dung. They may be foul smelling, and blood, pus and mucus may be present. This is not constant and still more rarely is cancerous tissue found in the movement in this or the last stage.

The degree of interference with the fecal current depends a good deal upon the location of the lesion. If in the small intestine, or in the beginning of the large, inasmuch as the contents of these portions of the bowel are fluid, constipation develops slower and later than when the growth is located lower down in the colon.

With the preceding symptoms a stenosis is present.

### Where Is It?

Without a tumor being present, and depending upon the symptoms and our means of examination, we may arrive at the probable location of the lesion in the following manner:

Rectal injections of plain water or normal salt solution will afford some clue. If a small quantity of the fluid is quickly expelled from the rectum, the lesion is probably in the upper part of the rectum, if several pints are injected without returning, the trouble is probably at or above the cæcum. With intermediate quantities retained, the lesion may be estimated to be somewhere between these two points, with the sigmoid as the favorite location.

Gas also may be injected into the rectum and the distension of the bowel followed by palpation and percussion to the cæcum. Its arrest signifies the probable location of the constriction.

The most valuable means we have at present for locating a stenosis in the colon is by the X-ray photograph of the large intestine after it has been injected with a bismuth emulsion. The plate will show that at the site of the stenosis the band or shadow cast by the bismuth is suddenly narrowed, broken or arrested.

The radiographs exhibited in connection with this paper were made by Dr. Lewis Gregory Cole, of New York, and were kindly loaned to the writer to illustrate the possibilities of radiographs of the large intestine after injections with the bismuth emulsion, and the assistance such photographs render in the localization and diagnosis of lesions of this portion of the intestinal tract.

Should the cancer be located at its most usual site, viz.: the lower end of the sigmoid, the narrowing in the lumen of the intestine may be seen through the sigmoidoscope, and its calibre ascertained by graduated olive-tipped bougies.

Palpation of the abdomen may disclose the "intestinal stiffening" and percussion show that the enlargement is a tympanic segment of the intestine.

### What Is It?

Bands and adhesions from previous operations are ruled out by inspection of the abdomen. Herniæ by examination of the various hernial rings. Tumors of the neighboring viscera, distended gall-bladder, ovarian cysts, fibroid tumors, pregnant uterus, the sausage-shaped tumor of an intussusception can be negatived by abdominal, rectal and vaginal examination.

A fecal mass, polypus, enterolith, gall-stones, or worms, form a tumor possibly palpable. Here the preceding history, onset and course of the disease and urinary and fecal findings will aid in correct diagnosis.

In reference to a fecal tumor it must be remembered that it may form above, and around a cancer, so as to mask the real growth. It may also present the hard, nodular contour of a carcinoma. However, it can be indented and compressed between the fingers, and it will not resume its previous shape.

The narrowings, which follow tubercular, syphilitic and fecal ulcers, will require careful examination. Tubercular ulcers are most common in the lower part of the ileum, where Peyer's patches are most numerous. The ulceration begins in the lymphoid tissue of these patches. Tuberculosis elsewhere or with a positive vaccination reaction and with tubercle baccilli found in the feces (which is rare); the history of an initial lesion or secondary symptoms; the history of chronic constipation with normal movements at times, in spite of the blood, pus, mucus, which will be present in these conditions, will assist to a correct opinion.

Other conditions, which need to be kept in mind, I will only mention a movable kidney, or tumor of the kidney, tumor of the pancreas, mesentery, a Riedel's lobe of the liver.

The one condition that will require careful consideration in the stage of stenosis is *chronic spastic constipation.* There is indigestion, gas is present, there is intestinal colic of varying frequency and severity, the large intestine may be palpable as a hard, contracted, tender tube, and the stools are hard, small calibre, and contain more or less mucus and blood. However, proper treatment and diet extending over a reasonable time will relieve the condition and normal movements be obtained with disappearance of the symptoms.

A chronic intussusception, which has existed for several weeks, and in which incomplete history is obtainable, as from many of the ignorant poor, will cause but slight trouble. The youth of the patient, the sausage-shaped tumor and bloody mucous stools with severe colic and tenesmus and possibly a tumor felt through the anus, will make the diagnosis plain.

*Operation* in the stenotic stage promises fair results. The growth, as a rule, is limited to the gut and has not invaded the lymphatic nodes or other organs. The intestine above the stenosis is not much larger than that below it. The patient has not been poisoned by the cancer nor by the prolonged absorption of toxic intestinal products. He has not been greatly weakened by suffering and is not emaciated to any appreciable degree. He is, therefore, in a fit condition for the major operation of intestinal resection and anastomosis, with fair chances of a permanent result. If recurrence does take place, it is apt to be retroperitoneal or in some other organ, chiefly the liver, and the patient dies from the cancer and not from intestinal obstruction. He makes his exitus in comparative comfort and not in agonizing suffering.

### The Stage of Obstruction.

This is the last stage. The conditions are acute, and the indications imperative. The obstructed intestine must be relieved at the earliest possible moment. It is well to make as careful a diagnosis as possible, but *the search for the cause must not delay the relief of its effect.* While I shall attempt to consider the differential diagnosis, I do not intend thereby to advocate delay. Operate at once and make your probable diagnosis while scrubbing up the patient if there has not been time for this before.

### Symptoms.

The stage of obstruction is usually abruptly ushered in. In a few hours the patient may be in collapse and practically moribund. At other times the condition progresses gradually from the preceding stage of stenosis to that of complete stasis of the fecal current.

*Obstruction of the small intestine* gives the most severe symptoms, the higher the lesion the more acute the effects. There is vomiting, early, persistent, rapidly becoming fecal. The distention of the intestines and stomach forms a prominence about and above the umbilicus. This distention may be relieved to some extent by the vomiting to rapidly reappear. The lower and lateral parts of the abdomen are retracted. The pain and prostration is severe. Rectal injections bring down large fecal movements, without in any way alleviating the condition of the patient. The urine is very scanty, and the indican element is greatly increased.

*With obstruction in the colon* the symptoms develop more slowly, and, while the termination is fatal when untreated, the progress towards it is by freight rather than by express train. The distention of the intestine gradually extends upward, reversing the course of the intestine. It appears first in the hypogastric region (with sigmoid obstruction), then the left flank, then across the upper part of the abdomen, next into the right flank, and finally expands the central portions of the abdomen as the small intestines become distended.

At the beginning of the attack, before the intestine is paralyzed by the over-distention, violent peristaltic movements may be seen in thin-walled subjects. The intestine, just above the obstruction, will also present the stiffening of Nothnagel. Vomiting supervenes late and only at the last is it fecal. The urine is not appreciably affected and the indican element is not increased. Rectal injections produce no fecal results and even gas does not pass the bowel.

*If the cæcum is the region involved* the clinical picture is more acute than this and less so than when the small intestine is the seat of the disease. The middle portions of the abdomen are distended first and the flanks are retracted and dull to percussion.

*With complete obstruction anywhere* in the canal the final picture is the same. The abdomen

is distended to the limit, the diaphragm is elevated and the liver dullness lost. The urine diminished. There is fecal regurgitation, hippocratic visage, coma and death.

### The Differential Diagnosis.

*Strangulated herniæ* are ruled out by examination of the hernial orifices.

*Tumors* in the pelvis are ruled out by examination of the rectum or vagina or both.

*Volvulus* is usually in the aged, is rare at any time, and is one of the least frequent causes of obstruction, and peritonitis supervenes early. It may follow obstruction from a cancer or fecal mass and be caused by the displacement of the tumor twisting the gut. The diagnosis of cancer in this event would be practically impossible unless there is a history of preceding stenosis.

*With volvulus, kinks, twists* there is a history of previous good health and sudden onset of the obstruction. Pain is a marked symptom, vomiting is late, with a low twist, but early with one high up. Early in the condition Wahl's sign is present, *i. e.,* the intestinal coil immediately above the site of the obstruction is "fixed, motionless and inflated." This is due to the fact that in this variety of obstruction the intestine immediately above the constriction is not hypertrophied, and it is speedily over-distended and becomes paralyzed, while, with an obstruction following a cancer, the hypertrophy of the bowel prevents over distention from paralysis until later. Neither for the same reason is there intestinal stiffening of Nothnagel.

### Intussusception.

This occurs in infants usually, the onset is sudden, with pain, tenesmus, bloody mucus stools. A sausage-shaped tumor may be felt in the abdomen and its end by a rectal examination. Only rarely will acute obstruction from cancer be confounded with acute pancreatitis, thrombosis of the superior mesenteric artery, or acute poisoning with collapse and vomiting. Colics with constipation, of hepatic, renal, or intestinal origin would be cleared up after a careful history and analysis of the clinical symptoms. Paralytic ileus follows some severe abdominal injury, infection or operation.

In obstruction from peritonitis there is not the preceding history of gradual stenosis with apparent good health, but a condition of preceding acute inflammation of the appendix, or acute gonorrheal inflammation in the woman, or possibly a pelvic peritonitis following abortion or child birth. A ruptured ulcer of the stomach, duodenum or gall bladder will give a history of onset and course with clinical symptoms unlike those of cancerous obstruction, and the diagnosis would not be in doubt except at the last stage and without a clear history. At all events, in all of these conditions, excepting that of peritonitis following acute gonorrhœa in the woman, the indication is for immediate operation.

Some authorities state that the presence of a tumor is absolutely necessary for the sure diagnosis of cancer. This may be true. At the same time, in the cases upon which I have operated, the diagnosis was made of probable cancer before operation, no tumor was present on external examination, and none found until sought for at its usual location in the lower end of the sigmoid deep within the pelvic cavity. A tumor has even been missed entirely at operation for relief of complete obstruction from cancer, even with the hand of the surgeon in the abdominal cavity to be discovered later at a more leisurely-performed operation.

To wait for the appearance of a tumor in chronic bowel troubles, when there are symptoms of stenosis which do not disappear after careful treatment for a reasonable time, is to miss the golden opportunity and invite the inevitable fatal result. Delay here more than anywhere else is fatal. As Ochsner says, all you really need to do is to decide that a laparotomy is necessary. The exact condition can be determined with certainty at the operation and the proper treatment instituted.

### Operation in the Stage of Obstruction.

An operation at this stage is merely palliative, very rarely will it be curative. The aim is to furnish an outlet for the dammed-up fecal current, in the most favorable location and in the shortest time.

If the obstruction can be located in the lower end of the colon, an intermuscular, left-sided, colostomy is the operation of choice. If in doubt as to the situation of the lesion, open in the median line below the umbilicus. No radical measures should be attempted. Excision and anastomosis may be performed later if the patient survives. The only single indication is to open the bowel and give vent to its contents.

After either of the above incisions and the peritoneum has been opened, draw out the presenting intestine, on the left side it will usually be the sigmoid, in the middle line it may be the sigmoid also or the small intestine. If the sigmoid, look no further, if the small intestine and the obstruction is in the cæcum, attempt to get as near the obstruction as possible, without taking much time in the search.. Intelligent haste is necessary in this instance. Quickly suture the intestine to the skin, tie in a single short Paul's tube and leave the rest to nature. If the patient lives, a radical operation can be done at a later time. To attempt a radical operation at this stage is to hasten the death of the patient. The patient is in extremis, the abdominal condition very bad. The intestines are greatly distended above the constriction, its walls are thin, friable and may be ulcerated. Anastomosis is difficult to accomplish and usually futile, for the patient usually dies. If he lives, it is with a fecal fistula, and a secondary operation is required in any

event. Nothing has been gained over a simple preliminary and temporary colostomy, and the patient has been compelled to endure an unnecessary severe risk.

### Summaries of Clinical Records of Cases of Intestinal Obstruction due to Various Causes.

Case I.—*Post-Operative Obstruction*—A private patient was operated upon for double pus tubes. This was followed by intestinal obstruction and the abdomen was opened a second time. The small intestines and the cæcum and ascending colon were distended with gas, but the rest of the large intestine was collapsed. On drawing the ascending colon downward a kink at the hepatic flexure was straightened out, the intestinal contents began to pass through the collapsed intestine and the bowels operated through the natural passage while the patient was on the table. The obstruction seemed to be due to an exaggeration of the hepatic flexure, and, after the gas once began to accumulate in the ascending colon and distend this portion of the intestine, the obstruction became complete. There were no evidences of any inflammatory action at the site of the obstruction. The patient did not recover from the shock of the second operation.

Case II.—*Perforating Carcinoma of Splenic Flexure, General Diffuse Septic Peritonitis*—A man about 50, was brought into the hospital in extremis and without history. All the evidences of a diffused septic peritonitis were present. The abdomen was drained in the median line, the patient's condition precluded any search for the cause. Death followed in a few hours. Autopsy showed a sloughing carcinoma of the splenic flexure, which had perforated and caused the septic peritonitis.

Case III.—*Carcinoma of Transverse Colon, Obstruction*—Private patient, man 55, called in in the midst of obstruction of the bowels, with severe colics. No vomiting. Abdomen distended moderately. High enemas and small doses of salines relieved the obstruction, which was caused by fecal impaction, just above a constriction in the transverse colon. After the bowels were unloaded, the tumor could be felt and a typical history of stenosis obtained. Operation was advised and performed by another surgeon. I was not asked to be present at the operation, but the doctor was thoughtful enough to leave a diagram of his findings. The cancer involved the pylorus and also the transverse colon, binding them together. A gastrectomy and gastroenterostomy, and an enteroenterostomy were performed on the stomach and colon respectively.

The patient survived five hours.

Case IV.—*Intestinal Obstruction from Acute Gonorrhœal Peritonitis*—A young girl, 18 years of age, seen in consultation. Gradually increasing obstruction, with symptoms of peritonitis in the lower part of the abdomen. Was such a refined girl, and, as she absolutely denied all sexual causes, I was misled and operated for a probable perforating appendicitis with pelvic peritonitis. I found an acute gonorrhœal pelvic peritonitis. Later the girl admitted intercourse and gave a typical history, but unfortunately she died.

Case V.—*Carcinoma of Cæcum. Stenosis*—Man of 47, hospital case. Diagnosis was made of carcinoma of the cæcum, with mild symptoms of stenosis. Marked emaciation and cachexia. A radical operation was undertaken. The growth had telescoped the large intestine to the middle of the transverse colon. What would have ordinarily been about two feet of intestine, with the retroperitoneal glands and the adjacent peritoneum were removed. The intestine was implanted into the colon. Union was by first intention and the abdominal condition was all right, but the patient gradually failed and died in ten days.

Case VI.—*Carcinoma of Sigmoid. Stenosis, Obstruction*—Private patient, woman about 60. Typical history of slowly developing stenosis in the lower part of the large intestine. Exploratory operation was urged but refused. The case was under my care for five months. After the third month a distinct, small, hard, freely movable tumor could be at times palpated in the lower abdominal region. It was supposed to be in the sigmoid. The patient followed the usual course of increasing malignant stenosis. Emaciation, cachexia and symptoms of obstruction supervened, and she died from exhaustion.

Case VII.—*Apparent Obstruction of Bowels, Due to Renal Colic*—A large, fleshy man, 40 years of age. Seen in consultation. Apparently complete obstruction of bowels, from his own and the attending physician's history. Close questioning, careful examination of the patient, and working along the lines of exclusion the diagnosis was reached of renal colic, even without the presence of visible blood in the urine. The subsequent history of the case, with the passage of a small calculus, confirmed the diagnosis.

Case VIII.—*Obstruction from Chronic Intussusception*—An Italian child, four years old, was brought to the hospital with a distended abdomen, severe colics, tenesmus, bloody-mucous stools with, and at times without, fecal matter. An elongated cylindrical tumor at the right of the umbilicus was easily felt. The condition had existed for about four weeks and had followed an acute attack of abdominal pain, colic, straining and bloody discharges from the anus. Diagnosis, chronic intussusception. Operation showed that the intussusception was at the ileo-cæcal valve, involved about six inches of the ileum, and was not gangrenous nor adherent, strange to say, although the bowel was thickened and

stiffened by chronic edema and exudation. The intussusception was reduced without much difficulty. The child left the hospital in two weeks cured.

Case IX.—*Total Obstruction from Carcinoma of Sigmoid*—W. K., male, age 55 years, tailor. Russia. Brought to Harlem Hospital by his son, Dr. Kahn, March 28, 1909, to whom I am indebted for the following account of his father's illness. Personal history. Was always healthy and strong. Appetite always good. Habits regular. Used alcohol, tea, coffee in great moderation. Has never been ill. Married at 23, all children and wife alive and healthy.

Present illness. Began *two years ago*, when the patient was suddenly seized with colicky pains over the entire abdomen. Felt nauseated and vomited several times during the attack. Bowels at this time were constipated but soon *diarrhœa* set in. Examination during the attack revealed no abdominal rigidity or tenderness and no mass could be felt. By administration of cathartics attack passed off in about thirty minutes. Patient resumed his usual occupation. This attack, and the following attacks, were attributed to some indiscretion in diet. For a day or two preceding this attack, as well as those which occurred later, the bowels were constipated. About three or four months later the patient was again seized with a similar attack, which disappeared under the same treatment. And so, during the past two years, these attacks would come on suddenly, without any premonitory symptoms, except slight constipation at intervals of a month or two. Has had perhaps six or eight attacks. Towards the end the attacks became more frequent, but were not severe in character nor longer in duration. At no time was there abdominal rigidity or tenderness, nor could a mass be felt, and, at no time, except during the last attack was the pain localized. The patient was examined by four different physicians during the various attacks, with negative findings.

Between the attacks the patient felt very well and was able to attend to his business. But for a month before the last seizure he complained of a *gnawing pain* in the left epigastric region and this pain would be eased by pressure. In the morning his wife noticed during the last month *blood stains* on the sheet. Feces were never examined chemically or microscopically, but *blood* was *never seen* in them. *Has not been growing weaker* nor *has he been loosing weight.*

The fatal attack, like the preceding, came suddenly on March 27th, in the afternoon. The pain at this time was unusually severe, particularly over the entire left side of the abdomen. Vomited moderately, at first bile, but in the later part of the evening had one attack of feculent vomiting. Could retain nothing on his stomach. *Constipation* during the attack *was absolute.* All remedies to provoke a bowel movement were futile. He claimed to have had a movement of the bowels the day before. During this attack he was examined by three physicians, with the usual negative findings. The pain and vomiting continued and soon his condition became very bad. He was then brought to Harlem Hospital, where I saw him for the first time, in the company with his son, Dr. Robert Kahn.

History by the Writer.

The patient was in extremis. Pulse weak and rapid. Surface dusk and covered with a cold, clammy perspiration. Abdomen moderately distended, symmetrically. Tender all over and nothing localizing. No mass could be felt in any part. My diagnosis was carcinoma, probably of the colon. The son thought it was a case of volvulus, because of the severity of the present attack and for the reason that his father had not lost flesh nor strength, and he had been able to keep the bowels open with small doses of cascara. I operated at once. The abdomen was quickly opened below the umbilicus, the distended sigmoid immediately ballooned through the wound. No time was lost in exploration, but the hand, passed into the pelvis along the distended sigmoid, felt a small, hard mass deep in the recto-vesical pouch. This was brought into the lower angle of the wound and tacked there by a couple of sutures. The intestine above was opened and a large half-inch drainage tube passed into it and fastened there by a purse-string suture. The bowel was also sutured to the skin by a few catgut strands and the region well protected by a strip of iodoform gauze. Fluid feces and gas began to run off at once. I wish to emphasize the fact that, with this man at death's door in the final stage of carcinoma of the colon, there was no emaciation, no cachexia, no tumor palpable from the outside. He also had a subcutaneous layer of fat, the extraperitoneal fat was unusually thick, the intestines and mesentery were just loaded with it, as were also the appendices epploicæ. The growth itself did not extend beyond the calibre of the intestine. In other words, with the intestine normally distended, no tumor would be apparent. This growth had caused total obstruction, yet it had produced no external bulging, was not more than one-half inch wide and looked exactly as if a string had been tied around the intestine closely enough to constrict it, and that the sides of the intestine adjacent to the ligature had become adherent. But for the hardness of the growth, its presence would not be surmised by merely looking at the outside, because the intestine was so covered with the fatty tissue. The growth was not adherent to any other structure. I did not spend any time in investigation but, from my brief examination, no enlarged lymphatic nodes were felt in the mesentery. I cannot say they were not affected, however. Had this case been diagnosed and operated upon any

time previous to this last attack his chances of recovery from the operation would have been excellent, and the chances of a secondary recurrence at the minimum. No attempt to excise the growth was made. The patient lived six and one-half hours.

Case X.—*Perforating Ulcer of the Duodenum with Extensive Adhesions. Diagnosed as Carcinoma of the Colon*—January 12, 1909. Man 35, admitted to the hospital for the radical cure of right inguinal hernia. Besides this he gave a history of digestive disturbances extending over some months, but without any localizing features. There was a small insensitive mass at the right of the umbilicus and a little above the site of McBurney's point. From the history and the mass I looked upon this condition as a possible carcinoma of the cæcum or appendix. After finishing the Bassini operation another incision was made over the tumor through the right rectus muscle. The mass was then seen to involve the ascending colon, hepatic flexure, beginning of the transverse colon and the duodenum and adjacent pyloric end of the stomach. The gall bladder was free. From its clinical appearance I looked upon the mass as an inoperable carcinoma and closed the abdomen. For want of something else to do the patient was placed upon large doses of potassium iodide. His wounds healed by primary union and he left the hospital. His family physician, Dr. Muller, then kept him under observation. Last May the patient reported to me. He was in perfect health. Both scars and wounds had healed firmly and remained so and looked finely. My surprise was increased when, upon examination of the abdomen, I could find not the slightest trace of the growth which had looked so ugly at the operation. I then sat down with the patient and got a very careful history, which had not been obtained by the internes. This history, with the subsequent course of the disease, lead me to believe that the original lesion had been an ulcer of the duodenum, which had perforated gradually, allowing time for the adhesions to matt the intestines about it firmly together. I saw this state of affairs, when at the extreme of adhesion and exudation and, from its close resemblance to a malignant growth, thought it was a carcinoma. The potassium iodide, rest, diet and time had perfected a cure and promoted absorption of the excess of exudate. This again demonstrates the importance of obtaining a full preliminary history.

Case XI.—*Carcinoma of the Lower End of the Sigmoid. Stenosis*—A. W., 44. Entered Harlem Hospital April 13, 1909. Printer. Habits good. Smoked a pipe all day. Has had no venereal disease, and always been perfectly healthy.

Previous History.—Had been well up to two months ago, when he sought medical aid on account of "gastritis and diarrhœa." Has been *constipated* for the *past two years*. Before this regular. Constipation gradually grew worse, so that he had to take increasing doses of cathartics. He could and often did go for a week without having a movement of the bowels. When he did take medicine to open the bowels, he *did not have any pain at all*. He *has had no pain at any time in the abdomen* until the past two weeks, and this pain was around and above the umbilicus. During the past few months he noticed that when his stools were hard that the feces were pencil-shaped. There has been *no blood, pus* or *mucus*. Within the past four or six weeks he has had a *diarrhœa*. There was gas in the bowels and the gastritis, as he called it, of his stomach. The man looked well and strong. Color good. Cheeks slightly sunken but not emaciated. Lips red, conjunctivæ normal.

Abdomen.

The first day of admission his abdomen was prominent in the epigastrium, with tympany, splashings, and gurgling on pressure. The abdomen below the umbilicus was not distended. There was no localized pain or tenderness at any point, but the muscles were in a state of irritation, so that it was impossible to make deep pressure at any point in the abdomen. Not that it hurt him, but that his muscles involuntarily contracted. There was no emaciation, although the man was thinner than usual he stated, no cachexia, no tumor. But on the history of digestive disturbances, increasing constipation, small stools, colics growing worse, the evidences that there was some form of intestinal obstruction were conclusive. The characteristic distention appeared after the second day, beginning low in the abdomen, filling up the left flank and gradually dilating the large intestine showing that the cause must be low down in the colon. In spite of the absence of the specific cancerous symptoms nothing but an annular carcinoma would answer all the conditions so well. The diagnosis was then made of an annular carcinoma involving the lower end of the colon.

April 16th.—The abdomen was opened up in the median line below the umbilicus. The intestines were only moderately distended. The growth was an annular carcinoma (adeno-carcinoma) deeply creasing the bowel, with no growth of tumor beyond the normal calibre of the intestine. The lymphatics were not involved. Excision of the mass was easy. There was, however, not enough of the rectum left to form an end-to-end anastomosis. The lower end was then ligated (Lilienthal's method) with catgut No. 3 chromic, and its end cauterized with carbolic acid, and allowed to retract into the bottom of the recto-vesical fossa. An inter-muscular incision was made opposite the anterior iliac spine and about one and one-half inches above Poupart's ligament. The proximal end of the sigmoid was fastened in this incision, and a large drainage

tube fixed into the bowel by a purse-string suture to prevent soiling, which it actually did. Time of the operation, 50 minutes.

Everything went along all right with the patient until the 20th, when he rapidly developed general pulmonary edema, and died on the 21st. His abdominal condition was absolutely perfect.

The pathological report showed the tumor growth to be an adeno-carcinoma, involving all the coats of the intestine *except* the *serosa.*

## CHRONIC APPENDICITIS AS AN ETIOLOGIC FACTOR IN OTHER CONDITIONS.

By H. J. KNICKERBOCKER, M.D.
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THE fact, that disease of one organ may, directly or indirectly, be the cause of derangement in other organs, has long been recognized, but that this should be true of so functionless an organ as the appendix, is of comparatively recent note.

Acute appendicitis is generally recognized, as is also the type known as recurrent appendicitis. These conditions produce definite symptoms, pointing clearly in most cases to the diseased organ, but back of these, in many cases, exists a condition long continued and productive of ill health.

In the embryology and anatomy we may find some clues as to the cause. Embryologically, the appendix is derived from the mid gut, as are also the remaining structures between the orifice of the common duct and the splenic flexure. This area represents that part of the gastro-intestinal tract which does most of the work of digestion, and nearly all of the absorption. Anatomically it is the undeveloped distal portion of the primitive cecum, and corresponds to the long terminal portion of the latter found in the lower animals. There it has a function, acting to enlarge the storage capacity of the cecum, like an expansion chamber. In this way it, in a measure, regulates the supply of material passed on to the colon for absorption. In man it apparently has lost its function.

At birth it is about one-twelfth the size of the colon, develops slowly, and about the age of five years begins to show signs of retrogression, which continue until at fifty-five atrophy is complete in 50 per cent. of people, and at seventy in 75 per cent. The changes are more rapid in the internal than in the external structures.

By some these changes are held to be of the nature of involution, while by others they are considered to be the results of inflammatory reaction. Without doubt there is a middle ground in which both processes play a part.

There are some anatomical features of the appendix, which mark it as a degenerated organ and aid materially in throwing the balance of process against the individual. It is a blind pouch, whose opening into the cecum is usually guarded by a reduplication of the mucous membrane, known as Gerlach's valve. The cecum is recognized as the hotbed of infection, into which is dumped, less than an inch away and at right angles to the course of the colon, the contents of the small intestine. The mucous membrane about the orifice of the appendix may by slight swelling close the mouth, and inflammation, by continuity tissue, involve the mucous membrane of the organ itself. This would at first prevent the emptying of the appendix and then, by supplying infection, light up inflammation.

That this happens without symptoms noticeable to the patient is frequently proven in the operating room, when, in the course of other work, an appendix supposed to be normal is found to be distinctly diseased and is removed, or is removed on general principles and, on closer examination, discloses its possibilities as a trouble maker. These trivial or unnoticed attacks lead to the deposit of scar tissue with obstruction of the lumen of the organ. Should this process develop uninterrupted from the tip to the base, we have a normally involuted appendix, but if the reverse or any modification of the process occurs, inclusion cysts develop, containing fecoliths, foreign bodies, retained secretions, etc., which lead eventually to attacks of pronounced nature of the acute or recurrent types. In these the pathology develops rapidly and the anatomy is quickly distorted. In this way an essentially chronic process may lead to acute symptoms.

The blood supply of the appendix is derived from the ileocecal artery and is sometimes augmented by anastomosis with the cecal. In the female, the blood supply is generally reinforced by an anastomosis with the ovarian, which passes through the ligament of Clado. The appendicular artery follows through the meso and is terminal. In cases where the meso does not extend to the tip the distal circulation is small, which accounts for the extreme liability of the tip to become inflamed. The same is also true of the walls lying opposite the meso. It represents the lowest part of the portal circulation, except the sigmoid and hemorrhoidal vessels, both of which are provided with anastomosis. Here. again, we have evidence that nature has abandoned the organ as useless and made slight provision for its welfare.

At the point where the appendicular artery crosses the ileum it is particularly liable to be pressed upon by fecal masses, producing a transient ischæmia, lowering vitality and predisposing to infection.

The lymphatic supply is large and empties into adjacent nodes. An excessive supply of lymphoid tissue is present, so much so that the appendix has been likened to a Peyer's patch thrust

* Read before the Seventh District Branch of the Medical Society of the State of New York at Hornell, N. Y., September 16, 1909.

out from the intestine like a glove finger, the peritoneum and musculature representing the glove. It has also been called the abdominal tonsil. This lymphoid tissue, here as elsewhere in the body, is of low vitality and disappears with advancing years, as a process of involution.

The abundant nerve supply of the organ is derived from the superior mesenteric branch of the sympathetic, which also supplies the small intestine. This accounts for the diffuse character of the pains in the early part of acute attacks and explains the disorders of function and nutrition observed in chronic conditions. Viewed from the standpoint of the anatomist and physiologist, it is little wonder that this decadent organ gives rise to trouble, not only within itself, but elsewhere.

Inflammation, no matter how slight, gives an infectious lymphatic drainage in this case into the portal system, resulting in secondary involvement in the liver and, particularly, in the biliary tracts. Murphy, of Chicago, considers appendicitis second only to typhoid, as the cause of cholecystitis and cholelithiasis. The reverse is sometimes the case. Cicatritial deposits in the tissues lead to deformity, and, combined, they are the underlying cause of many acute and recurrent cases. Entrapped nerve fibers give rise to reflexes in other organs, notably the stomach and small intestines. Pyloric spasm, pain, gas and sour eructations may come from a chronically irritated appendix as well as from gall-stones. Intestinal indigestion, so frequently diagnosed, is more apt to be a reflex disturbance of secretory and absorbent function in the small intestine than is generally realized. So-called upper intestinal constipation is likely to be the efforts of nature in limiting peristalsis, so as to protect an irritated appendix below. Many cases of auto-toxæmia, muscular rheumatism, neuroses and similar disorders have their inception in unrecognized affections of the vermiform appendix.

It would lead us too far to even mention the conditions which are to-day recognized as dependent on auto-intoxication. Suffice it to say that auto-intoxication is not an entity but a symptom produced by something, and we must go farther with our patients than the treatment of symptoms if we expect to give them a cure in the full sense of the word. We must dig down, get all the symptoms, analyze them, find the cause, and treat the patient intelligently.

Lymphatic drainage, through the ligament of Clado, may involve the right tube and ovary. This occurs less frequently in chronic than in acute cases. Many women think they have ovarian disease and, on operation, are found to have had appendicitis in an acute form, the results of which has continued as a chronic ailment.

In conclusion, I would not be understood as believing that all the ailments to which human flesh is heir are to be charged to the appendix, but I do believe that many conditions may be traced to affections of this apparently worthless organ. It is practically impossible to tell, on gross inspection, what its condition really is and whether or not it will become a menace in the future, and as its removal in the course of abdominal work adds so little to the gravity of the operation I think appendectomy should be done wherever it is possible to do so without materially adding to the risk.

## A STUDY OF PSYCHOSES OCCURRING DURING PREGNANCY AND THE PUERPERIUM.*

By E. P. BALLINTINE, M.D.
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THE reader has the honor of presenting to the society for its consideration certain features in a series of cases of insanity that have come under her observation, in which the psychosis developed during the psychological episodes of gestation, the puerperium and lactation. (This series also includes a few cases of insanity following abortion.)

Approximately the number of women of child-bearing age that have been admitted to the hospital where these studies have been made is one thousand. These one thousand cases have been systematically and individually studied in reference to the causes, symptoms and outcome of their insanity, and the findings carefully recorded. It was found that four hundred and fifty-seven of these women had borne children (including five illegitimate pregnancies). In one hundred and forty-one, or thirty per cent. of these cases, the onset of the psychosis occurred during either gestation, the puerperium or lactation.

Naturally the first question that presents itself in studying such a series of mental derangements is, can these cases on a basis of symptomatology be classed under any distinct form of insanity? Agreeing with the results of similar studies recently made by others the reader found that the study of her one hundred and forty-one cases taught that puerperal insanity, so-called, presents no characteristic or constant symptomatology or pathology. On the contrary there are several forms of insanity that may occur during the puerperium or during pregnancy and these are forms that occur as frequently in the non-puerperal as in the puerperal state. Considered etiologically the puerperium in many cases was only an exciting or determining cause of the mental breakdown in the predisposed. In other cases the real causes of the psychosis were due to some accident at child-birth, or some other intercurrent disease or infection. In still other cases child-birth was simply incidental to the psychosis.

In the earlier text books on psychiatry any mental derangement occurring during the puer-

* Read before the Medical Society of the County of Monroe, Rochester, N. Y., May 18, 1909.

perium was considered as a specific disease and was called puerperal insanity. Little attention being given to concurrent causes, or care taken to differentiate the varying symptom complexes of the sickness. Also on an equally unsubstantial basis insanities occurring during pregnancy were designated insanities of pregnancy, and those occurring some weeks subsequently to the confinement insanities of lactation.

The psychiatrists of to-day make no such grouping but contend that whereas pregnancy, the puerperium and lactation are at times exciting causes of mental alienation, there is no specific form of mental disease uniformly associated with the puerperal state. Psychoses occurring during pregnancy and the puerperium form no homogeneous group either etiologically or clinically. These physiological episodes serve at most to bring out some constitutional peculiarity or tendency to some particular psychosis.

It is also taught that many conditions such as heredity, temperamental tendencies, education, habits of thought and actions, toxæmias, physical or psychical traumas, acting simultaneously must be considered as casual factors of psychoses developing during the puerperium as they are in many other insanities.

Although there are no distinctive or unusual symptoms identified with puerperal insanities, nevertheless mental derangements occurring during the puerperium are of great clinical interest and importance.

The great majority of cases of insanity occurring in women before the climacteric may be included in three large groups, namely—dementia præcox or the deteriorating psychoses; manic-depressive psychoses; and infective-exhaustive psychoses.

Eighty-seven per cent. of the one hundred and forty-one cases under consideration glided readily into these three well-known groups of acute insanities. The grouping is shown in table No. 1.

Dementia præcox, the largest group, included forty-six persons, four being admitted more than once, bringing the total admissions up to fifty.

The manic-depressive psychoses included thirty-three persons, thirty-five admissions.

The infectious-exhaustive psychoses and allied forms included thirty-eight admissions.

Other forms included twenty admissions.

Among the cases under consideration were a few in whom a careful study showed that some premonitory symptoms presented themselves before gestation, but the condition was not recognized and in nearly all of these cases the puerperal condition of child-birth was believed to be the cause of their insanity, and so recorded in the medical certificate on which they were admitted to the hospital.

In table No. 2 the cases are classified as to the period of their origin.

It seems best for our purpose to consider in detail these groups separately.

TABLE No. 1.

*Psychoses Occurring During the Puerperal Period.*

| | |
|---|---|
| Women of child-bearing age admitted to the hospital | 1,000 |
| Married | 457 |
| Admitted during gestation or following child-birth or during lactation | 141 |
| Belonging to deteriorating psychoses, dementia præcox and allied groups | 50 |
| Belonging to the manic-depressive and allied groups | 35 |
| Belonging to the infective-exhaustive and allied groups | 38 |
| Other groups | 18 |
| Psychasthenics and hystericals | 9 |
| Epileptics | 3 |
| Alcoholics | 2 |
| Paretics | 4 |

TABLE No. 2.

*Analysis of 141 Cases of "Puerperal Insanities" as to the Period of Origin and their Grouping.*

| Period | Dementia Præcox | Manic-Depressive | Exhaustive Infectious | Other Forms | Total |
|---|---|---|---|---|---|
| Before gestation | 8 | 4 | 0 | 5 | 17 |
| Gestation | 7 | 4 | 1 | 2 | 14 |
| Puerperium | 31 | 25 | 26 | 9 | 91 |
| Lactation | 4 | 2 | 8 | 2 | 16 |
| Miscarriage | 0 | 2 | 3 | 0 | 5 |
| | 50 | 35 | 38 | 18 | 141 |

Dementia Præcox and Allied Cases: Dementia præcox is a deteriorating psychosis developing in the evolutional period of life, and generally ending in dementia. The great bulk of the chronic insane in our hospitals is made up of this class. For this reason dementia præcox is of great interest economically as well as clinically.

In the great majority of cases the first symptoms manifest themselves during adolescence or in early adult life. A peculiar constitutional make-up, either inherited or acquired, is an important predisposing cause. These young people find themselves unable to cope with the ordinary stress of life that comes to every one. Instead of growing stronger by rightly meeting and overcoming difficulties, they meet them by inadequate substitutes and gradually grow mentally weaker.

The cause of this peculiar constitutional weakness is in many cases evidently of psychogenic origin, strengthened by faulty educational methods, unfortunate environment, a wrong method of reacting to things during childhood and puberty, wrong ways of thinking and wrong ways of acting.

The symptoms of this form of dementia when occurring during pregnancy, or following child-birth, do not differ in any essential than when some other strain is the exciting cause of the disease. The onset is often insidious, although the acute symptoms that attract the attention of the family may appear suddenly. A close study showed in many cases in this group that the patient manifested some signs of this malady weeks and even months before the existence of the disease was brought to the attention of the friends.

The down hill course in these patients is indi-

cated by a falling off in their working capacity, an indifferent, careless and unsocial manner. At the height of their acute stage they may be greatly depressed or excited. They are lucid, show no memory defects. They may manifest hebephrenic, catatonic or paranoid symptoms. In many cases deterioration is rapid.

In these predisposed individuals any depressing influence or strain such as severe illness, fright, privation, homesickness, change of environment, overstudy, or any moral or physical shock may act as an exciting cause of their breakdown. Probably all of the fifty cases of dementia præcox in our series would have broken down under any other equally severe strain as that of child-bearing. This latter condition at most can be considered only as an exciting cause in the production of this disease, and then only in the peculiarly constituted or predisposed individual.

In seven of the cases in which "puerperal condition" was given by the examining physicians as a cause of the psychosis it was found that some symptoms of insanity antedated the puerperal condition; child-birth only increasing the severity of the symptoms and hastening the deteriorating process that was already established.

One of these cases had been insane three years and another four years, yet "child-birth" was given as a cause of their mental illness because immediately following parturition the symptoms became much more pronounced.

Six of the fifty cases had attacks of excitement following successive confinements, the symptoms growing more pronounced at each successive attack. At first during the remissions the patients were comparatively free from any symptoms, yet they never quite recovered their former mental balance. The comparatively sane intervals became shorter and less marked, the slowly deteriorating process finally culminating in profound dementia. Mrs. McM, Case 1441, of a paranoid type, had seven children, an exacerbation following the birth of six of her children. As this patient regained her strength after the puerperium the more acute symptoms disappeared, only some unobstructive residua remaining. Finally after the birth of the seventh child she rapidly deteriorated.

Case 2081 had a so-called first attack three weeks after the birth of her child; she improved and was discharged. An exacerbation occurred in the second month of a subsequent gestation; she afterwards improved and was again discharged. A third exacerbation followed a severe fright; after this she rapidly deteriorated.

Only a few cases of dementia præcox recover. Of the two discharged recovered, one was readmitted about four years subsequently in an acute delirium and died of exhaustion three days after admission. The other case discharged recovered has been recently readmitted very much demented. Seven have died, tuberculosis being the cause of death in six cases. Five were discharged improved. Forty-two deteriorated and became profoundly demented. Thirty-eight of these are still at the hospital.

As already stated in most cases of insanity many factors have a bearing on the etiology. This is especially true in precocious dementias. A brief abstract of one case will be given, illustrating the many weakening factors that may lead to a final derangement of the functioning of the mind.

*Mrs. F.* Age on admission was 26. Heredity was negative. Her mother was ambitious that patient should have a good education and fit herself for a teacher. The patient was evidently not equal to the ambitions of her mother; she found it difficult to keep up with her classes and the year preceding graduation fell behind and was not allowed to graduate. This was a great disappointment to the patient, over which she grieved and fretted.

About a year after leaving school she married. Soon after marriage and after becoming pregnant, Mrs. F. found that her husband had another wife living. When she made this discovery she was in California. She came back alone to her father's home in this city. Soon after returning home her mother died. Patient succumbed under this strain and gradually deteriorated. Her child died a few months after its birth, and the neighbors remarked at the time of the child's death that the patient showed but little concern. She had been considered a good housekeeper but rapidly became incapacitated for even ordinary housework.

Cause of insanity was given as the "puerperal condition." But evidently her mental stability was already weakened by her disappointment on account of the failure at school, the tragedy of her marriage and death of her mother.

She was dull, apathetic, her statements were rather vague; complained of a feeling of languor and nervousness. Followed peculiar trends of thought and spent much of her time "tracing resemblances" and in revolving fantastic daydreams. Became hallucinated and developed delusions of persecution. She was perfectly lucid, was well oriented, there were no memory defects. She rapidly deteriorated after admission. At present is in the hospital in a condition of profound dementia.

Manic-Depressive and Allied Groups: There were thirty-five admissions that were classed in the group of manic-depressive and allied insanities. These thirty-five admissions represent thirty-three persons.

Manic-depressive insanities are characterized by a tendency to recurrences, also to recovery without any intellectual enfeeblement. The patient is generally lucid, there are great emotional disturbances either with psychomotor restlessness, or a feeling of difficulty of thought and action.

Of the thirty-five admissions included in this group thirty-one have recovered (two have died, one of exhaustion and one of tuberculosis).

The percentage of recoveries, ninety per cent., being quite a contrast to the preceding group where in fifty admissions there were only two reported as recovered.

In manic-depressive insanities constitutional tendencies play an important role. An unstable or neurotic emotional temperament may be the predisposing cause. The exciting causes of the onset of the attacks of this group may be general diseases, physical or moral shock, privation, overwork and hardships of life. In some patients frequent recurrent attacks appear without any discoverable exciting cause. During the life of these patients many episodes of depression or elation come up with more or less regularity, seemingly the expression of a fundamental constitutional defect. Of course, occasionally these attacks will coincide in time with the puerperal period.

In many cases of the manic-depressive insanities occurring during the puerperium some associated physical derangement could more reasonably be considered as a cause of the disease. To illustrate, in this group ill-health or exhaustion was a casual factor in four cases. One of these patients was admitted in the fifth month of pregnancy. She was weak and emaciated, although suffering from no definite disease. Under treatment she regained her health and was discharged recovered in the eighth month of her pregnancy.

Other etiological factors associated with child-birth in this group, and evidently the exciting cause, were typhoid fever, tuberculosis, pneumonia, pelvic infection, albuminuria, stress of life and poverty, surgical operation, depressing environment, moral shock.

Seventeen of these thirty-three patients gave a history of recurring attacks of insanity. In over half of these cases attacks occurred at other times than during the puerperium. Four had attacks before marriage, and in two recurrent attacks appeared after the establishment of the menopause. In one the insanity first occurred after the birth of the seventh child. In another patient that had seven children insanity occurred after the birth of the second child only. (See tables 3, 4 and 5.)

Manic-depressive attacks occurring at times when there was no such strain to provoke them as pregnancy, child-birth or lactation, indicate that these conditions must be at most only incidental exciting elements in the etiology of a recurrent psychosis. The constitutional defect determining the form of the psychosis and not the physiological event.

Table No. 3.

Case No. 2656. Case allied to manic-depressive insanity. Five children, birth of second and sixth only followed by attack.

*Onset of Attacks.*

| Age at Birth of Child. | Form of Psychosis. | Outcome. |
|---|---|---|
| 1st—22 | No attack. | |
| 2d —24 | "Depression" | Recovered |
| 3d —26 | No attack. | |
| 4th—28 | No attack. | |
| 5th—30 | "Manic-depressive" depression, allied. | Recovered |

Table No. 4.

Case No. 1945. Three attacks of recurrent insanity of manic-depressive type. First and second attacks occurring before marriage and bore no relation to child-birth.

*Onset of Attacks.*

| Age | Form of Psychosis. | Outcome. |
|---|---|---|
| 1st—16 | "Melancholia" | Recovered |
| 2d —19 | "Melancholia" | Recovered |
| 3d —23 | "Puerperal mania" | Died (Tuberculosis) |

Table No. 5.

Case No. 3735. Case of recurrent insanity of manic-depressive type in which there were six attacks, four occurring after child-bearing period. So-called attacks of "puerperal insanity" of same type as the others.

*Onset of Attacks.*

| Age | Form of Psychosis. | Outcome. |
|---|---|---|
| 1st—25 | Manic excitement | Recovered |
| 2d —29 | "Puerperal Insanity" | Recovered |
| 3d —44 | Manic excitement | Recovered |
| 4th—46 | Manic excitement | Recovered |
| 5th—51 | Manic excitement | Recovered |
| 6th—59 | Manic excitement | Died |

Infectious-exhaustive and Allied Conditions: Another large group of insanities preceding or following child-birth are classified as infectious-exhaustive, or allied insanities. This form is characterized by a delirious condition accompanied by prostration, fever, sleeplessness and other symptoms incident to exhaustion and infection. The onset is generally sudden, consciousness is partly obscured, there is a feeling of fear; there is excitement, hallucinosis, painful delusions, great vigilance, accompanied by rapid physical exhaustion.

There were thirty-eight admissions in this class. In twenty-one of the thirty-eight cases there were positive evidence of infection which could account for the onset, making child-birth at most only a contributary cause. The accompanying conditions which were probably accountable for the infection or exhaustion were as follows: General infection or infection involving the pelvic viscera; of these there were seven cases. Abscess of the breast, three cases. Meningitis, appendicitis, lagrippe, cystitis, phlebitis, tuberculosis, embolism, difficult labor, chorea, each one. The latter case, one of chorea, was admitted when three months pregnant and died three days after admission.

Clearly in many cases of the infectious-exhaustive type the insanity is not caused by the physiological episode of pregnancy, child-birth and the puerperium, but is due to causes incidental to these conditions. This group is of special interest and its consideration of practical importance, for it does not occur as the result of constitutional weakness or predisposition as do the groups that have previously been considered, but often to preventable causes, and responds most readily to treatment.

In ten cases general ill-health or exhaustion

was the exciting cause. One of these cases gave the following history: Married when seventeen years of age; during the four years following marriage she had two miscarriages and gave birth to two children. The labor preceding admission was precipitate and the patient was greatly exhausted when admitted.

The psychosis in another who was admitted suffering from exhaustion, occurred one year after the birth of the seventh child, which child she had nursed twelve months.

In twenty-one of these thirty-six admissions there was evident some adequate cause for the exhaustion or infection. In the other cases although an infectious etiology could not be demonstrated, yet the symptomatology and outcome being so similar to the infectious psychosis they were allied to this group.

Of the thirty-six cases admitted belonging to the infectious-exhaustive group eight died, six from exhaustion. Death from rapid exhaustion is the usual immediate cause of death in this psychosis, often occurring within a few days of admission.

The great majority recover. Twenty-eight of the thirty-six cases, or seventy-seven per cent., recovered. So far as known only two had more than one attack. The prognosis is the most favorable of all the acute insanities; none go on to dementia.

*Other Groups.*—In the eighteen remaining cases of the one hundred and forty-one under consideration the puerperal condition was clearly only incidental to the psychosis. Four of these cases proved to be cases of paresis, the disease having existed long before the patient became pregnant. Two were cases of epileptic insanity and two were cases of alcoholic insanity.

Nine cases belong to the hysterical and psychasthenic groups; three of these had more than one attack. One of the cases of hysterical insanity admitted was a young woman eighteen years old and illegitimately pregnant. Her case was admitted as one of "puerperal insanity." She recovered in about six months, shortly after the birth of her child. This patient has had three subsequent attacks of typical hysterical insanity. She has never since been pregnant. This together with other facts in her history leads one to believe that it was the moral strain and shock incident to the unfortunate circumstances connected with her pregnancy that stamped upon her the habit of recurrent attacks of a hysterical psychosis.

To repeat the study of these cases seems to the reader to teach that the majority of the psychoses associated with child-bearing fall easily into three well known groups of insanities.

*First.*—The deteriorating insanities. The strain of child-bearing evidently only precipitating a psychosis that was bound to follow any severe physical or mental strain or shock.

*Second.*—The recurrent insanities of the manic-depressive type. Child-bearing is merely an incident connected with one or more of the recurrent attacks.

*Third.*—The infectious-exhaustive group. In which the insanity is caused by infection or precipitated by exhaustion.

*Finally.*—In a small percentage of the cases the incidents of child-birth brings to the front symptoms of insanities that may have existed for one or more years.

## HABIT AND DIET IN THE PAROXYSMAL NEUROSES.*

By H. W. HICKS,
AMSTERDAM, N. Y.

IF it were possible to mention in this paper all of the phenomena which help to develop the so-called paroxysmal neuroses, I should not feel the importance of an apology before beginning my theme. I shall attempt to bring to your minds only a few of the group of physical disturbances that can be termed paroxysmal in their manifestations. Asthma, gout, angina, epilepsy and migraine have, as a rule, such sudden onsets that they may very well be termed paroxysmal. The treatment of these affections also make up in the aggregate a large portion of our every day work, and it is certain also that, although they are common, our knowledge of how best to give relief and prevent recurrence must be unsatisfactory or limited, for no part of the field of medical endeavor is so filled with proprietary medicines and so prone to the invasion of the quack as the above. The victims are for the most part in the active pursuits of life, and the advertisement of the magic-worker appeals to them with added force. They also have some idea of the method of practice used by the profession in this class of disturbances, and it is to their minds altogether too slow and accompanied by too many restrictions to make it popular, their habits of over-indulged living and diet being in the majority of instances the direct cause of their sufferings. In making the above statement, due allowance is made for the so-called hereditary aspects. Personally, my observation has been that most of these sufferers who attribute their troubles to hereditary influence are, as young children, quite well, only acquiring their various ailments later in life. It is my belief that they have not inherited the physical trouble so much as they have inherited or acquired a mental lack of self control in matters of temperate eating, drinking and working, yet, at the same time, I think I realize the great possibilities of hereditary influence. To the physician, the lesions and pathology of such disturbances depend much on his ability as a diagnostician where lesions that are

* Read before the Third Annual Meeting of the Fourth District Branch of the Medical Society of the State of New York at Plattsburg, N. Y., July 8, 1909.

possible to find exist, and if they do not admit of being satisfactorily demonstrated, then in many instances a vivid imagination will help. In speaking of the pathology I can do no better than to quote Francis Hare when he says "that the pathology of migraine is in the main the pathology of the whole group." He also submits the following proposition: "That the paroxysmal neuroses are often due to a gradually increasing accumulation in the blood of unoxidized carbonaceous material derived from the food; that sooner or later, according to circumstances, the load becomes intolerable, and that there occurs through the medium of the nervous system a more or less precipitate and complex conservative reaction on the part of the organism, resulting in some degree of temporary relief; in short, that the paroxysmal neuroses depend upon hyperpyræmia and constitute a carbonizing process."

While it is not possible or practical to mention all the names of those who have in the main held views that coincide with the above, still it is the well-known opinion of many excellent clinicians. My own experience is that this type presents some of the best evidence of the excessive or inactive mode of living that can be found, showing the result of late hours, early hours, long hours, fretting, nervousness, hard work, no work, over eating, rapid eating, the intense temperament, the lackadaisical; novel reading, candy eating, over stimulation, the excessive use of tobacco, indoor life, selfishness, prodigality, morbidity and melancholy. You can find some of these characterizations, and ofttimes many of them, in your average patient with these complaints. While in some instances there may be a lesion or a good reason that otherwise explains their sufferings, I am firmly of the opinion that they have their own vicious habits and diet to thank for most of their troubles. Their daily intake of food and drink, and in the case of men, tobacco, together with the lack of proper exercise, is the direct cause of these paroxysmal outburst. It must be that the attacks have in a measure a salutary influence, for it seems that the individual is rewarded by a certain immunity for a short time, and this time seems to be in direct relation to his customs of habit and diet, especially so if his intake is large, and this word includes not only the vicious alcoholic and tobacco excesses, but the amount and kind of food as well. I think it time the profession should not shrug their shoulders and look dubious when the good and pious leading citizen passes away from the effects of angina or an intracranial hemorrhage. We know that good he may have been, and from every standpoint of modern civilization a so-called Christian model, but his end was probably brought about by a combination of too much food, too much mental anxiety, and little or no exercise. It seems strange when you stop to think of it, the almost studied effort on the part of everybody in the family of such an individual to try and kill him. You would think that the almost-always-present and usually ever-increasing adipose would be a warning not to be underestimated, but on the contrary, it is hailed as a sign of well being, he is congratulated by his whole family and all his friends. His ever-increasing shortness of breath, the possible catching pain about the heart, or, perhaps, the slight vertigo, are symptoms which, in the family's estimation, call for more rest and more food; they are all solicitous, much food in ordinary and in condensed forms are daily taken and urged upon him. He continues to thrive according to the family's standard, notwithstanding he is taking daily more than he can or does eliminate. The waste is accumulating, and it will surely show itself in some form of paroxysmal storm, which may take the patient into the great unknown, or, if not, it has already founded or does establish a sequence of events relieved for the time being by the salutary influence of this acarbonizing process, but, under the above regime, his fate is sealed, and sooner or later he falls a victim to a disease called in the Bible, sinning against his own body. Altogether he may have led a life of propriety according to the highest social standards. I said the profession should cease to be a party to such self-destruction. We all know the reasons and we all are to blame for not telling these patients that if they want to be well they must be moderate eaters and must not give the sawbuck absent treatment. I have been educated and nourished, like the rest of you, on the theory that alcohol was the cause of nearly every hard drinker's early death. I no longer believe it, but I do believe that the great majority of these deaths in young and middle-aged drinkers is due to a surcharged blood, to the making of which excess of food bears as large a proportion of blame as the taking of alcohol. If you need any proof of this, visit your own alms houses and see there the number of octogenarians who have been alcoholic all their lives, and who scarcely during this entire time have had what you would call a square meal. They have managed to oxidize their alcoholic intake, because it was about all they had to oxidize. What is it that drives these over-fed patients to sal this and sal that, and—this and—that? First the advertisement, then some friend who has been benefited. Does he get relief? Most certainly, how? Because he is like an over-fed coal stove, with a grate full of clinkers and ash. Does he remove the cause and bank the fires, so they will burn to their limit? Partially, he rakes the grate and, in doing so, he experiences such a relief that he opens the drafts, piles in more fuel and lets it burn for the joy of it. No fear now, he has a specific. Perhaps he is a successful self-made man; if so, he is an egotist, and, having always believed in his own powers and abilities, he looks with superior disdainful complacency on that doctor who wanted him to let up on his eating and take exercise, he

pities him in his heart of hearts, and he would like to take his practice for a month and show him a few things.

The subject and its possible presentations are many and varied, but the above, however, is not overdrawn. We have a duty to perform, and if we do it justly, viz.: Teach humanity what is necessary to prolong life in the adoption of the simple diet, the inhalation of plenty of fresh air, the indulgence in healthful exercise, and the moderate, or best of all, no use of alcohol or tobacco, if we incite the masses to thus modify and regulate their routine of living we will have less of these paroxysmal disturbances, less blood-vessel strain and disease, less unhappiness and suffering.

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## TWO OR THREE POINTS CONCERNING OUR INSANE PATIENTS.*

By GEORGE W. SARGENT.
SENECA CASTLE, N. Y.

THIS country of ours is new. In it have grown up a great many things not for the public welfare. Like "Topsy" we have "just growed."

Sanitarily there is much to be desired. Educationally our schools, we are told, are fitting the youth for lives that only 21 per cent. enter, and practically unfitting the other 79 per cent. for the lives they must enter. Socially we are in a ferment. Professionally fields which ought to be cultivated have been neglected.

It is said that the time to begin training a child is one hundred years before his birth, and that "the boy is father of the man."

The Catholic Church has said, "Give us the first seven years and we care not for the rest." The same idea is contained in the maxim, "Train up a child in the way he should go and when he is old he will not depart from it." A familiar proverb which may almost be cited as the slogan of the medical profession to-day states, in another way, the same thought, "An ounce of prevention is worth a pound of cure."

These sayings express a principle that the world has recognized but made less use of than it might.

Men begin to understand the value of healthy bodies in maintaining healthy minds. We are moving heaven and earth to destroy the "White Plague." Diphtheria and typhoid fever are checked, and laudable success is achieved in preventing diseases transmitted by insects.

But the field of the mind or soul has been left to itself until finally forced upon our attention through the exploits of charlatans. All kinds and conditions of minds passed through one and the same mill. If a child was handicapped by physical defects, dull or eccentric, there was no other way for him but the same undeviating tread with the strong and normal.

With more knowledge society will be better organized; physical defects and mental failings will be noticed and corrected early; a training fitted for the individual and not solely for the mass, will develop. In time it will be possible to prevent a collapse in invalidism or insanity, and to give many a weakling the chance to grow into strong manhood.

Insanity is said to be increasing. Take a single case: its history runs far back in the life of the unfortunate, and perhaps a long way in his pre-natal period, if I may use such an expression. The attack may be, and probably is, according to the teaching of psychiatrists, simply an incident, or culmination of events, in his mental life rather than a definite brain lesion as we have been in the habit of thinking.

Regrets may torment us at the failure to utter some warnings, or point out some tendencies in this very person's childhood, possibly where foresight and training might have improved his future. Perverse human nature, however, doting parents and limiting circumstances hinder and hamper. Yet doubtless very much might be done to put off or prevent the evil of actual insanity.

Supposing we have before us this insane patient, what shall be done? We take an invalid at once to the hospital where he can have the care not possible in his own home. With this patient who has gone insane we have the same need of hospital care, but are compelled to await the slow process of commitment. This is dreaded by the patient and dreaded by his friends; and unless he is a millionaire and able to avail himself of all sorts of special devices practically nothing will be done, and commitment will be delayed until it is really compulsory or beyond the time for good results.

Commitment attaches a stigma hard to remove. The formalities involved seem to hold the innocent victim more as criminal than invalid and patient; and more than this, that which should be wholly a medical matter becomes a matter of law. First, accusation or allegation, then the proof, and then commitment. If we were not more or less blasé, professionally, it would be exceedingly repugnant.

Some simple plan is desirable enabling the physician to put this kind of patient in a hospital with the same or similar facility to the case of his other patients. Improvement and cure would then be more promising. As it is now the physician is simply an instrument in commitment. All physicians must have felt this. It was gratifying to find, after writing this that Dr. William L. Russell, in an extremely practical paper read at the Keuka Lake meeting and published in the *Hospital and Sanitary Record,* had expressed this idea in similar words.

He says: "When physicians and the public understand more clearly the facts relating to the

* Read before the Seventh District Branch of the Medical Society of the State of New York at Hornell, N. Y., September 16, 1909.

etiology of insanity, and when useful, practical and effective advice can be given and applied in the beginnings of the developing disorder, or in anticipation of it, then, and only then, will a real impression be made on the increasing number of insane cases. A practical step toward bringing this about would, I believe, be to provide in each community better facilities for the care and treatment of mental cases than there are at present and to put the whole problem of mental disorders more clearly on a medical footing and less on a legal and police footing."

It seems proper for the State to take charge. The insane are, as they have been called, wards of the State. They demand every care and every safeguard that the State can give, and when an acute attack supervenes need prompt treatment and, to this end, some easy method of transference to the hospital. Besides this, according to the present-day teachings, physicians may often forestall acute attacks by the practice of psychiatry, which seems to be the scientific and sympathetic application of common sense.

Now it seems to me that treatment might be carried a little farther than is attempted by our State hospitals. I have referred to the period of our patient's life leading up to the time of his commitment, and have dwelt slightly on the latter period, now let me call attention to the period following his discharge. Large numbers compose the class of mildly insane who are able to do some kind of useful and remunerative work, or might do so under supervision.

These people have proven unequal to the world's strain and gone under. If placed in a hospital expert treatment helps them up with consequent improvement and perhaps recovery. When, however, they leave the hospital it is with the same unstable, nervous organization, and, from the fact that, on commitment, they gave up their earning privilege, and, when discharged, either cured or only improved, the stigma of insanity cleaves to them, it is all the harder to obtain employment or to take up the duties of their position.

Thus they are even more heavily handicapped than before they broke down, and sooner or later another wreck is almost inevitable.

So again a long and degenerating interval occurs, continuing until commitment is actually compulsory before they avail themselves of the hospital.

This appears especially true of such cases as come out with the label improved. There is a plausible but fallacious reason for such a discharge; it is rather apt to work against the patient than for him.

The State's intentions are beneficent. It stepped in kindly, to return to our supposed patient, during his emergency, not only for the purpose of aiding him but to take off a great burden and terror from society. Why then not continue the good work, and instead of discharging him improved, or even cured, to the uncertainties of the future, rather provide additional help, enabling him, if desired, to remain under observation until perfect relief is obtained. In other words, take a step ahead and do that which private enterprise has unsuccessfully attempted, soften his future and perhaps save him from a life of vagrancy by opening an avenue or means of assistance toward securing steady occupation, and making him a helpful unit in society.

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## FUNCTIONS OF THE MEDICAL SCHOOL.*

By ELI H. LONG, M.D.

BUFFALO, N. Y.

WITH full appreciation of the honor attending the privilege of addressing you as presiding officer, I invite your attention to the topic announced—"Functions of the Medical School." I cannot hope to present much that is new to medical educators, for your minds have been active and receptive during the recent period of marked advancement in matters of medical education. The aim of this essay must, therefore, be emphasis rather than originality.

The older men among us have been privileged to witness changes that amount to little less than a revolution in the process by which persons are prepared to practice medicine; for the transition from the school of twenty-five years ago, with its two courses of five months each, with no entrance requirements and with no grading of instructions, to the school of to-day with its four years of eight months each, with thoroughly graded instruction and its preliminary requirement of a high-school education, cannot be attributed to evolutionary influence solely.

The main causes of these rapid changes are several. We may name in order, first, the desire and effort on the part of the medical school to remedy its conscious defects; second, the awakening on the part of the profession to the need of better preparation for practice, which attitude finds expression in the enactment of laws regulating the practice of medicine; and, third, the rapid advances in medical science which have compelled enlargement of the course of study and have stimulated its betterment.

Probably the most revolutionary change, and at the same time the most important, has been the development of State control of the right to practice. In the past two decades the colleges have seen a function, earlier theirs of necessity, transferred wholly to the State. All will admit that this movement was toward the normal. And when we reflect that it meant the divorcement of the educational and licensing powers, depriving the schools of a recognized function, we have ground for congratulation that the beneficent

* Read before the Association of American Medical Colleges, New York, N. Y., March 15, 1909.

results seen to-day have been attained without friction, and that the schools accept the situation as normal and desirable. If, incidental to the transition, the schools have seemed to be objects of criticism and the weaker side of their work exposed to view, this has been of benefit. It is a part of a sifting process which is resulting in the separation of unworthy schools and in the relegation of inferior teaching methods. And if the schools have been placed under censorship for the time, let us regard even this as an aid in the very work that we, as an association, are doing and have been doing for years—the work of elevating the standards of medical education.

But it would be unfair to regard the schools as having been wholly backward, or even passive, in the movement for better control of the practice of medicine. There is evidence to the contrary. Firty-five years ago, when the profession in New York State was thinking in this direction, as the records of the State Medical Society show, or twenty-six years before the passage of our modern medical practice act, one of the medical schools of the State, by unanimous vote of its faculty, promulgated the following resolutions:

UNIVERSITY OF BUFFALO, MEDICAL DEPARTMENT,
February 20, 1864.

On motion of Professor Charles A. Lee, seconded by Professor James P. White, it was

*Resolved,* That the Medical Society of the State of New York be requested to appoint a committee to consider the expediency of, and to report a plan for, the appointment of a State Board of Examiners for the degree of Doctor of Medicine, and to report at the next meeting of the Society.

*Resolved,* That the same committee be instructed to bring the subject before the next meeting of the American Medical Association, and that the delegates of this Society be instructed to urge the general adoption of the same plan in other states of the Union. Carried unanimously.

THOS. F. ROCHESTER, *Chairman.*
SANDFORD EASTMAN,
*Dean of the Faculty.*

The sincerity of this action is indicated in the following quotation from the Buffalo *Medical Journal* (February, 1864), then edited by a member of the college faculty:

"When the graduation of students in medicine is wholly separated from the duty of teaching and an impartial Board of Examiners shall decide who shall and who shall not receive the degree of Doctor in Medicine, very much will be accomplished for the elevation and advancement of the profession. * * * If this reform now suggested and urged upon the profession by the medical college in Buffalo is favored by the other colleges in the State, we shall soon be redeemed from the power and influence of a system which has disgraced the profession, lowered its standard of attainment, reflected obloquy and contempt upon its degree and come well-nigh reducing medicine as learned and practiced to the level of a trade."

The progress made in this direction within thirty years has been such that now every State in the Union has its medical practice act and its examining and Licensing Board. As we review these attainments and look forward with hope for their perfection in uniformity of standards and in reciprocity, we can have only words of appreciation for the results thus far.

But what of the medical schools in their teaching capacity? What progress have they made during the preiod under review? The following incident will aid our appreciation of progress on the part of the schools: It is reported that within the period of thirty-five years past an artisan, passing the college building of one of our foremost medical schools, heard the bell ring to announce a lecture, entered out of curiosity, during that lecture decided to study medicine, and was graduated from that institution thirty months later. To the man educated to-day it seems strange that such an incident could have occurred. But it serves to show that at a time not yet far removed from the present, a medical course of only two years of five months each before graduation, with no questions asked as to preliminary training, was the rule even among the best medical schools. The schools were then simply taking the material that presented and making the best they could out of it; and some of it turned out pretty well. Without a graded course it seemed unnecessary for the student to cover the ground more than twice, so that to many a third year seemed superfluous. But with the rapid advances in medical science from about 1880, we find the better schools voluntarily advancing their standards, enlarging their courses of study and improving their methods of teaching. Their progress was very decided before they had the aid of State enactments, which came as incidents in their upward course and served to give some direction to their efforts; but that progress has been greatly accelerated during the past fifteen years, with the more rapid extension of State control. Aside from the advantageous requirement of a fair education before beginning the study of medicine, we find that college methods and college equipment have been scrutinized from within and from without; and, while voluntary progress had been great in the better schools, they were ready to go further and to promptly adjust themselves to new conditions demanded by State requirements. We may not deny that the colleges needed the stimulus of State control of their product, for in a real sense they have profited by it, but they were in a state of readiness, and they have so easily become adjusted to the requirements and suggestions of State Boards as to appear almost subordinate to them. This cannot be admitted to be

the actual relation or the normal one, and the next decade should yield a better sense of proportion. While we welcome State control of licensure and as well helpful criticism by the profession, it is proper at this time to insist upon the dignity that pertains to the high function of preparing men to practice medicine. It is well to remember that State laws may be enacted, modified, repealed, but the physician will always be essentially what the college makes him. Therefore, we must regard the work of the college as fundamental and that of the State Board as incidental. This is, in fact, asknowledged in the necessity which some State Boards feel of omitting from their examinations two of the most essential subjects in medicine, viz., practice and therapeutics. It still remains the province of the medical school to determine *what* shall constitute a medical education and *how* that education shall be acquired. And because of the State's limitations in this direction, the worthy school, conscious of its independence in the most important part of its work, will lead rather than follow in the march of progress.

It may be said that the scope of the medical curriculum is now pretty well established. Details need perfecting, but we have standardization of subjects and of equipment now in progress, so that the evident demands are in process of being satisfied. Standardization of teachers will naturally follow. But just as character in the individual cannot be developed from without but must be the fruit of the reaction of inner forces to conscious impressions, so we may well look within for sources of greater efficiency in the medical school.

But leaving the question of relation to other established factors in medical education, let us discuss some essential functions of the medical school of to-day. Our view will be an introspective one.

We must not forget that many of the schools have faced financial difficulties during the period of adjustment to increased preliminary requirements, because of lessened attendance. This may not apply to the few endowed schools, but it does apply to the average of the better class of medical schools such as compose this Association. The figures show that the number of medical students in attendance in the United States in 1908 was 16.8 per cent. less than the average number five years earlier. But the fact of lessened average income does not seem to have retarded progress in our schools. It is true that some schools gained in attendance during this period, and there are some of the best schools in either column. It is evident that the law of supply and demand has not been wholly determinative during the period, for our population has increased as usual; but there seems to be no present danger that the supply of physicians will fall short. Still the facts suggest the question of the relation of the medical school to the supply. The practical question will be that of the attitude of the college toward the competency of its graduates, or the quality of the supply it furnishes.

Let us remember that we have the student under observation for four years before his final appearance for license; what our graduates will be at that time depends entirely upon us. This assertion may be denied upon the ground that we cannot put brains into dull students; but I insist that we need not allow the dull, incompetent or lazy student to advance beyond the experimental stage. Herein lies a most important but too little used function of the medical school! Certain applicants come up again and again before the Licensing Board only to fail repeatedly, and no power can prevent. Where is the fault? Such persons ought never to have been allowed to complete their college course. The college is wholly to blame; and any school may well feel humiliated by such a hopeless failure of its graduate in the licensing examination. Therefore, while we may not feel called upon to regulate the supply of physicians, we *should* see to it that *our part* of the supply is competent. Self-interest has doubtless prevented a proper regard, on the part of the schools, for the interests of the public and likewise for the interests of the incompetent student. In justice to the public we should not graduate the incompetent man, and in justice to the man we should not allow him to spend four years with us only to face failure. It is gratifying to see that some schools are coming to realize their duty in this regard. It must be held to be an important privilege and function of the medical school to discourage incompetent and to dismiss indifferent students after the trial of the first year.

If we still recognize our prerogative to determine *what* shall be taught and *how* it shall be taught, we may turn a critical eye upon the details of our work and ask whether we are fully meeting the demands. It is easy to add subjects to the curriculum, and it is probable that *amount* of instruction has sometimes been emphasized to the neglect of quality. It may be that, in order to give attention to all of the specialties, we have minimized the importance of a most thorough training in the fundamentals of medicine. In the desire to give opportunity for research we may have been led by some enthusiastic worker to give it undue place in the undergraduate course. The essentials of a medical education have not changed so radically with the progress of the past quarter of a century but that men who were well educated then have been able to follow the advances. It is true that there is more to be learned than formerly. The whole science of bacteriology has been developed and some of the secrets of nature in respect to the pathology and cure of disease have been discovered. The specialties have come into prominence. Nevertheless, the best part of the

practitioner's preparation is and always will be a thorough grounding in the fundamental principles of general medicine and surgery.

It is of great importance that the whole course be properly graded and the matter correlated wherever possible, so as to economize the student's time and energy. And what is just as important, the developmental feature of the medical course should be recognized and made full use of; for, beginning in the first year with the purely scientific branches, passing then to those that may be correlated, permitting the presentation of facts in more concrete form, and then on in the third and fourth years to the practical clinical work, we can hardly imagine a course more perfectly adapted to secure logical mental development. But are we employing this feature to the proper extent? Also, we are to be congratulated upon being teachers of a profession which is a rapidly advancing and expanding one, which not only finds resources in the tomes of past literature, but whose workers may within any month announce discoveries or advances that will greatly change methods and results in practical medicine. Accordingly, with recognition of these features that are vital, an important function of the medical school is that of discrimination as to character and conduct of the course, with a view to realizing in full the normal factors in the development of the medical man. The rapid development of the present course has been the result of necessity and it has occurred without much supervision by pedagogic authority. What wonder if the emphasis has not been rightly placed! What wonder if the more essential element of development has been sacrificed to the fancied advantage of including every new theory and every method of promise? The curriculum has beeomc crowded! The purpose of these observations is to discount the crowding process and to plead for time for the student to devote to the reading and reflection that are necessary to his best development. A schedule that requires an attendance of eight hours per day with close mental effort will use all of the energy an average student can command. Little opportunity is afforded for individual elaboration of what he has received. What is the result? His facts are ill-assorted, his observations are not thought out, his deductions are apt to be faulty and his whole work becomes superficial. His individuality is restrained and his development dwarfed. The question is whether we shall try to fill the minds of the students with the great possible amount of material without giving opportunity for its constructive use, or shall we respect and employ the laws of natural development, securing thereby the best possible development of mental capacity in connection with the necessary acquisition of facts. With the latter in view, any lengthening of the course should be for the purpose of giving the student more time for assimilation and construction, rather than of adding to the amount of matter to be presented.

With the rapidity of transition in some departments the curriculum must always be regarded as tentative in its details. Our excellent model curriculum of 1905, which has secured deserved recognition, should soon be revised. It was to be expected that five years would show the necessity of some changes. For example, it seems questionable to give to so special a branch as electro-therapeutics more time in the regular course than is allotted to dermatology and syphilis. Also it is a question whether dietetics in the abstract is entitled to thirty hours, as compared with hygiene and public health which together are given thirty hours. Other criticisms might be offered, but our discrimination must here be wisely exercised both in the matter of adding to our curriculum and of subtracting from it. Permit me to enlarge upon the latter thought, for I submit that as it is our function to add to our course of study, it is likewise our function to eliminate from it.

We have seen our curriculum grow in thirty years from a group of seven fundamental branches and two or three specialties to double that number of distinct courses of instruction. In the same period our total of hours of instruction in the complete course has increased from a usual maximum of 2,000 hours to a present minimum of 4,000 hours. We have been adding and enlarging without stint. But where have we eliminated? It would be strange if the great advances of the same period had not revealed the obsoleteness of some of our past work. It is true that elimination has occurred, but in small units rather than in sections—in details but not in subjects. The process has been one of modification which has gone on steadily. But in one direction it seems high time to eliminate and to eliminate rather mercilessly. I refer to the fifty or one hundred unimportant drugs that have been carried along in our text-books, referred to in an indifferent way in our lectures and, by reason of this recognition, have been retained in considerable number in the U. S. Pharmacopœia. These practically obsolete drugs have only an occasional use in medicine to-day. Why should we thus encumber our materia medica and subject our students to routine study of substances whose influence upon the system is so feeble as not to be capable of recognition by pharmacologic means? Materia medica is regarded as a dry subject; but there is nothing dry about the study of such drugs as digitalis, opium or strychnine, drugs that have a character that can be known in definite action upon the system. Such drugs deserve the time commonly given to the substances of little importance. If we could send out our graduates with a *thorough* knowledge of fifty of the most active drugs, we should soon hear nothing of therapeutic nihilism, or even skepticism. And fur-

ther, if we were to teach them in detail how to apply and prescribe these same drugs, the days of proprietary specialties would be numbered. Ten years ago the sentiment of teachers of materia and therapeutics toward the elimination of unimportant drugs from the Pharmacopœia was tested by a committee of the Medical Society of the State of New York. A list of 54 such drugs was submitted for vote as to the advisability of their retention in the next revision. One hundred responses from these teachers gave the following results:

The number of votes in favor of retention of any certain drug varied from 1 to 33.

Number of drugs having from 30 to 33 votes out of 100—3.

Number of drugs having from 20 to 30 votes out of 100—11.

Number of drugs having from 10 to 20 votes out of 100—14.

Number of drugs having less than 10 votes out of 100—26.

Thus, approximately one-half of the 54 drugs received less than 10 per cent. of possible votes, and only three received as high as 30 per cent.—not a very strong endorsement for any.

It is interesting to note that 28 of these drugs were dismissed by the Committee on Revision.

The last plea to be made for teaching about these nearly useless substances is on behalf of the State licensing examinations, upon the ground of the necessity of employing them in questions for the benefit of applicants who were educated some years ago. It would be strange if sufficient drugs familiar to every practicing physician could not be found to test any candidate's knowledge of medicine. The recognition of these drugs seems also to foster the proprietary abuse, for it is evident that the manufacturers resort to feeble rather than active agents in making up preparations that are pleasing to the senses. We are *ready* for the proposed elimination.

We have seen marked improvement in teaching methods. The didactic lecture has been to a degree supplanted by the recitation and conference, while clinical teaching has been given the place of prominence in the third and fourth years and the course on the whole has been made more practical. But if we recognize the need of helping our students to develop the largest possible mental capacity, there is something more to be included in the full performance of our teaching function. In the writer's opinion the greatest deficiency in the conduct of the medical course to-day is the lack of developmental work, meaning by that the failure to train the student to think and to reason out matters for himself. The course is logically arranged to aid the student's comprehension of successive subjects, but the detail of instruction is often faulty. We have deprecated the crowding of the day—what about the hour? The crowding of such material into the hour may seem to be necessary, but it may defeat the best ends of instruction. While the passing of the didactic lecture has rendered the teaching less dogmatic, crowding of the hour may still prevent the best individual work. We sometimes hear regret expressed for the disappearance of the preceptor factor in the student's preparation, and with good reason. The association of student with preceptor for some months of the year was, in some respects, an ideal relation for the student's benefit, as it furnished that opportunity for detailed observation and discussion of cases with one more experienced, which contributed much toward the development of reasoning power, and compensated somewhat for the inferior teaching methods of that day. But with the necessity of giving four years to medicine, with longer college sessions, and with the greatly increased expense of the course, many young men cannot now afford the time to spend with a preceptor. The college ought somehow to make up for this lack. The third and fourth years, and a possible fifth, will be the time to do it. But it cannot be done by simply adding hours. It must be done along lines of development. There are a few branches that lend themselves particularly to developmental work, and all should employ it to the extent that is practicable; but of all branches, that of therapeutics, which has come to be an uncertain quantity in some quarters, furnishes the greatest opportunity for the development of judgment and reasoning power. In support of this assertion let me remind you that the study of therapeutics, if preceded by proper preparation, does not call for the learning of many new facts. It should consist largely of the putting together and application of previously learned facts. In this view of the case rehabilitation of the subject is in order; and it is reassuring to know that, while therapeutics as taught by the historic method is losing in favor, applied therapeutics, as a third year subject, is gaining strong advocacy. In planning for this work, the whole course should be so arranged that the student comes to his third year with the essential facts of materia medica, pharmacy and pharmacology at command; likewise his anatomy, chemistry, physiology and bacteriology, with some knowledge also of pathology. Reversing the old order of things and taking up therapeutics from the standpoint of the condition or disease to be treated, instead of from the drug standpoint, an exercise in the form of conference will be most profitable. Such conference may be sufficiently informal to permit the students to ask questions as occasion suggests. Freedom of thought and expression should be encouraged, for the main purpose should be to aid the student himself to correlate, construct, adapt and apply. He is thereby enabled to think out rational treatment, hygienic, physical, mental, pharmacologic, or whatever is

applicable; and he does it mainly by the use of facts previously learned. The same kind of work can be continued in the clinic and ward class if the teacher will give treatment the place it deserves. The result of carrying the above purpose through all of the practical branches, as far as they admit of it, will be to make our graduates thinking and reasoning men rather than encyclopedic men. Which is better?

Another means of compensating for the lack of preceptorship is found in the hospital internship. In the progress of events students are coming more and more to feel the necessity of supplementing their college course by hospital training. In one large city that furnishes hospital positions enough to supply all ambitious graduates of its one medical school, it is found that about three-fourths of the graduates voluntarily spend a year or more in a hospital position before engaging in practice. This is approaching what may be considered normal; but it would be better if the near future could see relations of schools and hospitals so adjusted that every graduate could be assured of a hospital position. To go a step further, it would be desirable to have the college course invariably include an additional hospital year, so that the latter might be given definiteness under college supervision. In these days we are discussing the question of an additional year in medicine. Increase of preliminary preparation by one year is being advocated. But if the deficiency pictured above is real and the necessity of an additional hospital year is appreciated by the students themselves, would it not be better first to aim at completion of the medical course by adding an hospital year, before increasing preliminary requirements, when those now in force are not yet fully standardized? If to the college belongs the function of determining what shall be taught in the medical course, it seems that upon the question of an additional year somewhere in the period of preparation for medical practice, this association is in a position to speak with some authority. Another direction in which it should be our function to aid the student is in formation of habits of thought. Because of the constant diversion of thought incident to expansion and rapid progress, there is apt to be loss in power of concentration. This tendency is evident at the present time to a degree that calls for recognition and remedy.

In the dawn of medical history the diffusion of the knowledge and art of medicine centered about great leaders, and habits of thought were acquired by the student without much diversion of opinion, though the view was necessarily limited. Provided, however, that the leader was a wise student and a good thinker, there was a distinct advantage to the student in such association. And there are many practitioners in every generation and in every community, close association with whom can contribute essentially to a proper medical education; and they are not all living in the large cities nor enjoying prominence! But we would not go back to Hippocrates or Galen in this day of advancing medical science, nor would we think of entrusting to the best modern practitioner the duty of educating in the various branches necessary to medicine; but there can be no doubt that such associations begot in the minds of the learners a constancy and firmness of conviction that is too scarce an article in the rank and file of physicians to-day.

Of the fact of this deficiency, no stronger proof is needed than is seen in the ease with which the average practitioner forgets our drug standards and our standard drugs, and consents to be re-educated by the detail agent of the manufacturing house. That disgrace to our profession is founded upon causes. They may not all be patent to us, but two causes seem to me to be most prominent, and they bear upon the function of the medical school.

Fundamentally, our habits of thought have become too discursive. We allow new authority and new theory too easily to supplant the old. We allow new ideas to captivate us and we are impressed even by the simple voluminosity of modern literature and of modern statistics, forgetting to "prove all things and hold fast to that which is good." For example, some new chemical of vital reaction, or some new remedy is reported. It has not had the test of time and extensive trial. It is too early to place it before a body of students, unless with reserve. Yet some teacher will enthusiastically give it equal place with what has been tried and proven. This fault, it is feared, easily permeates our schools, and our students naturally fall into the same habit. What wonder that they listen to insufficient authority and fail to discern the commercial selfishness that would seduce them.

Another cause of the practice of prescribing proprietaries lies in insufficient training of our students along lines of practical therapeutics and prescribing. This fault is coming to be recognized and will doubtless be corrected; but in connection therewith we see an additional special reason why the materia medica required to be learned should be restricted to the more active drugs, and that these be learned thoroughly. This will antagonize discursiveness of thought in that particular branch and will give the student positive and fixed convictions as to the action and value of drugs, and the efficiency of our official standards. Prescription conference work in the fourth year can be made a most valuable aid to the development of mental capacity, to the training of the reasoning powers and to concentration of thought upon definite things. So satisfactory have been the results of the writer's efforts in this special direction that he asks your indulgence in permitting him to devote the closing paragraphs to definition of the "prescription conference," from actual experience of some years.

The course occupies twenty hours in the fourth year, presupposing earlier elementary instruction in the form of the prescription.

The hourly exercise includes original work by the student, conference, and criticism by students and teachers, arranged as follows:

1. Original work in the construction of prescriptions (first half-hour). At each session every member of the class is required to prescribe independently for a case or condition proposed by the teacher without previous announcement. The case may be a clinical one recently seen or a hypothetical one. Four students write upon the board for class criticism, all others write upon blank with wide margins for corrections.

2. Conference (second half-hour). The writing completed and the prescriptions gathered up, the class criticises the four prescriptions upon the board; this forming a part of the conference, led by the teacher, upon the appropriateness of the combinations and upon the general treatment of the case or cases proposed. Incompatibles, vehicles, pleasant prescribing, etc., are also discussed as occasion presents.

3. Criticisms (between sessions). The class having been formed into voluntary groups of three in each, for criticism work, each week one group, in regular turn, takes charge of the prescriptions written by the whole class (except those on the board). The group reviews these prescriptions critically during the next few days, making corrections and criticisms in *blue* pencil upon the margin. They are then returned to the instructor, who reviews both the prescriptions and the criticisms, using *red* pencil for his corrections, marks them according to merit, and returns them to the writers at the close of the next session, making at that time any comments upon special points.

Writing for proprietary substances is discouraged by requiring the student, who writes for such, to give the composition and describe the action of the same.

The metric system is used exclusively.

This course taxes the student's resources in many directions. He must use his knoweldge of drugs, their actions, their solubilities and incompatibles, and indications for their use in treatment. It drives him to the Pharmacopœia in his criticism work, and he learns the inutility of proprietaries. It enables him to make his mistakes before friendly critics, and it gives him exactly the kind of experience that would require several years of practice to gain. He gains a degree of confidence in prescribing and is guarded against serious errors.

Gentlemen, in the exercise of our high privilege—that of teaching young men to become physicians—let us not lose sight of the man. Let us see in him the possibility of becoming a better physician than ourselves, and let us exercise the functions of the medical school in such manner that the student shall have the best possible opportunity to become a thinking, reasoning physician, with the largest mental capacity possible to him

## ROENTGENOLOGY FOR THE GENERAL PRACTITIONER.*

By D. R. BOWEN, M.D.
ROME, N. Y.

THE practice and literature of Roentgenology are already so complex it is becoming so difficult for those not close students of the subject to separate the valuable from the valueless; and so much has been recorded as apparently most easy of accomplishment, concerning such "Capital operations" in radiography as are usually accomplished only after a long series of tedious failures, or by one with unusual adaptability to his work, that a word on the other side seems urgently needed.

To read the report of finding a renal calculus, a tubercular hip, or frontal sinus disease is one thing; to realize the long road of failure and discouragement which the writer travelled to reach that end, is quite another.

I believe that no one has greater respect for Roentgenology or greater hope for its possibilities than I. But these possibilities can only be realized by careful preparation which will keep this practice on a par with other exact methods of diagnosis.

Again, it is not the individual but the science that is at stake, for Roentgenology has suffered and still suffers much at the hands of its untutored devotees. Plates poorly made and worse interpreted, have been discredited in court. In one case, the slight of opposing counsel that, "this was not a picture of the shoulder, but of a shadow of the shoulder," was allowed to stand, unrefuted, with a jury whose only idea of shadows are those which come from ordinary light.

Serious disagreements in diagnosis, as in a case of a medical acquaintance, who tells me that in his own case, one radiographer diagnosed fracture of the head of the humerus, another, a fracture of the surgical neck, while a third, who was not only a radiographer but a diagnostician, assured him that he had only a sprain. I had the privilege of examining one of those negatives and how any one would be willing to venture any diagnosis from it is hard to understand. This patient, a physician, was not given an anæsthetic.

Repeated claims for the impossible:

I have, on file, the circular of a physician, who offers radiography, at his hands, as, among other things, a means for the diagnosis of gall-stones. Now there are a few, a very few, unquestioned negatives of gall-stones on record.

I believe, however, that it is not too much to say that in any case where a radiographic negative of gall-stones in situ has been made, the diagnosis should, years before, have been made by ordinary methods.

* Read before the Sixth District Branch of the Medical Society of the State of New York at Oneonta, N. Y., September 28, 1909.

These are some of the avoidable errors that have discredited Roentgenology among level-headed practitioners.

Now the question, shall I purchase a Roentgen outfit. No. Unless you have enough practical knowledge of its use to be able to decide the question alone. First acquaint yourself with one or more expert workers. Secure careful instruction until you are satisfied that you can, and want to, do the work.

If you cannot afford this you have a double reason for avoiding the whole project, for after you leave the best of instructors there is a farther and more expensive step in electric service bills, dry plate bills and what not, before one gains even a modicum of that experience which nothing but actual work can give.

There is, of course, the salesman who, if you buy his machine, will show you "all there is to radiography in a day or two." 'Tis better to reside "in Missouri" until you know you can do what he says you can.

With all its vagaries, radiography is in many respects similar to daylight photography and your experience with the latter is a trustworthy index to your prospects with the former. Did you succeed or fail? Did you find the details fascinating or irksome? You are likely to meet a similar experience here.

Failing at radiography, there is still a field in Roentgenology which the general practitioner *may* find of use. That is fluoroscopy, though here, I am convinced that more errors have been made, if possible, than in radiography. Given a soft tube, energised by a disordered static machine, a 5x7 fluoroscope and a moderately light room and it is marvelous what some men have seemed to see.

Roentgen-therapy is of itself a broad field, not so broad as we once hoped, but much firmer than we once feared.

As in the other branches it is only practical work that counts. As well learn the violin in a correspondence school as Roentgen-therapy from text-books.

But suppose we have plunged, that we are isolated and that, with all our failures, the subject still fascinates and holds us.

I know of no better practice in radiography than to procure from either the butcher or the dissecting room, two or three bones of varying size. Prepare these with any good laboratory solution (as Kaiserling's) and after wiping each specimen dry with a towel, imbed permanently in paraffin. These make your subjects. Now with a few boxes of smaller plates work ahead until you are acquainted with your tubes and can make a good radiograph of the heaviest specimen. Having accomplished this, it will be easy to adapt this experience to the needs of the human body. Do not miss an opportunity to attempt a radiograph of any part of the human body recording success or failure with corresponding cause, if possible, in every case. Every negative with full data to be preserved, studied, re-studied, and then studied again. Contrary to what has been said you will probably not meet with satisfaction if you try to have your plates developed by a professional photographer unless he is willing to give special attention to your work.

Having made a good radiograph or secured a good image on the screen the difficulties have just begun. The interpretation of Roentgen findings is one of the most important if not, indeed, the most important study of medical science to-day, and, considering the volume of Roentgen work being done in America the paucity of American literature regarding Roentgen interpretation is almost disheartening.

A reading knowledge of the German language is of great importance at this point.

It seems needless to say that a thorough knowledge of topographic anatomy is essential.

The fracture of the base of the first metatarsal bone on its outer aspect, for instance, appears on the negative as a simple matter. When we remember, however, the attachment of the peroneus longus the negative assumes new importance.

None the less needed is a thorough under standing of developmental changes. To know, for instance, the appearance and fusion of the various epiphyses is absolutely essential in interpreting Roentgen plates of fractures in the young. And at all times we have to remember that Roentgen findings are not to supplant, but to aid, other diagnostic methods, to be used with that with which John Opie mixed his colors, "With my brains, sir."

We must not be mere picture makers nor yet crystal gazers, hypnotized by the glass before us until it shows what we want to see, but must constantly meet the supreme question, What is wrong with this man's body?

The general practitioner in a city where there is one who has shown some ability in Roentgenology, should help that man, not only by referring patients, but by really getting next to him and realizing with him the possibilities and limitations of his work. In smaller and more isolated districts, there is only one proper plan of medical practice and that is co-operation. The day when medical envyings, and back-bitings, and even quarrellings were the rule in small towns is rapidly passing and those who envy and back-bite and quarrel are bound to pass with it.

Franklin's famous epigram at the signing of the Declaration, "We must all hang together or we shall all hang separately," should become the watchword of our profession.

Physicians' offices in small towns, if not in the same building, should at least be chosen with the plan for frequent interchange of ideas. One of the group will develop into a Roentgenologist. Early attempt should be made to recognize special abilities that each show and by co-operation to foster and improve them.

## 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 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, 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.

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

## Medical Society of the State of New York.

### Amendments to the Constitution and By-Laws.

The following proposed amendments to the Constitution and By-Laws were submitted at the Annual Meeting held in Albany, January 25, 1909 (see February issue of *New York State Journal of Medicine,* page 66):

Amend the Constitution, Article VI, Section 1. The section to read:

Section 1. The annual meeting of the Society shall be held beginning on the last Tuesday of September of each year.

Section 2. The time and place of the annual meeting shall be designated by the House of Delegates.

Section 2 to become Section 3.

Section 3 to become Section 4.

Amend the By-Laws, Article VI, Section 1. Strike out in full the whole section and substitute:

Section 1. The time and place of each annual meeting shall be fixed by the House of Delegates at the preceding annual meeting.

Chapter IV, Section 2. Strike out "the office of Secretary or Treasurer," and substitute any elective position not provided for in the by-laws.

Chapter VI, Section 2. Add "and the other vice-presidents advanced in order."

## NOTICE.

The Medical Society of the State of New York will hold its next Annual Meeting on Tuesday, Wednesday and Thursday, January 25th, 26th, and 27th, at Albany, N. Y.

Application for places on the program may be made to Dr. L. H. Neuman, 194 State Street, Albany, N. Y.

## ANNOUNCEMENT.

Dr. Charles G. Stockton, President, has re-appointed Dr. Frank Van Fleet a member of the National Committee on Legislation of the American Medical Association.

## CORRECTION.

Kindly change telephone number of Dr. George Dow Scott in the 1909 edition of the Medical Directory to 7625 Schuyler.

## CORRESPONDENCE.

*To the Editors of the New York State Journal of Medicine:*

Sir: I notice in your October issue the letter of Dr. L. Van Hoesen of Hudson, N. Y., in which he enters a protest against some of the statements appearing in my editorial in the August number of the Journal.

In reply thereto, I would simply say that it would be relatively simple for me to back up all my statements with what to me, are facts of undoubted and great value, but as I doubt very much whether it would be interesting reading for your subscribers, smacking somewhat of the personal it might be, I prefer to

leave things as they are. I have learned as I grow older that "He that complies against his will is of his own opinion still"; and I would not have Dr. Van Hoesen in that position and surely he would be willing to accede to me equal courtesy. "Audi alteram partem" is a good motto for all men.

Yours very truly,
BEVERLEY ROBINSON, M.D.

New York, 42 West 37th Street,
October 14, 1909.

## LEUKEMIA.—A REPLY TO DR. A. L. BENEDICT.

In the October number of this journal Dr. A. L. Benedict takes occasion to criticise adversely my report of a case showing unusual changes in the blood findings of a case of old untreated syphilis approximating first the myelogenous and later the lymphatic type of leukemia with eventual recovery. While in the main fair, I cannot let it pass unchallenged. It seems to me that the doctor has failed to comprehend the real point of my communication in his haste to dispute my findings. No one who has paid attention to clinical hematology will endeavor to substantiate a diagnosis of lymphatic leukemia on a white cell count of 20,000 alone, even though 50 per cent. of small mononuclear elements are present; but granting the possibility for error in the personal equation there can be no dispute that such a proportion especially when associated with enlargement of all the palpable lymphatic glands is more than suggestive of the lymphatic type; and my findings were checked by the pathologist of the Methodist Hospital, who also agreed in my count of 16 per cent. of myelocytes in the first smear of December 6, 1907. Indeed, both technic and findings were checked by other competent observers and may be accepted as accurate. Otherwise they would not have been published. I do not claim to have discovered a full-blown case of pure, undoubted myelogenous leukemia, and one of indisputable lymphatic leukemia conjoined, but I do describe a case of latent syphilis that was apparently responsible for blood changes strongly suggesting first the one and then the other as the action of the virus changed its point of attack with a return to normal as the infectious agent was eliminated. I must also remind Dr. Benedict that the presence of splenic and glandular enlargement strengthens this assumption. As to therapeutics, I can claim little credit. Two X-ray exposures do not constitute treatment, and the results of medication were due more to good luck than design.

HENRY GOODWIN WEBSTER.

## COMMUNICATION.

Philadelphia, Oct. 19, 1909.

*Dear Sir:*

"The President of the American Gynecological Society has appointed a committee to report at the next annual meeting in Washington, on the Present Status of Obstetrical Teaching in Europe and America, and to recommend improvements in the scope and character of the teaching of obstetrics in America.

The committee consists of the professors of obstetrics in Columbia University, University of Pennsylvania, Harvard, Jefferson Medical College, John Hopkins University, Cornell University and the University of Chicago.

Communications from anyone interested in the subject will be gladly received by the chairman of the committee, Dr. B. C. Hirst, 1821 Spruce Street, Philadelphia, Pa.

## NEW YORK AND NEW ENGLAND ASSOCIATION RAILWAY SURGEONS.

Brooklyn, N. Y., October 9, 1909.

The New York and New England Association of Railway Surgeons will hold its nineteenth annual meeting at the Academy of Medicine, New York City, on November 16-17, 1909. A symposium will be presented on the "Causes of Railway Accidents Individualized." The names of prominent lay officials, attorneys, and surgeons from railways all over the country appear on the program, which is very attractive and interesting. All interested in this line of work are cordially invited to attend.

GEORGE CHAFFEE,
Corresponding Secretary,
338 Forty-seventh Street,
Brooklyn, N. Y.

J. M. WAINWRIGHT,
President,
Scranton, Penn.

# DISTRICT BRANCH SOCIETIES.

## FIRST DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

THIRD ANNUAL MEETING, MIDDLETOWN, N. Y., OCTOBER 28, 1909.

President's Address, C. E. Townsend, M.D., Newburgh.

"Has Our Therapeutic Knowledge Kept Pace with the Advancement of Other Branches of Medical Science," C. W. Dennis, M.D., Goshen. Discussion open by A. V. Jova.

"Further Observations on the Use of Solid Carbon Dioxide in Naevus, Epithelioma, Lupus, Echymatosis, etc.," W. S. Gottheil, M.D., New York City.

"The Treatment of Pelvic Infections with Special Reference to Bacterial Vaccines," F. R. Oastler, M.D., New York City.

"Neurasthenia," F. H. Greene, M.D., Poughkeepsie.

"The Applications of Anthropometry to Neurologic Practice," H. L. Winter, M.D., Cornwall.

"Acute Infectious Pyelitis in Children and Infants," E. C. Rushmore, M.D., Tuxedo Park.

"Lactic Acid and Lactic Acid Bacilli," W. S. Gleason, M.D., Newburgh.

"Anæsthetics and Anæsthesia," Robert Cordner, M.D., Middletown. Discussion opened by W. H. Snyder.

"Acute Diffuse Suppurative Peritonitis," J. E. Sadlier, M.D., Poughkeepsie. Discussion opened by J. T. Howell, M.D., Newburgh.

## SECOND DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

THIRD ANNUAL MEETING, BROOKLYN, N. Y., NOVEMBER 6, 1909.

"Demonstration of the Cutaneous Reactions in the Diagnosis of Tuberculosis," Louis C. Ager, M.D., Brooklyn.

"Demonstration of the Serum Diagnosis of Syphilis," Alfred Potter, M.D., Brooklyn.

"Bacterial Diagnosis," J. M. Van Cott, M.D., Brooklyn.

"Interpretation of a Differential Blood Count," Thurston H. Dexter, M.D., Brooklyn.

"The Significance and Value of the Cammidge Test in Relation to Pancreatic Disease," S. R. Blatteis, M.D., Brooklyn.

# COUNTY SOCIETIES.

## MEDICAL SOCIETY OF THE COUNTY OF GREENE.

ANNUAL MEETING, OCTOBER 12, 1909.

The following officers were elected for the year 1910: President, W. G. Rommel, Grapeville; Vice-President, C. D. V. Mulbury, Windham; Secretary, R. Selden, Catskill; Treasurer, C. E. Willard, Catskill; Delegate to State Society, W. A. Wasson; Delegate to Third District Branch, R. Selden; Chairman Committee on Public Health, A. W. Van Slyke; Chairman Committee on Legislation, P. G. Waller.

## MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER.

REGULAR MEETING AT EAST VIEW, N. Y., SEPTEMBER 21, 1909.

The members of the society, escorted by Dr. Russell, made an inspection of the County Hospital and Tubercular Pavilion, and after a most bountiful luncheon the society came to order at 4.40 P. M., with President Miner in the chair.

A vote of thanks was extended to Dr. Russell and to the Superintendent of the Alms House for the very pleasant entertainment of the society. An invitation was extended to the society to meet every year at the County Hospital.

A letter from Dr. Charles G. Stockton, President of the Medical Society of the State of New York, was read, asking that a united effort be made to obtain every eligible physician in our county for membership, and that a committee be appointed, consisting of one member from each town, to canvas the county. The president was instructed to appoint such a committee.

Dr. Eddy moved that our delegates to the State Society be instructed to urge the State Society to have its annual meeting in the fall instead of in the winter. The motion was amended by Dr. Peck that the minority report embodying this motion at the last meeting of the State Society be approved. Motion amended and carried.

A very interesting and instructive paper on "Spinal Anæsthesia," by F. E. Lettice, M.D., of Ossining, was read and a discussion followed by G. A. Peck, M.D.; J. F. Black, M.D.; R. C. Eddy, M.D., and Dr. Russell.

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## MEDICAL SOCIETY OF THE COUNTY OF CATTARAUGUS.

REGULAR MEETING AT SALAMANCA, N. Y., OCTOBER 5, 1909.

BUSINESS SESSION.

The report of the Committee on County Laboratory and Tuberculosis Sanitarium was read as follows:

We, the undersigned members of the committee appointed by the said society to report on the advisability of having established in the County of Cattaraugus a Bacteriological Laboratory as provided by law, respectfully submit the following:

In view of the fact that the cost of the equipment for a laboratory, suitable for the work required, will cost at least $1,500 and that the salary of a competent bacteriologist will be at least $1,800 a year, and that the running expenses of a laboratory would be from $300 to $500 a year, we are of the opinion that it would be inadvisable to establish said laboratory at the present time; also we are of the opinion that it would be inadvisable to have established in the county of Cattaraugus at the present time a hospital for the care and treatment of patients suffering from tuberculosis.

We recommend, however, that this society urge on the Board of Supervisors the necessity of setting aside one of the buildings of the County Farm at Machias in which all cases of tuberculosis among the county poor may be received and treated.

We also recommend that the said Board of Supervisors be asked by this society to increase the salary of the physician in charge of patients at the County Home to an amount sufficient to properly pay him for such additional services as may be demanded for the management of cases received in said building.

We advise that a committee be appointed by this society, to present the matters considered in this report to the next session of the Board of Supervisors.

[Signed] A. D. Lake,
Edward Torrey.

Moved by Dr. Johnston and seconded by Dr. McIntosh that the report of the committee be accepted and the resolution adopted. Carried.

Moved by Dr. Morris and seconded by Dr. Torrey:

*Resolved:* That the committee appointed to confer with the Board of Supervisors shall endeavor to prevail upon them to have the building which shall be appropriated for a hospital, remodeled so as to make a modern tubercular hospital. Carried.

SCIENTIFIC SESSION.

"Syphilis of the Nervous System," F. S. Crego, M.D., Buffalo. Discussion opened by A. D. Lake, M.D.

"Septic Peritonitis," F. W. McGuire, M.D., Buffalo. Discussion opened by J. E. K. Morris, Olean.

"Gallstones and Some Observations in Gall Bladder Surgery," H. E. Hayd, M.D., Buffalo.

As Dr. Hayd was unable to be present Dr. Lake read the paper. Discussion opened by George E. Benninghoff, Bradford, Pa.

It was moved, seconded and carried that the Secretary write to Dr. Hayd and express the disappointment of the society over his absence and to extend their thanks for his paper.

It was moved, seconded and carried that a vote of thanks be extended to Drs. Crego and McGuire for their kindness in presenting the society with two such able papers.

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## MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

REGULAR MEETING, KINGSTON, N. Y., OCTOBER 12, 1909.

The meeting was called to order by the President, Dr. Thomas Keator of Accord.

The following letter was read:

"Mrs. Charles Winegar Crispell wishes to express her appreciation of the tribute paid to Dr. Crispell's memory by the Ulster County Medical Society."

The president appointed two committees to prepare resolutions regarding the death of Dr. Charles Winegar Crispell and Dr. John J. Ward of Ellenville to report at the next meeting.

The following officers were nominated for the ensuing year: President, Thomas Keator, Accord; Vice-President, Daniel Connelly, Kingston; Secretary, Mary Gage-Day, Kingston; Treasurer, Aden C. Gates, Kingston; Censors, A. H. Mambert, M. O'Meara, L. Emerick, E. D. B. Loughran, F. Snyder; Delegates to the State Society, H. Van Hoevenberg; Alternate, A. H. Palmer; Delegate to Third District Branch, Frank Keator; Alternate, L. K. Stelle.

After the business meeting the physicians were driven to the tuberculosis camp, where after a thorough inspection of the same, the scientific program was presented as follows:

"The Need of a Tuberculosis Hospital for Advanced Cases," M. O'Meara, M.D., Kingston.

"The Care of Incipient Cases of Tuberculosis," H. Van Hoevenberg, M.D.

The report of the Tuberculosis Camp was read by Dr. Gage-Day owing to the unavoidable absence of Dr. E. E. Norwood, the chairman.

After the reading of the papers and the discussion which followed, the following resolution was offered by Dr. A. H. Palmer of Marlborough and unanimously approved:

*Resolved:* That the Medical Society of the County of Ulster, in convention at the Tuberculosis Camp, declares itself as heartily approving the work of the camp and it favors the immediate erection on the camp site of a building for the care of advanced cases of tuberculosis, this work to be carried on under the auspices of the Ulster County Committee for the Prevention of Tuberculosis.

The President, Dr. Keator, then stated that it seemed both fitting and appropriate that the County Society should take the initiative towards providing funds for such a building and asked the doctors to subscribe to such a movement. Acting upon this suggestion $200 was subscribed.

## MEDICAL SOCIETY OF THE COUNTY OF CHEMUNG.

REGULAR QUARTERLY MEETING, ELMIRA, N. Y., SEPTEMBER 21, 1909.

"Ideal Treatment of Fractures of the Femur," William Brady, M.D., Elmira.

"The Food Factor in Childhood," Mary H. Robinson, M.D., Elmira.

## ONTARIO COUNTY MEDICAL SOCIETY.

ANNUAL MEETING AT CANANDAIGUA, N. Y., OCTOBER 12, 1909.

The fiftieth anniversary of Dr. Matthew R. Carson's membership in the society was celebrated at this meeting.

The following officers were elected for the ensuing year: President, C. C. Lytle, Geneva; Vice-President, H. C. Buell, Canandaigua; Secretary-Treasurer, D. A. Eiseline, Shortsville; Censors, J. H. Jewett, S. R. Wheeler, C. F. Nieder; Delegate to State Society, W. A. Howe, Phelps; Alternate, F. W. Spaulding, Clifton; Delegate to Seventh District Branch, A. M. Mead, Victor; Alternate, J. R. Pratt, Manchester; Chairman Committee on Legislation, W. A. Howe, Phelps; Chairman Committee on Public Health, O. J. Hallenbeck, Canandaigua.

After the business an interesting address was given by Dr. Albert Vander Veer, of Albany.

## THE MEDICAL SOCIETY OF THE COUNTY OF GENESEE.

ANNUAL MEETING AT BATAVIA, OCTOBER 6, 1909.

The following officers were elected: President, M. P. Messinger, Oakfield; Vice-President, W. D. Johnson, Batavia; Secretary-Treasurer, E. F. Will, Batavia.

## MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

SEMI-ANNUAL MEETING AT ALBANY, OCTOBER 13, 1909.

The Comitia Minora reported the approval by the Board of Censors of applications for membership, the examination of the County Clerk's register, and the list of physicians registering since the annual meeting. Nine physicians were elected to membership and two applications were received. The president announced the following committees:

Public Health: J. D. Craig, D. H. Cook and F. C. Curtis.

Legislation: A. G. Root, H. Bendell and J. A. Cox.

Milk Inspection: J. P. Boyd, H. L. K. Shaw, C. K. Winne, Jr. and Dr. Ordway.

Delegate to the State Society, Samuel B. Ward.

Delegate to the Third District Branch, G. G. Lempe.

SCIENTIFIC SESSION.

Vice-President's Address, "The Exaggerated Fear of the Hospital and Operations," A. H. Traver, M.D., Albany.

"A New Method of Medical Reporting," Frederick Brush, M.D., Superintendent Post-Graduate Hospital, New York.

## MEDICAL SOCIETY OF THE COUNTY OF SENECA.

ANNUAL MEETING AT WILLARD, OCTOBER 15, 1909.

The following officers were elected for the ensuing year: President, F. W. Lester, Seneca Falls; Vice-President, R. M. Elliott, Willard; Secretary, Robert Knight, Seneca Falls; Treasurer, E. P. McWayne, Fayette; Censors, C. S. Barnes, J. F. Crosby, J. S. Carman; Delegate to Seventh District Branch, A. Letillier; Alternate, F. W. Lester.

SCIENTIFIC SESSION.

President's Address, "The Relation of Pregnancy, Childbirth and Lactation to Insanity," R. E. Doran, M.D., Willard.

"Some Cases of Low Temperature," James F. Munson, M.D., Sonyea.

"The Etiology of Paresis," W. H. Montgomery, M.D., Willard.

"The Early Diagnosis of Insanity," C. L. Carlisle, M.D., Willard.

"Why the Marriage of Defectives Should be Prevented When Possible," W. T. Shanahan, M.D., Sonyea.

## MEDICAL SOCIETY OF THE COUNTY OF WASHINGTON.

SEMI-ANNUAL MEETING AT HARTFORD, N. Y., OCTOBER 5, 1909.

Resolutions on the death of Dr. B. R. Holcomb were presented by the Committee on Resolutions and approved by the society.

SCIENTIFIC SESSION.

"Case of Gangrenous Erysipelas of the Left Arm, with Presentation of Patient," H. Lewis, M.D., Argyle.

"Treatment of Pneumonia," S. Pashley, M.D., Hartford.

"Articular Rheumatism, Symptoms and Treatment," R. H. Lee, M.D., South Hartwich.

"Heart Tonics and Stimulants," W. B. Melick, M.D., Fort Edward.

"Case of Intussusception with Autopsy," S. A. Reed, M.D., Salem.

## MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

ANNUAL MEETING, BELMONT, N. Y., OCTOBER 14, 1909.

BUSINESS SESSION.

The following officers were elected for 1910: President, F. H. Van Orsdale, Belmont; Vice-President, E. W. Stewart, Hume; Secretary-Treasurer, C. R. Bowen, Almond; Censors, F. H. Comstock, F. E. Howard, L. C. Lewis, A. J. Remington, W. O. Congdon.

SCIENTIFIC SESSION.

Address of President, E. W. Ayars, M.D., Alfred.

"Immunity, and Its Connection with Bacterial Vaccines," H. F. Gillette, M.D., Cuba.

"Some Recent Methods in Lunacy Affairs," R. M. Elliott, M.D., Superintendent Willard State Hospital.

## RICHMOND COUNTY MEDICAL SOCIETY.

REGULAR MEETING AT THE STATEN ISLAND ACADEMY, TOMPKINSVILLE, N. Y., OCTOBER 13, 1909.

"A Talk on Some Interesting Medico-Legal Experiences," W. B. Pritchard, M.D.

## BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

All books for review should be sent to the business office of the Medical Society of the State of New York, 17 West Forty-third Street, New York.

A SYSTEM OF OPERATIVE SURGERY by various authors. Edited by F. F. Burghard, M.S. (Lond.), F.R.C.S. (Eng.) In four volumes. Vol. II. Operations for Tuberculous Affections of the Bones and Joints; Operations upon the Lips, Face and Jaws; Operations upon the Tongue, Tonsils, Pharynx, and Œsophagus; Operations upon the Stomach and Intestines. London, Henry Frowde, Hodder & Stoughton, Warwick Square, E. C.

RENAL, URETERAL, PERIRENAL, AND ADRENAL TUMORS AND ACTINOMYCOSIS ECHINOCOCCUS OF THE KIDNEY. By Edgar Garceau, M.D. With seventy-two illustrations in text. New York and London. D. Appleton & Company. 1909. Price, $5.00 cloth.

THE DIAGNOSTICS OF INTERNAL MEDICINE. A clinical treatise upon the recognized principles of medical diagnosis, prepared for the use of students and prac-

titioners of medicine. By Glentworth Reeve Butler, M.D., Sc.D., LL.D. With five colored plates and two hundred and seventy-two illustrations and charts in the text. Third revised edition. New York and London. D. Appleton and Company. 1909. Price, $6.00 cloth.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M.D. Second edition, with one hundred and ninety-two illustrations in the text and nine colored plates. New York and London. D. Appleton and Company. 1909. Price, $5.00 cloth.

Primary Studies for Nurses. A text book for first year pupil nurses, containing courses of studies in anatomy, physiology, hygiene, bacteriology, therapeutics and Materia Medica, dietetics, and invalid cookery. By Charlotte A. Aikens. Illustrated. Philadelphia and London. W. B. Saunders Company. 1909. Price, cloth, $1.75 net.

The American Illustrated Medical Dictionary. A new and complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, nursing, and kindred branches, with the pronunciation, derivation and definition, including much collateral information of an encyclopedic character. By W. A. Newman Dorland, A.M., M.D. Fifth edition, revised and enlarged. Philadelphia and London. W. B. Saunders Company. 1909. Price, flexible leather, $4.50 net; indexed, $5.00 net.

Clinical Examination of the Urine and Urinary Diagnosis. A clinical guide for the use of practitioners and students of medicine and surgery. By J. Bergen Ogden, M.D., New York, N. Y. Illustrated. Third edition, thoroughly revised. Philadelphia and London. W. B. Saunders Company. 1909. Price, cloth, $3.00 net.

Clinical Studies for Nurses. A text-book for second and third year pupil nurses and a hand-book for all who are engaged in caring for the sick. By Charlotte A. Aikens. Illustrated. Philadelphia and London. W. B. Saunders Company. 1909. Price, cloth, $2.00 net.

Exercise in Education and Medicine. By R. Tait McKenzie, B.A., M.D. With 346 illustrations. Philadelphia and London. W. B. Saunders Company. 1909. Price, cloth, $3.50 net. Half morocco, $5.00 net.

Bier's Hyperemic Treatment in surgery, medicine, and the specialties. A manual of its practical application. By Willy Meyer. Second revised edition, enlarged. Illustrated. Philadelphia and London. W. B. Saunders Company. 1909. Price, cloth, $3.00 net.

Atlas of the External Diseases of the Eye, including a brief treatise on the pathology and treatment. By Prof. Dr. O. Haab of Zurich. Authorized translation from the German. Third edition, revised. Edited by G. E. de Schweinitz, A.M., M.D. With 101 colored lithographic illustrations on 46 plates. Philadelphia and London. W. B. Saunders Company. 1909. Price, cloth, $3.00 net.

Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis. By Prof. Dr. O. Haab of Zurich. Second American edition from the Fifth revised and enlarged German edition. Edited by G. E. de Schweinitz, A.M., M.D. With 152 colored lithographic illustrations. Philadelphia and London. W. B. Saunders Company. 1909. Price, $3.00 net.

Surgical Diagnosis. By Daniel N. Eisendrath, A.B., M.D. Second edition, thoroughly revised and enlarged, with 574 original illustrations, 25 of them in colors. Philadelphia and London. W. B. Saunders Company. 1909. Price, cloth, $6.50 net; half morocco, $8.00 net.

Tufts Medical Diet Charts, prepared by H. D. Arnold. M.D., Professor of Clinical Medicine at Tufts Medical College, Boston. Philadelphia and London: W. B. Saunders Company. 1909. Single charts, five cents; 50 charts, $2.00; 500 charts, $18.00; 1,000 charts, $30.00.

## BOOK REVIEWS.

Medical Greek. By Achilles Rose, M.D. New York, 1908. Peri Hellados Publication Office. 262 pp. Cloth: $1.25.

This is a collection of papers on medical onomatology. It also contains a grammatical guide for the student of Greek. The untiring work performed by Dr. Rose in the interest of the adaptation of Greek as the universal language of science is worthy of the highest praise. This little book is full of the author's spirit of enthusiasm. It contains much valuable information and valuable suggestion. It displays a wonderful appreciation of the Greek language and a rare scholarship. The author believes that of all that is beautiful in this world, the most beautiful is the Greek language of to-day, a language that is essentially the same that it was two thousand years ago. It has been preserved in all its purity, free from outside contamination. It is a simple language, accurate and immensely expressive, and rich in combinations. It holds locked within its grasp the best thoughts of the ancients.

The large collection of hermaphroditic and bastard words in our scientific nomenclature bear witness to the need of an exact onomatology. What is still more unfortunate the meaning of these words is often inexact and changing. We are trying to make medicine an exact science, but our efforts are hampered by an inexact nomenclature. We shall always be in trouble with our adenectomy, adnexitis, appendicitis, bronchorrhea, cevernitis, ovariotomy, nephrectomy, otorrhea, prostatorrhea and similar atrocities.

We wish Dr. Rose every success in his efforts to promote an appreciation of this most beautiful and oldest of the living languages. J. P. W.

Medical Inspection of Schools. A. H. Hogarth, M.B.B.Ch., etc. Oxford Medical Publications. Henry Frowde, Hodder & Stoughton, London. 1909. 360 pp.

This work deals very largely with the History and Legislation of Medical Inspection of Public School Pupils; the duties of municipalities in relation to the health of school children and an elaborate scheme of the authors to combine the work of the inspector with that of the sanitarian and hygienist; he would have the school doctor examine for contagion and for physical defects and also examine the report on the sanitary condition of the school and all the appurtenances. He defines his ideas of the school doctor's duties and how his work should be performed; there are chapters dealing with the school nurse, medical treatment of cases in the schools, and chapters descriptive of the minor and major contagious diseases and the physical defects of school children. The author advises a school clinic covering all these cases. Few municipalities would spend the money required to carry out the author's ideas. The work concludes with an appendix giving extracts from official documents, and copies of various forms to record the data obtained in the examinations. The work gives practically no statistics of the findings of various cities using medical school inspection. Thos. B. Hegeman.

International Clinics. Vol. 1. Nineteenth series. 1909. J. B. Lippincott Company. 302 pages with illustrations.

The volume contains a number of clinical lectures, addresses before Medical Societies and some especially prepared original articles. Under "General Treatment" we find a very interesting article by Dr. Lawrence R. Flick on the hospital for advanced cases of tuberculosis, in which the author shows by statistics the reduced death rate due to the establishment of such institutions. Under "General Medicine" the first article by Dr. Campbell P. Howard on Mikulitz's Disease and allied conditions covers the entire field of the literature of the subject besides giving a very instructive discourse on the subject from his own personal observations.

The diagnosis of "Gastric Dilatation" is considered in a paper by Dr. David Sommerville.

Under the department of "Surgery" is an interesting article by Dr. Leonard Freeman on "Nerve Grafting in Facial Paralysis"; "Suppuration in Appendicitis," by E. M. Comer; and Dr. A. D. Willmoth writes on the conditions modifying operative work. There are several articles on gynæcology, genito-urinary diseases, proctology, rhinology, dermatology and pathology.

Under the division of the progress of medicine in 1908 we have reviews on treatment by Dr. A. A. Stevens; on medicine by Dr. David L. Edsall and on surgery by Dr. Joseph C. Bloodgood.

The volume corresponds in every way with previous issues of this series and is well worthy of careful reading. H. B. D.

ARTERIOSCLEROSIS: Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By Louis M. Warfield, A.B., M.D. With an Introduction by W. S. Thayer, M.D. St. Louis: C. V. Mosby Medical Book and Publishing Co., 1908. xvii, 165 pp., 7 pl. 12vo. Price, cloth, $2.00 net.

This little book contains much valuable information, but the expectations raised by its title are imperfectly realized.

DISEASES OF THE HEART. By James McKenzie, M.D., M.R.C.P. London, Henry Frowde, 1908. xix, 388 pp. 8vo. Price, cloth, $9.00 net. (Oxford Medical Publications.)

The serious student of heart diseases will find this book not inferior in interest and instructiveness to any on the subject that has been published in recent years. It is the work of a ripe clinician and a scientific investigator of unusual attainments. It presents the subject in an original and suggestive manner. It is a brilliant study of heart disease from the viewpoint of the symptoms. The mechanism by which the symptoms are produced and their relation to organic changes in the heart are explained in the light of the most recent knowledge, and also the indications for treatment to be derived from them. Particularly interesting and satisfactory is the account given of the nodal rhythm. The author generally avoids controversial subjects, but he questions the therapeutic value of the Nauheim baths and wonders at their vogue. E. E. CORNWALL.

MODERN MEDICINE. Its Theory and Practice in Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., assisted by Thomas McCrae, M.D. Vol. V. Diseases of the Alimentary Tract. Philadelphia and New York, Lea & Febiger, 1908. viii, 903 pp., 5 pl., 5 col. pl. 8vo. Price, cloth, $6.00 net.

The name of the author of the introductory chapter is sufficient guarantee that this section at least is worth careful reading.

So with the remainder of the volume, the standing in the profession of the various gentlemen who have contributed upon their respective subjects, would prohibit any unfavorable comment.

True, everything of value to the specialist is not contained herein, some of the most recent additions to the already long list of methods of diagnosis of gastro-intestinal disease being omitted or, perchance, not having been published at the time of the volume's going to press.

We have, at any rate, herewith one more work of reference. The statistics bearing upon the comparative values of medical or surgical treatment in those forms of gastro-intestinal disease in the territory spoken of as the "Borderland," are reliable (if any are).

While in no way superior to any one of half a dozen books which have in recent years come, perhaps in too rapid succession, from the pens of world-acknowledged authorities, still, the feeling appears to prevail that the above edition is not wholly unwelcome. H. W. L.

## OBITUARY.

### WILLIAM CHRISTOPHER KRAUSS.

A MEMORIAL.

William C. Krauss, born in Attica, N. Y., October 15, 1863.

After graduation at Cornell and Bellevue Hospital Medical College, the University of Berlin gave him Magna Cum Laude with the degree of M.D., in 1888. He then made a special study of nervous diseases in the great medical centers of Europe. With this splendid equipment, the young physician came to Buffalo in 1889, at the age of 26.

Knowing but few people, it is astonishing to recall his rapid progress in his chosen field. Niagara University made him professor of Nervous Diseases, the different hospitals in the city appointed him neurologist upon their staffs. Three medical journals—*Neurologische Centralblatt, Journal of Nervous and Mental Diseases of New York,* and the *Buffalo Medical Journal*—made him associate editor. He was a member of numerous medical and scientific societies, among them being the American Neurological Association, the American Public Health Association and The Royal Microscopic Society of London. He was the President of the Board of Managers of the Buffalo State Hospital.

This statement gives us an insight into the busy life of Dr. Krauss. He had no spare moments, no play time. He was always giving the best there was in him to his professional work. His activities were varied and constant. Much of his time was devoted to medico-legal work. He was very often called to testify as an expert in insanity and nervous diseases, in civil and criminal cases, in the courts of Western New York. To all of these cases he devoted himself with unflagging energy. His testimony was always given in a manner so convincing that he impressed everyone that he firmly believed that his cause was just. As a consultant he was in frequent demand, as great reliance was placed by his brother physicians upon the thoroughness of his examinations and the accuracy of his diagnosis. But it was in the quiet of his library that the doctor did the work which suited him best. He was devoted to his studies. There never was a time when he was not engaged in writing upon some scientific subject. In 1907, he translated from the German, "A Text-book of Psychiatry," by Prof. Mendel, of Berlin. In the past twenty years he wrote nearly two hundred papers on neurological and psychiatric subjects. He completed, just before his death, the manuscript of a book on Tumors of the Spinal Cord.

The social side of life was not neglected by the doctor. He was a member of many clubs and societies and always did his share in making them successful. His life was one of usefulness. He was justly regarded as one of the strong men of his profession.

He married Miss Clara Kreiger, of Salamanca, N. Y., in 1900. Their children were Magdalene, Alma and William A.

J. W. PUTNAM.

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## DEATHS.

CHARLES P. BEAMAN, M.D., Ithaca, N. Y., died October 6, 1909.

JAMES D. GUY, M.D., Chenango Forks, N. Y., died September 15, 1909.

GEORGE C. MCNETT, M.D., Bath, N. Y., died October 15, 1909.

HENRY C. PALMER, Utica, N. Y., died October 6, 1909.

# NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

ALGERNON THOMAS BRISTOW, M.D., Editor
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## EDITORIAL DEPARTMENT

### THE ECONOMICS OF MEDICINE.

THE doctor is not a good business man. Perhaps this is not strange for no man with business instincts and the desire to make money would dream of entering the medical profession under present circumstances. There is no money in medicine. No great fortunes can be won in a medical career. There is a handsome income for a few, a competence for many, a pittance for the majority. Such are the pecuniary rewards which medicine offers to its votaries.

The New York *Herald* some time ago placed the average annual income of the profession at $1,250. There have been lower estimates than this even, but the figure named is conservative. This seems a most inadequate return for ten years of preparation at an outlay of fom $7,500 to $10,000 before the student arrives at the age of earning capacity. The situation bears hardest on the general practitioner. The fees of the specialist are not fixed. They are adjusted to the importance and difficulty of the work, his own reputation and the means of the patient. The fees of the general practitioner, on the contrary are fixed and small. There are plenty of men in the rural districts who get 50 cents for an office call and $1 for a visit at the house. Such fees are not uncommon even in our large cities where the expenses of living are far greater than in the country. Many men in the country could not live on the returns from their practice if it were not for the aid which they get from their farms.

The fees of the general practitioner are exactly what they were 25 years ago. This is true both in the city and country. The expense of living, however, has increased at least 50 per cent. The purchasing value of the dollar which the doctor gets for a visit is, therefore, but fifty cents. The currency has not depreciated, yet its purchasing value has declined so that to all intents and purposes we might as well have a fifty-cent dollar. The practical effect is the same. The doctor who has an income of $5,000 per annum to-day is no better off than he was ten years ago with an income of $2,500, and the general practitioner in the cities is much worse off than his brother in the rural districts. His rent is higher, his family is more expensive and ways and means are denied him which are open to the practitioner in the country. There are many men in our cities with a wife and two or three children who can just make ends meet. Their incomes have increased as they have grown older but unfortunately year after year the cost of living has steadily gone up and the mortgage on the house is still as menacing and hungry as it was ten years ago. Let death overtake the bread winner and how familiar the spectacle. The widow takes boarders or starts a nursing home or goes into business of some sort to keep the wolf from the door and complete the education of her children. It is a sad sight but a common one. The picture is not painted in too lurid colors. It is true to life.

But wholly apart from the greatly increased cost in living, wholly apart from the fact that the fees of the general practitioner have never-

theless remained unchanged, is the undoubted fact that preventive medicine has cut down the amount of remunerative work. Take, for instance, the summer diseases of children. They are far less prevalent now than in former years. Doctors no longer prescribe powdered crab's eyes or bismuth and chalk for the child with a fermentative diarrhœa. Pasteurized milk and hygienic methods of preparing the food have largely prevented the disease. The children and their parents reap the benefits of prevention, but a source of income has been removed from the general practitioner. The same is true of diphtheria, another and formerly most fatal disease of childhood. It is now not only less prevalent but runs its course to a favorable termination, when it does occur, more rapidly and with fewer sequelæ. Typhoid fever still disgracefully common, is nevertheless far less prevalent than in former years. The source of the infection has been recognized. Let an epidemic of typhoid start in any community and the sanitarian follows close on the heels of the physician and after him the sanitary engineer. The epidemic is short lived.

The winter diseases of children are less prevalent than formerly. The close supervision of Board of Health over school children must ultimately result in the diminution of the zymotic diseases. The recognition of the part which adenoids and enlarged tonsils play in bringing about ill health has done much to lessen diseases not only of the upper respiratory tract but of the lungs themselves. Thus in many ways hygiene and preventive medicine are curtailing the income of the general practitioner.

As medical men it is our duty to go on with the good work. It is our duty and our aim to exterminate disease if that be possible and we should glory in poverty and hail the curtailment of our incomes with joy if that is to be the price of the immunity of society from disease. Our record is honorable and inspiring. Our scientific men have thrown away fortunes rather than put any obstacles in the path of the healing art. There has been gold "beyond the dreams of avarice" in the antitoxin of diphtheria, in the curative serum for cerebro-spinal meningitis. Yet Behring and Flexner gave their discoveries to the world freely. They sowed, but other men have reaped the harvest. This is the history of medicine and to-day the spirit of self sacrifice is unquenched and we hope and pray unquenchable, even though the winds of poverty blow and the floods of privation descend upon us.

But we have a right to ask the public whether it has not also some duty, some obligation to the medical profession. Can society expect men to spend ten years in preparation for the most difficult and exacting of professions at a cost of at least $7,500 and then reap a reward which is but little more than the earnings of the cost of that education put out at legal interest? Medical men have families to support, children to educate. They must pay for their homes and at least try to provide for their old age. How is it to be done under present circumstances? Medical men are to-day seeking for commissions, running after the pittance of lodge practice, because they feel the pressure of want. How can men live decently and honestly whose incomes are decreasing and whose expenses are increasing? A recent editorial on Commercialism in Medicine brought from all over the State the warmest responses of appreciation. The heart of the profession beats true.

We learned in our Latin prose days that hunger is the best sauce, but it is too often a devil's sauce. Stern necessity in our large cities is driving our men to illegitimate and dishonorable means of raising money, dishonorable because secret and clandestine. We all recognize the evil and deplore it. We may continue to sermonize against it, but as intelligent men we ought to recognize the cause of the evil and devise means to improve the condition of our brethren. The entire economics of medicine must be placed on a different basis if we are to make any real progress in combatting the evils of commercialism. Men will not continue to see their families suffer from the changing forces of environment and civilization without making some attempt to ameliorate their condition.

We have not fared well at the hands of legislators. Twenty years ago we secured the passage of a law which was designed to keep out of the profession of medicine uneducated and unfit men. It was not to benefit ourselves, but to elevate the standard of the profession and protect the public from unscrupulous quacks that we secured this legislation. What has been the result? The shield which we fashioned has been shattered and its remnants forged into a sword which has been turned against us. The breast works which we erected against shallow pretense and imposture have been torn down and the mob has flung the ruins at us like the gamins of the French barricades. Quackery now receives recognition from the State and flourishes accordingly, to the detriment of the men who have worked honestly and hard and invested thousands of dollars and years of time in their education. Turkish bath rubbers have blossomed into doctors, and the optician has succeeded in usurping one of the most delicate of the functions of the physician, all to the profit of the uneducated and unfit. Thus the capital of the physician has been depreciated and the public are deceived. If the legislature continues to license successive schools of quackery we may well question the wisdom of state control and the value of a state license to practice "medicine."

What is the remedy for these evils? No one will deny that expenses have increased and are still increasing daily. No one can deny that the actual sources of income have been greatly diminished by general hygiene and preventive medicine. No one can deny that the capital of

the educated and honest practitioner has been depreciated by evil legislation. If we are to escape the evils of commercialism it is evident that some change must be wrought and we must recognize that there is a business side to medicine. Our men cannot go on always with diminishing incomes and increasing expenses and increased competition on the part of licensed quackery and folly.

The most obvious and apparently the fairest and frankest way to remedy the situation would be to raise the fees of the general practitioner. The difficulty with this proposition seems to be the general agreement that physicians would not be loyal to each other. Such an increase could only be carried into effect through organization, and it seems to be the universal opinion that if there were an agreement of this sort it would not be respected. This is a sad reflection not only on our loyalty to each other but on our common sense. If true, it is, however, a striking proof that there is real distress in our ranks and that medicine is degenerating into a vulgar game of grab, a sordid sruggle for mere existence. But if the conditions are as stated, how can it be otherwise?

A serious objection to this course which the writer recognizes is the fact that if the medical profession were to attempt through a general agreement to increase the fees to an amount which would merely balance the increased cost of living, the cry of Trades Unionism would immediately be raised against us. Doubtless. The public and the State have been putting the burdens of unjust discrimination upon the profession for many a long year and have required us to bear an unjustly large share of the burden of charity, and they would resent any organized attempt to equalize matters, yet the end to be attained can be reached in no other way except through organization. Otherwise we are defenseless. Nor ought we to be abashed at the accusation of trades unionism. Trades unions have done much wrong, have made many mistakes, have been guilty of grave oppresion. Nevertheless they are the only power to-day which protects the laboring man from the crushing cruelty of organized capital. We cannot protect ourselves as individuals. We cannot, as individuals ameliorate our present condition. Why should we hesitate to make use of the only agency which is a power in the world to-day, if we use it justly and with righteousness? In the words of a great statesman we are confronted with a condition, not a theory. We need a remedy lest worse things happen to us. Is there a remedy? Is it capable of application? Who will suggest a better remedy? How can any remedy be applied without organization?

These are serious questions and require reflection.

The opinion of the profession is desired.

A. T. B.

## "ALL THE NEWS THAT'S FIT TO PRINT."

SUCH is the virtuous motto of the New York *Times,* printed in nice black type on the very front page. All the world knows that the *Times* is the censor of public morals and utterly abhors both fakes and fakers. How sternly has It dealt with Dr. Cook. For months it has taken the birch in hand and soundly horsed the doctor at least once a day. No wonder he has been compelled to take refuge in a sanitarium. Who wouldn't feel sore after a castigation from the hands of an edtior so Spartan, a sort of Dr. Busby and Dr. Keate rolled into one? How edifying have been his homilies on the subject of fakes, fake photographs and fakers. We have read columns of fervid rhetoric and scathing invective on the sins of Dr. Cook, and sat in our library chairs shudderingly contemplating the process of castigation just as the boys at Eton and Westminster long ago. How lofty and pure a nature! To be sure the New York *Herald* secured Dr. Cook's account of the dash to the pole, which rather discounted the value of Peary's dispatches to the *Times.* Could so stern a moralist be influenced by such mundane and sordid considerations? Perish the thought! Painful as was the duty, under the circumstances, it had to be done and done it was with vigorous unsparing hand.

In its issue of October 7, The New York *Times* published an article cast in the form of an interview with Dr. Alexander Lambert, on the subject of his treatment of alcoholism. It was apparently a conversation and told with much detail. At this precise time, however, Dr. Lambert happened to be in South Dakota. The interview was a fake, pure and simple. No reporter had ever seen the doctor. "All the News that's Fit to Print." Yes indeed, even if we have to fabricate a good item.

There was that Cleveland interview also of recent memory. We all remember the horror of the *Times*—when it was repudiated by the executors. It rent its garment in righteous wrath and cried out that it had been basely deceived. Alas for trusting innocence and goodness. We suppose that the interview with Dr. Lambert—which never happened—is another case of the wicked partner in the back office. How sad it is to see a truly good man so deceived, so mistaken in his associates.

How interesting to read a fake interview on one page of the New York *Times* and then how improving to turn to the editorial page and shiver at its denunciation of the alleged deceits of Dr. Cook. One is irristibly reminded of the Pharisee. "God, I thank Thee that I am not as other men—or even as this publican."

A. T. B.

## Original Articles.

# THE INFECTIOUSNESS AND CONTAGIOSITY OF ACUTE POLIOMYELITIS.*

(Based upon a Personal Study of 65 Cases.)

By LE GRAND KERR, M.D.

IN a study of the recent epidemic of acute poliomyelitis one of the most interesting as well as most puzzling questions related to its manner of spreading.

I think that we need hardly dwell upon the question of the infectiousness of the disease because the well known fact of its occurrence in epidemics quite clearly establishes that.


Chart Showing the Distribution of the 65 Cases in the Borough of Brooklyn, City of New York.

But is it contagious? Or in other words is it possible in a given epidemic of this disease to establish a relationship between the different cases, either through the agency of direct contact or otherwise.

It is unfortunate that in previous epidemics there has been no systematized record made of the general distribution of the cases or of their relation to one another.

What knowledge we have has been fragmentary, and in many instances much is left to deduction. I might make one exception to this however, because I am assured that the report of those who tabulated the reports from the epidemic of 1907 in New York City will take cognizance of these facts. That report, however, is still under consideration.

The general distribution of the sixty-five cases which I was able to personally study was as follows:

The first fifty-three cases were observed in the Brownsville section of the borough of Brooklyn, City of New York, and were limited to a somewhat restricted area of that section. The affected area covered thirty-four city blocks in one direction and eighteen blocks in another (approximately one mile by one mile and one-half).

The first case was seen on August 7, 1909, upon the first day of the paralysis, but upon the third day of acute symptoms. Later another case was observed, and in that instance the first symptoms of the onset had occurred on August 3d, so that as far as I have record that was the date of the beginning of this epidemic. The last case seen in this particular area was one which was taken suddenly ill on September 4th.

Twelve cases were studied in districts remote from the Brownsville section and a reference to Figure I will show their wide distribution.

To make the order of their occurrence and distribution more clear it may be well to tabulate them as follows:

| Case Number | Distance from Brownsville | Distance from nearest preceding case | Onset |
|---|---|---|---|
| 54 | 4 miles. | 4 miles | Sept. 2 |
| 55 | 1½ | 1½ | Sept. 27 |
| 56 | 3½ | ½ | Sept. 28 |
| 57 | 4½ | 4½ | Sept. 29 |
| 58 | 3½ | 1 | Oct. 1 |
| 59 | 7½ | 5½ | Oct. 3 |
| 60 | 1½ | 1½ | Oct. 4 |
| 61 | 1 | ½ | Oct. 7 |
| 62 | 7½ | 3½ | Oct. 10 |
| 63 | 7½ | 0 | Oct. 17 |
| 64 | 3 | 1 | Oct. 17 |
| 65 | 7 | ¾ | Oct. 22 |

The parents of case 59 were in the habit of frequently visiting the section in which cases 54 and 56 occurred, but knew of no direct contact.

Cases 60 and 61 were frequently in direct contact with the Brownsville section, the families exchanging visits. There was no history of direct contact with sick children.

Cases 62 and 63 were brother and sister and had been closely confined to their immediate vicinity, although they were visited freely by persons from other sections.

No definite history of exposure could be obtained.

The parents of cases 54, 55, 56, 57, 58, 64 and 65 were positive that their children had not been in direct contact with an affected child and had not recently visited a section known to be affected.

As regards the occurrence of more than one case in a family and the probable development of a case after direct contact and also the onset

* Read before the Medical Socicty of the County of Kings, at Brooklyn, November 16, 1909.

of the disease after the removal from a healthy into an affected district, I must refer the reader, to avoid repetition, to the histories of cases 62 and 63, which are given in detail later on.

To return to the more restricted area of infection in seven instances there were cases which developed in the same house in which were other cases, but in different apartments, and in every instance the families visited freely. The second cases followed the first ones at the following intervals. In three days, one; seven days, three; eight days, one; nine days, one; eleven days, one.

In twenty-three instances cases occurred among children living in the same block (exclusive of the cases occurring in the same house) and in only nine instances did the families visit one another. However, the children mixed freely in the street. It was impossible to get a history of direct contact (other than mentioned) with affected children.

In the Brownsville section it was necessary to take the histories very cautiously, because the people in their endeavor to please would unthinkingly answer to any leading question. This characteristic detracted very much from the value of such an examination and much that was told me I felt justified in disregarding as being more than uncertain.

In the determination of the infectious or the contagious nature of any disease there are several factors which must be considered, and it was with these in mind that the several cases were studied.

We consider these under the following arrangements; the individual susceptibility, the acquired individual susceptibility, tissue susceptibility and the probable nature of the microbe.

Individual susceptibility is subject to the following factors:

(*a*) *Inheritance.*—There is nothing in the histories of any of the cases to suggest the probability of an *inherited* individual susceptibility. Whether there exists a congenital condition we cannot say. I use the term congenital as applicable to conditions antedating birth and acquired during intrauterine life, but having no connection with the remote ancestry.

(*b*) *Racial Susceptibility.*—Fifty-four of the cases occurred in children of Hebrew parentage, but the possible import of this is offset by the further fact that the cases were at first limited to an area, the population of which was almost exclusively Hebrew. After the disease was observed outside of this restricted area, the racial character changed. Of children of an American parentage there were seven cases; of German, two; of Italian, one; of the colored race, one and Hebrew, one.

(*c*) *Familial Susceptibility.*—Of the 65 cases there was but one instance where more than one in a family was affected (see cases 62 and 63) so that this factor seems to have no bearing.

(*d*) *Individual Susceptibility.*—There seems to be clear evidence that there exists an individual susceptibility. This is borne out by the fact that in a very large proportion of instances but one child in a family was affected. Further than this this susceptibility seems to be influenced by age for in the large majority of cases the disease occurred before the end of the third year of life. Of course we must not lose sight of the fact that with increasing age in children there is a decreasing aptitude for all infections. In this series of cases, the number under the age of three years was 60. There was, however, no marked differences in the sex of the affected children, for 30 males and 35 females constituted the series.

Acquired individual susceptibility may be due to several factors and as follows:

(*a*) *The Results of Previous Disease.*—A study of the previous disease occurring in the affected children showed the following:

Four children had had Rubeola; two weeks, one year, sixteen months and seventeen months respectively, before the onset of the poliomyelitis.

Pertussis was present (about the third week) in one child.

Tonsilitis developed with the onset of the poliomyelitis in four instances; lobar pneumonia in one and gastro-enteritis in two.

There was a history of broncho-pneumonia having occurred previously in eighteen children and from three months to two and one-half years before the onset of the poliomyelitis. Such histories would seem to show that the influence of previous disease was negative.

I wish to make it clear that I do not consider the symptoms which are present during the first days of this disease as divorced from it, but they are part of the process.

I mention this because for practical purposes it will be best to consider the symptoms of the onset at this point. There has been a decided tendency in the former epidemics to attribute the prodromal symptoms to some intercurrent disease and to consider the onset of the paralysis as the onset of the disease. This, however, is not so. Even in my work in this epidemic I noticed this same view to be prevalent. Recent pathological research seems to prove very conclusively that the first onset of widespread paralysis is due largely to edematous pressure in the cord and that it follows one or more days of indefinite symptoms. As the edema subsides the paralysis is decreased and any permanent disability in the musculature is due to the destruction of some of the nerve ganglia.

There is a preponderance of gastro-enteric symptoms in the onset of the disease in this series. For instance, thirty-two of the cases showed constipation, diarrhea or vomiting, or a combination of two of these as the more prominent symptoms at the onset.

This, I believe, is what has suggested the idea that the disease is one that finds its inception in the digestive tract. But we must not lose sight of the fact that in all of the acute infections of

children, similar symptoms are the rule and in as large a proportion. I do not feel that any more weight can be given to their occurrence in this disease than to their common presence in the other acute infections of childhood.

The histories of cases 62 and 63 might prove most serviceable here.

A family of two adults and four children arrived in this borough from California on September 26th. They immediately moved into a house of modern equipment, detached and never before occupied. On October 9th, the baby, an infant of 8 months and 11 days had a fall, but was apparently uninjured. On the following day fever was present with vomiting and constipation. On October 11, it was discovered that both lower extremities were paralyzed. When I saw the infant in consultation with Dr. Blackmar there was a flaccid paralysis of both lower extremities and absolute loss of reflexes except of the toes of the right foot. The temperature then was 100.2 Fahrn.

This infant had been fed from birth upon milk which was peptonized and finally sterilized in the home. The whole process of its preparation was done by the mother. Nothing else had ever been given to the infant except boiled water. I went over very thoroughly with the mother, the process of preparing the infant's food and she was correct in every detail of preparation and handling. There was no possibility of food infection.

On October 17th, seven days after the onset of symptoms in this infant, his sister, a young miss of 12 years and 1 month, complained of severe headache. On the 18th, after the administration of castor oil, her headache was relieved, but fever and malaise were present. These continued on the 19th. On the evening of the 19th, she retired with these indefinite symptoms and at 9 P. M. arose from the bed and walked some distance to the toilet and returned. At 11 P. M. she awoke unable to turn over in her bed and calling for aid it was discovered that both lower extremities were completely paralyzed.

Before daybreak both arms were involved in the paralysis and the voice was so weak that it was difficult to hear her. On this morning (the 20th) all four extremities became cold and cyanotic, but particularly the left ones. The right side of the face also was paralyzed. While there was a slight effort of the chest muscles to carry on respiration when I first saw this child, the abdominal respiration very markedly predominated. The bladder was full. The neck musculature was rigid and any motion caused pain. Death took place at 11 P. M. that night (October 20th) from respiratory paralysis. This case was autopsied by Dr. Flexner and myself the following morning. Here then was an instance of two cases developing after removal into an affected district, one probably from direct contact with her infant brother, but with hygienic surroundings ideal and the food in at least one of them, sterile.

(*b*) *The Result of Injury.*—The occurrence of an injury may favor infection. And the injury need not be local for a decided shock to the entire body may result from such an injury which at the time is considered of little import. In this series there was histories of injuries (recent) in but four cases, none of which were severe.

But there is the injury of overexertion which must be recognized as a factor and it is almost impossible to estimate this in the very young.

But this we do know, that bacteria which have passed through the capillaries of an organ and which circulate in the blood show a decided tendency to settle in those parts which are functionally most active.

(*c*) *The Result of Malnutrition.*—A general malnutrition weakens the resistance of all parts. In all of the infants under the age of one year with but two exceptions, the feeding was by breast. The two exceptions were a girl fed upon modified milk and a boy upon sterilized milk previously peptonized. All of these except the one upon the modified milk showed unmistakeably (even though slight in some instances) signs of rachitis. This may have been due to the hard work to which the mothers are subjected in the homes and the overcrowding of the bedrooms at night with several children and but little ventilation. Of those children over one year of age, thirty-one exhibited some of the bony changes of rachitis. In its broadest sense rachitis is a disease of malnutrition in which the nervous system suffers as completely as do the bones and other tissues and the rachitic age is one in which there is a relatively great development and evolution of the nervous system. Interference at this age with nerve nutrition must result in nerve impairment and exhaustion and it is perfectly natural to suppose that even though this is not severe enough at the moment to cause acute symptoms, it must determine to some extent the development and localization of future disease.

(*d*). *The Result of General Exhaustion.*—This factor would naturally be present to some degree after several days of hot or depressing weather and as the occurance of epidemics has always been during the heated term this factor was considered. I have the full reports for the several months obtained from the weather bureau and they show that the past summer was peculiarly free from hot days and particularly from a succession of them. There was, however, excessive dryness and as this has been noted in previous epidemics, it may have some influence; how much I am not prepared to state.

*Tissue Susceptibility* may be (1) *Inherent.* There is nothing in the history of these cases to indicate this. (2) Acquired through the agencies of

(*a*) *Injury.*—The general effect of an injury has already been noted but there is no history in any of these cases of a local injury which would

associate itself with the apparent localization of this disease.

(*b*) *Local exhaustion.*

(*c*) *Local malnutrition.*

(*d*) *Impairment of Nerve Supply.*—These three may be considered together as they are so intimately connected. It is easy to discern that any general condition of exhaustion or malnutrition must in turn result in local conditions analagous to it and may result in nerve impairment. But this is not limited to any particular organ or part. Therefor upon this basis alone we can readily rule out the probability of any special local condition of the cord favoring the disease.

But on the other hand we are aware that excessive functional activity of a part increases the liability to disease and favors local exhaustion and subsequently the inability to perfectly resist microbic invasion. The cord is functionally more active in immature than in mature life; there is not alone the demand placed upon the organism by marked development and growth but the young child's immature nervous system is easily overtaxed and exhausted.

(*e*) *Local Disease.*—This was absent in every instance.

*The Probable Nature of the Microbe.* There is very little in the history of any of these cases (with the possible exception of case 63) to support the theory that the infection is due to the introduction into the body of a small number of microbes of a high virulence. On the other hand there is much to indicate that the offending agent is one of low virulence. In support of this there are the prominent facts that in this as in other epidemics of the disease there is a widespread distribution. The disease does not usually affect more than one child in a family, nor is the infection of adults of frequent occurance.

Its common occurance during the heated term and particularly after a prolonged dry spell would indicate either a low virulence of the agent which is unfavorably influenced by low temperatures or which is so low that it requires the aid of the favoring factor of heat to give it its power.

The indications seem to be quite clear that it is carried by a third person who remains healthy but who is capable under favoring circumstances of being the innocent agent in its spread.

From this study of sixty-five cases, I am quite firmly convinced that in acute poliomyelitis, we are dealing with a hematogenic infection of a microbic agent of low virulence. That this infection is engrafted upon a tissue susceptibility which is acquired through the agencies of local malnutrition, exhaustion and nerve impairment and that this local condition is dependant upon the two factors of functional activity and a general state of malnutrition and that the most favoring factor of all is an individual susceptibility over which we have absolutely no control.

## CANCER OF THE RECTUM.*

By NATHAN JACOBSON, M.D.

SYRACUSE, N. Y.

IN considering the subject of cancer of the rectum which has been assigned me as part of the symposium on malignant diseases, I shall attempt to present the subject in a light which I trust may interest the general practitioner.

Were it named correctly the rectum should be a straight tube. We find, however, that this is by no means true of the portion of the intestinal tract beyond the sigmoid flexure. As it proceeds from left side of the body it slopes first inward and downward and then follows the curve of the sacrum until it reaches the coccyx, when it is directed abruptly downward and backward to the anus. Its upper half is attached to the posterior wall of the pelvis by the meso-rectum. At the sacral curve it is considerably dilated and is designated the ampulla. Beyond its point of junction with the bladder it is devoid of a peritoneal covering. Anteriorly it has the trigone of the bladder and the prostate in the male and the vagina in the female resting upon it.

For surgical purposes we can think of the rectum as being composed of definite parts. That nearest the anus can be referred to as the sphincter area of the perineal portion. This is a little over an inch in length. The pelvic portion of the rectum extends from this point up to the level of the third sacral vertebra and is four to five inches in length. The upper part which reaches into the peritoneal cavity is generally designated as the pelvic colon. A classification of cancer of the rectum has been suggested in keeping with this general plan by Quenu, a French surgeon, to whom we are indebted for much of the recent advance in the treatment of rectal cancer. He suggests that the first be called carcinoma anale; the second carcinoma ampullare and the third carcinoma supra-ampullare. He makes additionally a fourth variety which involves all portions of the rectum.

Carcinoma appears in various forms in the rectum. Petersen and Colmers as a result of the study of cases occurring at the Heidelberg clinic have suggested a division into four groups: the first the polypoid form, the second the superficial ulcer, the third the deep ulcer and the fourth the soft infiltrating tumor. The first group is made up of the papillomatous type of adenomatous carcinoma. These cases which are quite prominent outgrowths, rarely exceed in limitation the area which can be seen or felt. The superficial ulcers can be compared to the rodent ulcers of the skin. They are but mildly malignant and attack but a limited area. They are elliptical or circular in form and their edges are but slightly elevated or

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undermined. As they advance they are apt to produce marked contraction and to increase in infiltration. The deep ulcers are not only the result of the ordinary form of adenomatous cancer but they include the gelatinous or colloid forms as well as all of the solid forms and the mixed varieties; all of which have become necrotic. They have usually a dense infiltrated edge and an equally firm infiltrated base. They are characterized by their rapid progress, invading at an early period the peri-rectal structures and involving the lymph glands. The soft, projecting tumors have a tendency to diffusely infiltrate the surrounding tissues. They are exceedingly malignant because of their rapid invasion of the depth as well as the surface of the bowel. They usually involve an area far greater than is recognizable by microscopic examination.

All forms of malignant disease attacking internal structures are apt to advance to a degree of marked development before their existence is recognized. This is particularly true of malignant diseases of the lower part of the intestinal tract. It is surprising to note to what degree constriction of the lower bowel can progress without provoking pronounced manifestations. As an example, I might refer to a case seen December 6, 1907, at Rippleton, N. Y., with Dr. Joy, of Cazenovia. A man, 75 years of age, lived upon a farm which he shared with his maiden sisters. For about a year he had suffered from increasing constipation and during this period had grown so irritable that his sisters had found life almost intolerable with him. He had had no marked gastric disturbance nor had the constipation been so pronounced as to suggest intestinal obstruction until two days prior to the date mentioned. He arose on the last day of his life and started upon his farm duties as usual. Soon after arising he was seized with vomiting and was greatly distressed because of his bloated condition. He died at half-past three in the afternoon. I made an autopsy and found in the pelvic colon a hard, nodular tumor not more than one inch in its long diameter which so nearly closed the lumen of the bowel that only a lead pencil could be carried through it. It was of stony hardness and its macroscopic appearance made the diagnosis of carcinoma certain. This was subsequently confirmed by Dr. Steensland, Professor of Pathology in Syracuse University.

The first manifestation of carcinoma of the rectum is usually increasing constipation, or this condition may alternate with diarrhea. The formed stool may assume different shapes, become ribbon or pencil shaped according to the degree of constriction. As the tumor begins to break down and ulcerate we have with the movements of the bowels a discharge of blood or of blood-stained mucus and occasionally some fragment of necrotic tissue. As a rule the condition progresses very slowly and as Kraske pointed out many years ago, months and perhaps many of them may elapse before the patient consults his medical attendant. A feeling of pressure or desire to evacuate the bowels may become manifest. Fecal matter may not find its way through the constriction but gases may, so that a feeling of fullness may result from the distension of the dilatable portion, namely the ampulla. There may be some reflex gastric disturbance, but as a rule stomach symptoms are usually not in evidence until very late in the course of the disease. However, the patient may suffer a great deal from pain, especially when the bowels move, provided the disease is located in or near the sphincter region. With it there may be associated marked tenesmus.

There is no difficulty in recognizing the presence of cancer if it be located in the sphincter or ampullary portions of the rectum. The simple introduction of the finger will reveal the condition. It is, however, in those cases in which the lower portion of the tumor is beyond reach of the finger that the difficulty of diagnosis occurs. I have found it possible many times to reach these tumors by placing the patient in the dorsal position and having him flex the thighs firmly upon the abdomen. In doing this, the distance from the anus to the tumor is greatly shortened. I much prefer this method to the one suggested by Mr. Morton in a recent paper, who has his patient stand before him and asks him to squat and strain as he would in the act of defecation. The proctoscope can be used for the purpose of inspection. However, the field is often obscured by the presence of a thin fecal discharge. Moreover, the very free bleeding which is apt to occur and the risk of doing damage to the rectal wall are not to be overlooked. The rectum in an advanced case can be so disorganized as to be ruptured readily. In one case of recurrent carcinoma of the rectum I carried my finger through into the peritoneal cavity in the course of a digital examination, although it did not seem to me that I was exercising much pressure.

It is obvious that as carcinoma of the rectum presents such varying features the examination will reveal conditions materially different in different cases. As a rule, however, the papillomatous type is most readily appreciated. More difficulty might arise in determining the nature of a superficial ulcer having but little infiltration. If in doubt as to the character of the growth a portion could be removed and subjected to microscopic examination. Such a section should include a portion of the base and edge of the ulcer. As to the third and fourth groups of cases which as has been said are most malignant, there should be no question. The destructive ulceration of the one with its wide infiltrating invasion of the rectum and the surrounding structures and in the other the soft infiltrating mass with its indefinite outlines and its tendency to hemorrhage

should make a diagnosis comparatively easy provided in either event the mass be within reach.

As to the location of rectal cancer, Abbe states that roughly speaking two-thirds of the cases do not extend above the peritoneal line. On the other hand, Dr. C. H. Mayo divides the cases into two groups, one within easy reach of the finger and located at a distance not exceeding two or two and a half inches from the anus, and the other placed above the attachment of the levator ani muscle. He found that by far the larger number is to be included in the latter group. My own experience corresponds with his. I am, however, by no means prepared to endorse his statement that the disease is encountered three times as frequently in men as in women. I have found it to occur in one sex as frequently as in the other.

The important point is to recognize it early. For just in proportion as the lymphatics and the peri-rectal structures are involved the prospect of the radical removal of the disease decreases.

In determining the advisability of operation we are largely guided by the degree of infiltration present. The location of the tumor is of less importance than is the extent to which the surrounding tissues are invaded. In other words, a tumor placed above the peritoneal line can be completely removed and there is a reasonable certainty that it will not return, provided it does not involve the surrounding structures. While a tumor in the ampulla or sphincter region which invades the tissues outside of the rectum and has become fixed and immovable presents a hopeless outlook for radical cure. A tumor which is freely movable should be completely removable. In considering the question of rectal fixation, however, we are to remember that at certain points the rectum is normally adherent to the adjacent structures. This is true in the male at the site of the prostate gland and in both sexes there is a degree of fixation at the tip of the coccyx because of the muscular attachments at this point. The existing pathologic condition is not to be overlooked in determining the question of operation. The papillary form of cancer which as has been stated is not particularly infiltrating can be operated upon successfully without fear of recurrence even though it involve rather an extensive area. Simple adenomatous carcinoma presents likewise a favorable prognosis in the superficial varieties. On the other hand, where colloid degeneration has occurred or where a hard scirrhous form of cancer is present the prognosis is extremely bad.

In every case we are also to consider the general condition of the patient. Advanced age, extreme emaciation and great debility lessen the chances of recovery, while evidence of metastic invasion of the liver is a positive contra-indication to a radical operation. It will also be seen later that certain operative procedures are attended with materially different results in the two sexes.

The important principle which must guide us in the operative treatment of carcinoma of the rectum as in every other form of cancer, is to employ the method which will insure the best prospect for the radical removal of the disease. If the cancer be located in the neighborhood of the anus and is entirely limited to this section its free excision by perineal incision is a simple procedure. On two occasions I have excised epitheliomata which only involved a limited portion of the anus. Both of these patients recovered and neither has had any evidence of a recurrence. These cases are not included in the personal statistics given later. The same plan of procedure can be undertaken if the disease be entirely within the sphincter area. In these cases I do practically the operation which is performed for the removal of a prolapsed rectum associated with hemorrhoids, namely, the Whitehead excision. A circular incision is made completely surrounding the anus and deepened until it reaches well above the diseased area. The severed rectum is brought down and sutured to the anal margin. The unfortunate feature in this class of cases is that they are often neglected until the infiltration extends beyond the rectum frequently involving the sphincters and the limit of invasion cannot be positively defined. There is therefore a strong probability of their recurrence. While for a time there remains a very lax anal outlet, I have found the patient to regain the control of the bowels to a marked degree. The following case is a type of this kind:

M. M., residing in Cortland, N. Y., fifty years of age, consulted me on the 19th of September, 1907. There was a negative family history and he denied ever having had any venereal disease. He had typhoid fever twenty-five years before. Four or five months prior to seeing me he began to be troubled with a persistent diarrhea associated with the discharge of blood and mucus. There was also a feeling of weight and pressure which created a desire to move the bowels frequently.

Upon examination I found the lower part of the rectum occupied by a mass which was nodular, being more pronounced on the right than the left side and which involved a large share of the entire circumference of the rectum for a distance of two inches. It could be readily brought down and was entirely movable.

Aside from the fact that there was some atheromatous degeneration of his vessels he seemed to be in good general condition. There was a slight anemia; the red blood count being 3,750,000 and the white 17,500. More than four inches of bowel was removed and apparently we were well outside of the diseased area. At the end of five weeks he returned to his home with the wound entirely healed.

He remained seemingly well for more than eighteen months. I saw him occasionally during this period and aside from eversion of the mucous membrane there was nothing to indicate any abnormality of the parts. If the bowels became loose he had to respond to the desire to move them promptly but otherwise he had no discomfort. About six months ago he noticed that the mucous membrane of the rectum no longer protruded and after this there seemed to be a tightening of the anal orifice. He consulted me on the 5th of September, 1909, when I found the anal margin considerably infiltrated on the left side and to a lesser degree on the right. Wiping the mucous membrane of the rectum with moist cotton caused free bleeding. The movements of the bowels for a month had been flattened and ribbon shaped and it was very evident that there was a recurrence. I did not advise further operation.

That cases extensively involving the sphincter area are amenable to radical relief by operation is well illustrated in the case of J. K., of Cortland, upon whom I operated April 20, 1895. He was at that time fifty years of age. His operation included the removal of the coccyx, the lower part of the sacrum, the anus and four inches of the rectum, two inches of which was occupied by a cauliflower growth. At the time of the operation the condition was considered by one of the leading surgeons of New York City as being too extensive for radical operation and simple curetment was recommended. The patient stated that he had been aware of the existence of the tumor for a period of six months, although it is fair to assume that it had been of much longer growth. There was marked obstruction to bowel movements and constant pain and pressure in the rectum. He had become greatly emaciated. He left the hospital June 22, 1895, with the wound healed. I had occasion to examine him on the 12th of September, 1909, namely, more than fourteen years after the completion of his treatment. He weighed twenty-five pounds more than he did at the time of the operation. He has always had perfect control of his bowel movements; has never been obliged to resort to cathartics and continues daily at his work as a wire-puller. There is a faint scar marking the site of previous incision over the lower end of the spine. There is slight eversion of the mucous membrane more marked on the left than the right, but not the slightest evidence of any malignant disease.

The next group of cases to be considered according to their location includes those of the ampullary portion, namely, the part which conforms to the concavity of the sacrum and terminates about the level of the third sacral vertebra. This class of cases is likewise readily accessible from below. For these cases the operation suggested by Kraske about a quarter of a century ago is particularly adapted. I have never found it necessary to remove as much of the sacrum as he advised in order to secure ready approach to this portion of the rectum. In most instances the removal of the coccyx affords all of the working space required. In determining the extent of tissue to be excised two points are to be borne in mind. The first is the course of the lymphatics. It is to be remembered that in the anal region the line of lymphatic drainage is toward the inguinal glands, while in the portion of the rectum under consideration the lymph route is first lateral and that finally the lymphatics converge posteriorly in the meso-rectum. It is essential, therefore, that all of the lateral and posterior fatty tissue be removed with the rectum. In the next place we must not forget the differences in virulence of the various types of cancer of the rectum as pointed out by the Heidelberg clinic and be sure to cover in the removal of the mass the widest area possible in those most malignant. Mayo, in the paper read at the meeting of the American Surgical Association in 1906, quotes Hausman as having collected the autopsy records of 112 cases in which the cause of death was carcinoma of the bowel. In 55 the disease was found entirely limited to the bowel; of the remaining number in 36 the lymphatics were involved and in 21 there was general infection. It is evident, therefore, that in about half the cases the disease remained restricted to the intestines, that in over 30 per cent. the lymphatics were involved and in about 20 per cent. there was very widespread invasion. Cancer therefore affecting the large intestine remains localized for a longer period than it does when attacking other structures of the body. In explanation of this it is stated that the colon and rectum being the receptacle of intestinal waste products surcharged with bacteria become, so to speak, immunized and acquire an unusual degree of resistance to the invasion of malignant as well as other forms of bacterial disease. When the malignant process remains restricted to the bowel its removal is not only simple but the prospect of a permanent recovery excellent.

As to the technique of the operation a few words will suffice. I have the patient placed in the high lithotomy position, although many surgeons prefer the lateral or even the prone posture. As a preliminary measure the bowels have been cleared out with cathartics and on the morning of operation a cleansing enema is given and fifteen minims of deodorized tincture of opium administered. The coccyx, and if necessary, the lower two sacral vertebræ are removed. The rectum being exposed its separation is accomplished bluntly. With the fingers it, together with the bed of fat in which it lies, is thoroughly freed. The operative field is protected from contamination by a rectal tamponade. Long silk retention sutures are carried through the bowel above the involved area. The rectum is then

divided above and below the tumor. Traction is made on the long sutures and the upper segment of the bowel brought down. If the division below is in the sphincter area these sutures are brought out of the anus and the lower segment averted and the two united by interrupted linen or chromicized sutures. If above the sphincters the union can be readily effected through the wound. The peritoneal cavity is always opened. A gauze strip is carried into it and another anterior to the newly formed rectum. If as constructed the rectum seems lax and without sufficient support I make an incision into the posterior wall of the rectum as Kraske originally advised. This serves for fecal drainage for a few weeks and then closes by granulation. The surface wound is brought together by interrupted silkworm gut sutures. The gauze drains being brought out above.

As an example of what can be accomplished in the way of the radical cure of this class of cases I present to you a carcinoma of rectum removed November 20, 1897, from a man 52 years of age; a farmer by occupation. Both of his parents and one brother had died of consumption. He had always enjoyed good health. Since the middle of the preceding May he had complained of periods of abdominal pain which was referred more to the left than the right side of the abdomen. The bowel movements had been soft and occasionally streaked with blood and a week prior to my examination he had discharged a tablespoonful of blood. His general condition was good. Rectal examination disclosed the presence of the cauliflower tumor you see before you. As will be observed it is about three inches in length, is attached to the anterior and lateral walls of the rectum and occupies nearly the entire lumen of the tube. Its lower border was about two and one-half inches from the anus. The tumor is of the papillomatous type of cancer. It was found to be quite firmly adherent in the prostatic region as you will note by inspecting the specimen. About six inches of intestine was removed, the upper section being through the pelvic colon, the peritoneal cavity having of necessity been freely opened. I am pleased to report that this patient remains perfectly well, has gained more than thirty pounds in weight and is still able to work his farm. The operation as stated, was performed about twelve years ago.

That one can remove extensive areas invaded by carcinoma in this portion of the rectum and still secure a permanent cure is illustrated in a case referred to me by Dr. Elsner and operated on on March 7, 1901. The patient was a married woman, 52 years of age, the mother of six children. The tumor reached downward to within an inch of the anus. Its upper boundary I was, however, unable to define. It not only involved the anterior and lateral walls of the rectum, but also invaded the recto-vaginal septum to such an extent that it in its removal it was necessary to cut away the posterior wall of the vagina with the rectum and the anus. She made a slow recovery and did not leave the hospital until the 22d of June, 1901. At that time there was very weak control of the bowels and she was urged to consent to a secondary operation to improve this condition. To this she would not accede. However, with each year the power to control the bowel action improved and for at least a period of four years she has had absolutely no disturbance and nature seems to have restored this function so that even when her movements are loose there is no fecal leakage. I have seen her within a few months, and although 8½ years have elapsed since her operation, she is well and vigorous. She informed me that she weighed fully 40 pounds more than she did at the time of her operation.

If we are to accept the recent change in anatomical views and locate the upper line of the rectum at the level of the third sacral vertebra and designate the portion above it as the pelvic colon I am strongly convinced that the sacral route as, suggested by Kraske, is the only operation which need be considered for the excision of rectal cancer. If, however, we are to include the tumors which involve the pelvic colon there is unquestionably good ground for a difference of opinion as to which is the preferable course to take for their removal.

Volkmann in 1877 was the first to suggest the excision of these tumors by a combined operation which included approaching them from the peritoneal cavity as well as from below. Koenig, in 1882, was the first to perform this operation, and a year later Czerny undertook a second one of this kind. Both patients died. In 1897 Quenu again recommended this procedure, and a number of surgeons have contributed to the development of its technique. Two operations are performed. In each the abdomen is opened with the patient in the high Trendelenberg posture. The sigmoid flexure is located and followed into the pelvis. Section of the bowel is made well above the tumor between two clamps and the severed ends of the bowel closed by purse-string suture and invaginated. The one operation is completed by the radical removal of the entire intestinal tract beyond the point of section and the establishment of a permanent artificial anus in the left iliac fossa. This is spoken of as "amputation" of the bowel. The other operation contemplates the removal only of the diseased area and a restoration of the intestinal tube by suture. This is termed "resection" of the bowel. In each operation, as soon as the peritoneal limit is reached, the peritoneum is closed and the removal of the intestine and tumor completed by the sacral route. Those favoring the so-called amputation claim that this procedure permits more radical removal of the cancer than does any other.

The combined procedures have a number of staunch supporters among the surgeons of this country. It has been found that because the male pelvis is much deeper and the structures more fixed, that the operation in the male is much more difficult and dangerous than in the female. In the hands of skillful surgeons the mortality has been exceedingly high in both sexes. In the female it is stated to range from 30 to 50 per cent., while in the male in the hands of some surgeons the mortality has reached 100 per cent. The sacral route is, therefore, much to be preferred for males. One advantage is claimed for the abdominal route and that is that one can examine the liver for any metastasis and can determine to what extent secondary growths are present in the pelvis. Two very excellent papers have appeared during the last few years in the *Deutsche Zeitschrift fur Chirurgie* from Professor Ito and his assistants showing that the progressive surgeons of Japan have performed this operation a number of times.

The claim is made that the attempted removal of cancerous growths involving the pelvic colon by means of the sacral route compels the surgeon to work blindly and to be ignorant of the true condition in the upper part of the operative area. This it is said is avoided by operating through the peritoneal cavity, and that hemorrhage is more readily controlled. The operative mortality of the sacral operation is immeasurably lower than is that of the high one. As against the figures given above for the combined operation the operative mortality of the low operation is from 10 to 15 per cent.

At the meeting of the American Association of Obstetricians and Gynecologists held last month, Dr. T. B. Noble, of Indianapolis, suggested a modification of the combined method. After removing the diseased area of the rectum he seeks to bring the ends together and hold them by an instrument which is introduced through the anus and has a terminal extremity constructed after the plan of a Murphy button. He has been kind enough to send me cuts of his instrument which I present to you.

Hochenegg was able to report to the International Surgical Congress last year at Brussels upon 320 carcinomata of the rectum removed by the sacral route at the Vienna clinic. This is undoubtedly the largest number of cases operated upon in any single surgical clinic. The only contra-indication to radical operation for rectal cancer by this method according to Hochenegg is the absolute fixation of the tumor to the pelvis or its invasion of the urinary bladder. Adhesions to the prostate, seminal vesicles, vagina and uterus are not regarded as contra-indications. In 16 cases the prostate and seminal vesicles were removed with the rectum, in ten the posterior vaginal wall and in seven the uterus in toto or in part.

In attempting to learn of the end results of his operations Hochenegg found himself unable to trace many of the patients after operation inasmuch as they had come from a great distance to Vienna. However, he has a record of 37 who have outlived the period of three years, a radical cure therefore in at least 17.8 per cent.

I have succeeded in removing all of the malignant growths of the rectum upon which I have operated by way of the sacral route. I have advised operation in every case in which there was any evident mobility of the mass. In other words, the rule which has guided the Vienna school has been the one which I have followed. In only one instance, and that was within a few days, did I regard the tumor as being placed so high that I believed I could approach it better from above. I opened into the abdominal cavity found the liver to be normal, but upon investigating the pelvic condition discovered the pelvis was completely shut off from the abdomen by smooth adhesions resulting from an ancient inflammatory process. There was no evidence of any malignant disturbance to be recognized in the abdomen. It was impossible to proceed further by this route. The abdomen was closed and the operation completed by the sacral route. While I found that the adhesions were quite firm I had no difficulty in completing my operation and of resecting over five inches of intestine, beginning at a point between two and three inches above the anus. There was likewise no difficulty in approximating the ends of the intestine without apparent tension. I present this specimen to you also for your study. It is unfortunately a hard cancer which has undergone ulceration and belongs therefore to the class of deep ulcers.

I desire also to place before you another specimen of a hard infiltrating carcinoma which reached well up into the pelvic colon and which despite its great size I had no difficulty in removing from a woman by the sacral route, March 18, 1909. The ends of the gut were readily approximated. A temporary opening was made in the posterior wall of the newly constructed rectum, which healed promptly, and there has been no trouble as far as this structure is concerned. Unfortunately this patient had been afflicted with the disease for more than a year and a half, and the hard tumor is of the kind which is apt to be followed by metastasis. In her case a most unusual form of secondary growth has appeared. Four months after operation she was seized with intense pain following the course of the sacral nerves. Gradually there appeared a tumor involving the sacrum and now in outline it fully conforms to this bone.

I desire to say a word upon the subject of colostomy. The consensus of opinion to-day is that a preliminary colostomy is justifiable only when there is acute obstruction. When pronounced constipation exists it can usually be relieved by properly selected cathartics and

enemeta. The routine performance of colostomy as a preliminary step to the radical operation has been practically abandoned inasmuch as the establishment and ultimate closure of the artificial anus where resection of the bowel is undertaken and the integrity of the intestinal canal is to be restored would necessitate three operations. On the other hand in cases in which the bowel is amputated after the combined method described, the establishment of the permanent artificial anus should be done as part of the major operation and not as a preliminary step.

Those who favor an iliac anus argue that the location of the anus is purely a matter of sentiment and that it is of no consequence whatever whether it be at the point designated by nature or in the groin. To this I emphatically take exception. In one of the few cases of inoperable cancer for which I did an iliac colostomy the patient felt that he had become an object of disgust to his family and friends and believed that every one sought to avoid him. The resulting mental depression led him to commit suicide.

I am able to report upon eighteen personal cases performed during the last fifteen years. Of this number two died within three days after operation, not rallying from the shock attending it, and one of secondary hemorrhage at the end of a week. Fifteen outlived the operation, of whom seven died of a recurrence of the disease, which in most instances showed its first evidence of return about six months after operation. One is suffering from the sacral metastasis to which reference has been made. Seven others are alive, of whom five have outlived the prescribed period of three years, which is presumed to constitute a permanent cure. One of these patients was operated upon nearly fifteen years ago, another twelve, one eight and a half, one nearly seven and one upwards of four years. The remaining two were operated upon respectively December 20, 1907, and September 25, 1908. In neither of them is there any evidence of recurrence.

During this same period, I have seen fully twice as many whose condition did not warrant radical operation. For three of these I did colostomy. A number of other patients for whom I advised operation refused surgical aid.

In practically every case seen, the manifestations had been present many months. Most of them had consulted physicians and in many instances the doctor made no examination whatsoever, and the case was dismissed with the statement that it was presumably one of hemorrhoids.

There is not the slightest doubt that if the profession would carefully examine every patient presenting manifestations suggesting rectal disease, that cancer of the rectum would be recognized at a much earlier period; that operative relief would be extended much oftener at a time when it might be of avail and the mortality would be greatly reduced.

## THE EVOLUTION OF MEDICAL EDUCATION.*

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THE education of the physician to-day in America involves an expenditure of time and of work on the part of the individual student, and the furnishing of an equipment in teachers and laboratories and apparatus and supplies on the part of the university that so far exceeds that demanded by any other profession that one may well inquire into the reasons therefor.

The evolution of medical education in our country is one of the most interesting chapters in the history of education, and it is one with which every aspirant for medical honors should be conversant. For this reason I shall ask your attention to the brief review of the history of medical education in this country.

It is not necessary to go back many years to put ourselves in the midst of conditions which to you would seem impossible of producing any but the most superficial results, so far as the education of a physician is concerned. And yet every physician and surgeon who is practicing his art to-day and whose education dates back thirty years was educated under this system.

Let me give you an exact account of the medical education of that period.

The young man who determined to study medicine was unhampered by any conditions save his own ambition and the necessity of reading and writing the English language. Neither state nor college made any preliminary conditions whatsoever save as to the age of the candidate. But tradition had classed medicine as one of the learned professions, and the devotees of medicine had inherited a respect in the community which was shared by the clergy and the members of the legal profession. So, as a matter of fact, medicine attracted the better class of minds, and those who became candidates for the degree of doctor of medicine usually had considerable preparatory education and many of them were graduates of colleges of liberal arts.

It was expected that a man who came up to attend lectures in medicine would have begun the study of medicine under the direction of a private tutor, that tutor being usually the family physician. He read under the direction of his preceptor; under his guidance he made such dissections as were possible in a physician's office; he aided in compounding the medicines used, and frequently in gathering the local remedies which were favored by his preceptor; he accompanied him upon his visits and saw his patients in their own homes and was permitted to observe, if not to participate in, the examinations made by

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his preceptor and to watch the progress of the case and observe the effect of treatment. In surgical cases the student was not only the assistant at operations, but usually performed the duties of a nurse during the graver period of convalescence. It was under such conditions that it was expected that the student would receive the essential part of his education, and it was under such conditions that men whose names shall always be an inspiration in medicine and surgery were developed. The debt which is owed to the faithful general practitioners of medicine of the olden times who were scattered over our land and whose time was given to healing the sick and to instructing the young in their art, can never be paid by a generous people, however great may become their endowments of hospitals and laboratories for the benefit of the medical student of to-day.

The colleges of medicine were private joint-stock corporations without affiliation with universities, and received a charter from the state conferring upon them the power of granting the degree of M.D. They were organized in any community where a company of bright physicians could attract students. Thus, the original progenitor of our college was located in the village of Fairfield, upon the edge of the Adirondacks, a village which had as its chief attraction an academy which had earned a reputation for scholarly attainment so great that, in those days of stage-coach travel, it had attracted large numbers of students and, as residents, a superior class of citizens. Here the Fairfield Medical College flourished for many years. On its faculty were men whose reputation later became international.

The faculty was self-elected, and the fees received from instruction, after the modest expense bill was met, were divided pro rata amongst those who occupied the various chairs of instructoin. When a college was popular and the attendance was proportionally large, the sum received for lectures was considerable. The position of teacher in such a college was of value also because of the added influence which it gave in the community. These two factors made a position on the faculty so desirable that those who sought it were in some instances expected to be able to pay for admission to the faculty, and that custom was actually in vogue for many years in some colleges, and I understand that it is still possible to purchase positions as professors in some medical schools that still survive under the old method. This custom had its dangers as you can all see, and that the dangers were not theoretical is proven by the existence through many years of degenerate medical institutions which came to be known as diploma mills. The police occasionally root up such a diploma mill even now. But it must be said that almost without exception the schools which had the reputation and which drew the largest number of students were manned by teachers of the highest ability and were furnished with everything that up to that time was known to advance the science and art of medicine.

The building was not scholastic. It needed only enough room to accommodate the students in one large lecture room, and one or two adjoining rooms for the accommodation of the professors. Upon registering, the student took out and paid for seven tickets which admitted him to lectures in the seven recognized subjects of medical education, viz: Anatomy, Physiology, Chemistry, Materia Medicine, Obstetrics, Surgery, and the Practice of Medicine. He also took out and paid for a ticket admitting him to the dissecting room and giving him a right to anatomical material. His education consisted in sitting in the lecture hall and listening to one professor after another as he expounded his subject from the platform. Each year's course of lectures was complete in itself. At first the degree of M. D. was granted upon attending one such course of lectures, which occupied the time from mid-October until the middle of March. Later it was required that a student should attend two such courses of lectures. During the second year he heard simply a repetition of the lectures given the year previous, with such revisions as the lecturers may have seen fit to make. He was expected to dissect the human body. The demonstrator of anatomy was appointed by the faculty and visited the dissecting room usually for one hour once a day. That was the only personal work besides note taking which the student was asked to do. In chemistry, demonstrations of the simpler and more dramatic reactions were made by the professor before the class. In physiology lectures only were the rule, though some few men in this country, like Dalton, gave a few illustrations of the functions of the nervous system, with frogs and pigeons. In Materia Medica the memory was chiefly relied upon, though it was aided by the sight of dried specimens of medical roots, leaves and barks and some galenical preparations. In medicine and surgery gross pathological specimens were passed around, and very rarely a microscopical preparation showing more details was used.

Upon completion of the lecture course or courses the student came before each of the seven professors and stood an individual oral examination. In some schools it was required that the student should present a thesis on any medical subject that interested him, and in some colleges this thesis was made the basis of his examination and he was required to "defend it," as the expression was.

The degree of M.D. carried with it the right to practice medicine anywhere in this country. It is a great pleasure to be able to testify that, inadequate as this method of education appears, it is a fact that, as a class, the medical profession of this country during this period of time earned

the respect which was generally accorded it, and that from the men thus educated have arisen those who have gradually evolved the present superior system of education, and the many distinguished surgeons and physicians who have placed our country in advance in some phases of our art.

The evolution of educational methods in medicine is easy to trace. The conditions under which the old method was established were primitive. The demand of the times was for medical practitioners to care for the sick and injured in a large territory, and it was necessary to prepare them for this work in the shortest possible time. This system began in stage-coach days before even the canals were dug, long before railroads were thought of. It began before chemistry was the great science it is to-day, before the microscope could be owned except by a favored few to whom it was an interesting scientific toy, and before there had been more than an ambitious dream in the minds of a few bold speculators that there would be demonstrated in nature the presence of agencies that would be shown to be the active causative factors in the production of the epidemic diseases that had ravaged the peoples of the earth, epidemics that were as well known, and as accurately described in the earliest records of medicine as they are now.

With improvements in methods of travel, and with the resulting tendency to the greater massing of people in the larger centres, it became increasingly difficult for the medical colleges in small villages to maintain their prestige. Our first ancestor, for example, found it necessary to migrate or to shut up its doors, and so the college charter and many of the professors moved to Geneva, N. Y., a large village on the only line of railroad running east and west through the State, and also on the line of an important waterway, the State canal system. With changed conditions it was found increasingly difficult and finally impossible for the family physician to instruct his pupils in the fundamental branches of medicine with sufficient thoroughness. Hospitals sprang up with the development of a more centralized population and with the establishment of large manufacturing plants. Their wards were found to offer facilities for bed-side instruction greatly superior to those permitted the attending physician by the courtesy of private patients. And so, finally, all the medical colleges became located in the larger cities. But the old method of instruction was unchanged for decades after it was realized by some that it had seen its day. It was attempted to make up for the impossibility of thorough work at the hands of the preceptors in private practice, by increasing the *number* of courses which the student must attend. So we had the spectacle of the State compelling a student to hear three times in succession the same lectures which he attended once with some show of interest.

In the history of the struggle for advanced methods by the establishment of a graded course in medicine, as has always prevailed in colleges of liberal arts, so that the freshmen and seniors were not compelled to sit on the same benches and hear the same man deliver the same lecture, the pioneers of this college bore a worthy part. When the Geneva Medical College was taken over by Syracuse University in 1872, a graded course of three years of study of eight months each was at once established. This was done through the influence of the profession of Onondaga County, led by Professor Alfred Mercer, who tersely expressed their sentiments in the sentence: "We need not more schools but better." Perhaps no one in this State contributed more toward forcing the State of New York to establish this method of education for all of the recognized medical schools in her territory than did Dr. Henry Darwin Didama, the Professor of the Principles and Practice of Medicine in our college. It is refreshing even yet to read his phillipics upon this subject which he delivered on every opportunity to the State Medical Society.

But after the establishment of the graded system the old lecture system prevailed, though it was accompanied by the requirement that the student should prepare himself for a weekly quiz upon each of the subjects. Meantime the microscope had revealed to those who had seriously worked with it a new world of matter. The intimate constitution of tissues and of organs had been worked out in private by laborious processes. It became necessary to put the microscope into the hands of students and teach them how to use it and how to prepare specimens for examination. So the first *laboratory* for the individual work of students was the histological laboratory. The scientific spirit of the nineteenth century had at last made itself felt in schools of medicine, and it was found that no method of teaching equalled that which permitted and encouraged the individual to make his own observations, comparisons and deductions. This laboratory method was extended to chemistry, or possibly was used in chemistry previous to its adoption in histology. Then pathology was included, and what students had once been permitted to view superficially in gross specimens, was now placed before them for the making of sections and for minute observation under a powerful lens. The demonstration by Koch in 1881 that a bacillus was the cause of pulmonary consumption was the realization of a hazy dream of the boldest of ancient speculators. It revolutionized the study of the etiology of disease. It made necessary the course in bacteriology. It compelled colleges not simply to show bacteria to the students but to furnish equipment for their development and for their investigation.

The success of the laboratory method became assured. It riveted the attention and aroused the enthusiasm of students. It was extended to physiology, and it is with pardonable pride that we are able to say that the first physiological laboratory opened for the use of students in this country is the one in which the students of this college are taught to-day. It was the result of the enthusiasm and the labors of our lamented dean, the late Professor Gaylord Parsons Clark, and it was so complete that it stands to-day without a superior. The laboratory system of instruction has been extended, until now it is employed for the teaching of all subjects pertaining to the course in medicine. It has entailed an enormous increase in the expense of maintaining a college of medicine. The old-time joint stock corporation has been compelled to go out of business. A first-class medical college can be conducted only by a great university having the most liberal endowment. The fees from students do not more than pay the cost of keeping up the laboratories. The laboratories are multiplying, not only in numbers, but in usefulness. It is no exaggeration to say that the impetus given to medical study during the past twenty-five years exceeds many times that of any previous century.

Not the least of the improvements has been in the character of the instruction. Previous to the development of the laboratory method, teachers were those whose interest in science or whose prominence in the profession naturally led them to devote a part of each busy day to medical instruction. The supervision of a laboratory and the direction of the labors of students under the new conditions necesitated the expenditure of so much time that it became impossible for a man to do justice to the college and to his practice. Laboratory investigators and laboratory teachers were a necessary and natural product of the laboratory method, so that now the teaching of all but the purely clinical branches of medicine and surgery is intrusted to those who devote their entire time to the investigation and elucidation of the many problems presented by the natural sciences, upon which the foundation of the science and art of medicine is laid deep and firm. The effect is seen in the product. Science demands absolute verity, absolute fact, perfect demonstration. The new method has induced greater accuracy in observation, finer discrimination in classifying facts, and keener judgment in deducing conclusions. It has thus had upon the student a cultural value the measure of which is not surpassed.

The demands of the State and the demands of great university medical schools are well known to you to-day and need not be dwelt upon. The tendency of the future will not be toward diminishing them but rather to increase them.

The inducement to study medicine in the olden days was simply that one might become a general practitioner of medicine. But the hills upon which the science of medicine was founded have grown and expanded until now they are mountains, the scaling of whose heights and the mastering of whose intricacies present a task too difficult to be accomplished by any single man. Specialists were a necessary development of the widening knowledge of men devoted to the science of medicine. First surgery was cultivated as an exclusive practice, then the surgical specialties requiring most minute knowledge of special organs and delicate technical skill in operating were evolved. Then came the epoch making discovery of the bacterial origin of diseases, and special investigators were developed who devote their entire time to the unravelling of the problem of disease and its cure. The discoveries of the physiological chemist, the bacteriologist, the pathologist and the pharmacologist have been so enormous in so many fields that now, in large centres of population, it is expected that one may find men who devote their entire energies to the diseases of a single system of the body, like the nervous system, the respiratory system, the circulatory system, the digestive system, the genito-urinary system and the like, until it may easily happen that Mr. Dooley's description of the modern practice of medicine may come true, and a sick man in the next generation may demand the services of a half-dozen specialists where his great grandfather trusted himself in illness to the ministrations of an old woman. But the ills of the individual are not alone considered. The control of epidemics and the limitation and suppression of communicable diseases has come to be generally considered a civic duty. The nation, every state, city and district, has now its health officer whose duty it is to safeguard the public health. Until very recently this duty has been allotted to any physician who has been favored by the political party in the ascendency without any evidence on his part of particular fitness for the work. We are just beginning to insist that this work can be well done only by a physician who has especially fitted himself for its duties, and courses leading to the special degree of Doctor of Public Health are now offered as post-graduate courses in many European medical colleges and in a few in our own country.

Consultants have long been recognized in medical practice. The consulting physician was naturally the man who had had the greatest experience in diagnosing and treating diseases, and that meant long years of practice. To-day a young man may elect to be a consultant and to limit his practice to consultations. To prepare for that position an extended service as visiting physician or surgeon to a large hospital is a better preparation than many more years of private practice.

Last of all, and a most enticing field it is, medicine offers a career to one who loves to study and who loves to impart his knowledge to others.

The pedagogical aspect of modern medicine is worthy of serious consideration. To obtain qualified teachers for laboratory courses is very difficult. The supply of really good teachers in medicine is yet too limited to meet the demand. For a limited number this field offers an opportunity for the greatest usefulness and a career of great and increasing dignity.

To-day, therefore, the young person who is allured by the call of medicine has a choice of a large number of fields in which he can find expression for the finest gifts with which he has been endowed.

It is to a school for such a preparation in medicine, ladies and gentlemen, that I bid you welcome. Our standards are the highest, and our aim is to so direct you that you may realize the best that is in you.

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## TOXIC AMBLYOPIA.*

**By R. P. HIGGINS, M.D.**

CORTLAND, N. Y.

THE toxic amblyopias present a subject of absorbing interest to the general practitioner as well as the eye specialist. We all recognize in these disorders general intoxications with the most prominent symptoms localized in the eyes. While the eye manifestations are the most prominent and are usually the symptoms first attracting the patient's attention, the problem is one affecting the whole body economy and must be treated as such. It is the general practitioner rather than the eye specialist who must be alive to these disorders, for often he has charge of these patients in the incipiency of the disorder when there is a possibility of cure or what is better he can warn those of his patients liable to the disorder from the rocks ahead. It is to call attention anew to certain phases of these affections and not to present any new or novel manifestations that is the purpose of this article. As a matter of fact, since the exhaustive study of these intoxications by Uhthoff and De Schweinitz there is very little new to be added to the consideration of the disease, only to add to the published cases.

Toxic amblyopias include all that class of cases of obscurity of vision caused by the use of toxic substances. When the loss of vision is practically complete it is termed an amaurosis.

These intoxications may be grouped into (1) that class of cases of acute poisoning in which the loss of sight has come on from taking an overdose of some drug or from a poisonous agent and (2) by far the larger class, those which have developed more gradually and which have resulted from the prolonged abuse of either tobacco or alcohol.

There is an ever increasing number of cases reported as falling into the first class. Most of the cases reported have been due to the drinking of methyl or wood alcohol, usually when other means of intoxication are not at hand. A few cases have been reported as due to absorption of the poison through the lungs and skin by persons working in shellac or varnish in which there has been an admixture of wood alcohol. Fleet has reported one case due to the drinking of ethyl alcohol. I have never personally had one of these cases under my care but I distinctly remember as a medical student seeing a man who had been made blind by drinking methyl alcohol which he had taken in the form of an adulterated extract of Jamaica Ginger.

Quinine may in an overdose bring on this form of amaurosis. The dose which may cause blindness varies from fifteen grains to one ounce in twenty-four hours, the toxic action of the smaller dose probably being due to an idiosyncracy of the patient. Male fern is another medicinal substance which may in undue doses produce this deplorable condition. From three grammes of the extract up to very large doses have produced these toxic symptoms. Santonin, another anthelmintic in common use does not produce blindness but produces colored vision, the so-called xanthopsia, in which a yellow tint is given to everything, in the field of vision.

The usual course of a case of blindness from methyl alcohol is about as follows: After being aroused from the stupor into which the alcohol has plunged him, the patient complains that everything is dim about him and often is not even able to distinguish between light and dark. The pupils are largely dilated and do not respond to light. With the ophthalmoscope there is but little or no change at first in the appearance of the optic disc. There may be a slight reddening of the disc with engorgement of the retinal veins and constriction of the arteries. Generally, however, no difference in the picture of the retina can be made out. After energetic treatment there is often a transitory improvement in the sight followed usually in a very few days by total and permanent blindness. The ophthalmoscope shows that there has been a gradually developing atrophy of the optic nerve. A few cases of recovery from the blindness caused from wood alcohol have been reported, but the usual result has been to cause permanent blindess. Quinine and male fern in overdose do not seem to have quite so intense a poisonous action and more cases of recovery have been reported following their use. Treatment in these acute cases is practically the same as in the more chronic cases to be described later and is at first eliminative and later tonic.

A good deal of experimental work has been done by Holden, de Schweinitz and others to ascertain the cause of this loss of vision from use of these substances. It is most probable that the poisons primarily attack the ganglion cells of the retina and secondarily cause ascending

* Read before the Sixth District Branch of the Medical Society of the State of New York at Oneonta, September 28, 1909.

degeneration of the optic nerve and tracts. It is evident that the intensity of the primary degeneration would gauge the possibility of recovery as these ganglion cells once dead cannot be regenerated.

Alcohol and tobacco have long been recognized as causing dimness of vision, but it has been only within the last one or two decades that the pathology of the disease has been made clear. Amblyopia due to the abuse of either alcohol or tobacco alone has been reported, but it has generally taken a combination of these narcotics to produce the disorder.

The symptoms are but few and usually well marked. The patient, generally a man, who has been addicted to the chronic abuse of alcoholic stimulants or to excessive use of tobacco, complains of dimness of vision gradually developing in both eyes which is not remedied by wearing glasses. On examination his vision is found reduced to from one third to one fortieth that of normal. I know of no cases of total permanent blindness that have been caused by the chronic overuse of tobacco and alcohol. With the ophthalmoscope the picture of the retina may be normal or there may be a pathological whiteness denoting atrophy of the temporal half or lower and outer quadrant of the papilla. In addition there is a central color-blind area or scotoma for red and green.

There is nothing about these tests which could not in a few minutes time be done by the general practitioner. The tests for vision are readily made by having the patient with either eye read letters on a test card placed at a distance of 20 feet. The use of the ophthalmoscope should become more common in the hands of the internest, for by it often the first signs of a general disease are discovered. The central scotoma for red and green is easily demonstrated by the following test if the doctor does not possess or use a perimeter. Have the patient sit opposite and face you at about two feet distant with his head at the same height as yours. Then have him cover one eye, and with the other look directly at the tip of your nose. A small piece of red paper is fixed to the end of a pencil or penholder and the doctor holds this at first far at the side and gradually draws it toward his nose in the plane of the face. At an angle of thirty or forty degrees from his eye the patient will recognize the color as red. As the test object approaches the mid line suddenly there is a failure to recognize the color. The form of the object can be seen but it has no distinctive color and simply looks dark. As the object passes to the mid line and beyond suddenly the color reappears again. The same test can be tried from above downward and the central color-blind spot mapped out. The same test can be made with a bit of green paper with probably the same scotoma revealed, while other colors and white are recognized. In very bad cases of amblyopia however, the central part of the scotoma may be absolute, that is with no vision, while around it no colors but white can be recognized.

The two following histories may give a more concrete idea of this disorder.

R. W., a hotel clerk, aged 30, came to my office November 4, 1907, complaining of a gradually increasing dimness of vision in both eyes for the last two months. He could distinguish colors at the periphery of his field of vision in each eye, but at the center there was an area about twenty degrees wide in which he could not distinguish red and green. He was an inveterate cigarette smoker, making his own cigarettes and smoking a package of Duke's mixture in about a day and a half. He had been accustomed to frequently take a drink while serving at the bar, generally drinking beer, but often whiskey. With either eye he could only count fingers at twenty feet and for nearby he could only make out some of the largest letters on the Javal test type. The picture with the opthalmoscope was perfectly normal except perhaps a little congestion of the optic papilla. The pupils were rather small but reacted normally to light and accommodation. Urinary examination was negative. The nature of his trouble was explained to him and abstinence from tobacco and alcoholic drinks enjoined. W—— was a good patient and faithfully carried out his part of the treatment. At first the treatment was eliminative and the patient was allowed but very little meat and no indigestible food or pastry. He was urged to drink large amounts of water. Milk was a staple of his diet and daily he drank three pints. He was given every morning on arising a dram of phosphate of soda in a cup of hot water. One-sixtieth grain of strychnine in pill was taken before each meal and one hour after each meal ten grains of potassium iodide in one-half glass of water. He also took a course of Turkish baths. His vision steadily improved. On November 19th, two weeks from his first call, V. O. D. 6-24; V. O. S. 6-36. On December 3d the iodide was replaced by salicylate of soda gr. V, owing to some rheumatic pains in his muscles, but otherwise his treatment was continued as before. His vision at this time has improved so that V. O. D. =6-10; V. O. S. =6-10. On January 15, 1908, two and one-half months after starting in treatment his vision in either eye was 6-6 and he said he felt as well as ever, except that he had to look steadily at an object a little longer than before.

I have detailed the course of treatment at length in order to give an idea of the progress of a favorable case in which we had co-operation of physician and patient. A case with a less favorable termination in which we did not have this co-operation was that of R. D., aged 43, a man about town, who first consulted me July 10, 1906, complaining of gradually failing sight for the past six months. He had tried to have this defect helped by wearing glasses but could get no improvement of vision. His vision with the right eye was to count fingers at twelve feet,

with the left eye at eleven feet. With the ophthalmoscope the media was clear and the fundus looked normal except that there was pallor of the temporal half of the optic papilla. There was a large central scotoma for red and green, and in the very center near the fixation point it was absolute for all colors. The pupils were large and the reflexes normal. He saw better at night than in the daytime. He gave a history of syphillis some fifteen or twenty years ago, not treated very well, but there were no evidences of parasyphilitic lesions. Urinary examination was negative. This patient had for several years smoked on an average ten cigars a day, and drank perhaps four to six high-balls. He was put on practically the same course of treatment as the preceding case, except that in view of a possible specific cause mercury was given him by tablet and inunction, together with the iodide of potassium and strychnine. This patient could not bring himself to absolutely stop his tobacco, but did reduce his cigar allowance to two or three cigars a day and stopped his alcoholic drinks. Treatment was not as effacious in this case for we got practically no improvement in vision after six months' treatment, but we were successful in checking further impairment of vision.

I might cite further cases like these two but they would shed no further light on the disorder. The moral to be gained from a consideration of these cases is this that if we can get a case in its incipiency when the amblyopia is just commencing and serious organic changes have not taken place in the retina or optic nerve, a practical return to normal can be confidently expected. On the other hand, when degenerative changes have set in in these delicate structures, the most that can be expected from treatment, is to check the onward course of the disorder.

The pathology of toxic amblyopia throws a light on the interpretation of the symptoms. But few cases in an incipient stage have come to autopsy in which sufficient microscopical examination has been made. It seems evident by experiment that the earliest lesions in intoxication amblyopia are to be found in the ganglion cells of the retina and in the nerve fibre layer. The early changes probably are in the nature of the accumulation of fatigue products which would be sufficient to cause visual disturbance and which would disappear with consequent improvement of sight, under the influence of rest, improved hygiene, etc. This is true of ganglion cells elsewhere in the body after over stimulation. If improper stimulation is long continued, permanent lesions are established in these cells. The region of the macula being functionally the most active would naturally participate the most in the degenerative lesions. Degeneration of the ganglion cells would naturally cause secondary degeneration in the nerve fibres of the optic nerve coming from these ganglion cells. Secondary degenerative changes with increase of the supporting connective tissue have long been noted in a certain tract of the optic nerve called the papillo macular bundle or macular fascicle and this bundle carries the fibres from the macular region of the retina. Many investigators who have written on this subject ascribe primary importance to this increase for connective tissue of the optic nerve and believe that it is a sclerosis analagous to the process taking place in the liver in alcoholic cirrhosis. It seems logical, however, to believe that this retrobulbar neuritis, as it is called, is a secondary process, and the primary process has been a chemical change in the ganglion cell of the nerve fiber.

Toxic amblyopia is readily diagnosed by the history, the visual field phenomena, and ophthalmoscopically by negative findings or by pallor of the outer half of the disc or its lower outer quadrant. It is to be differentiated from tabes dorsalis, the ocular changes in diabetes, and in insular sclerosis. The changes in locomotor ataxia tend to become progressive with gradual complete optic atrophy. There is the Argyle Robertson pupil which does not react to light but does react to accommodation. There are in addition the general and ataxic symptoms which would serve to differentiate it. Diabetes would be differentiated by a careful urinary examination. The early stages of disseminated sclerosis may be much like certain stages of the toxic amblyopias and only to be differentiated by a careful history and examination.

The length of time for a cure varies, of course, according to the intensity of the poisoning and the reaction of the patient, and may take six weeks to as many months. After one year's faithful treatment but little further improvement can be expected.

The treatment of these cases is at first eliminative and later tonic. The last traces of the toxic substances must be first gotten out of the system, and next the fatigued and partially worn out nerve cells toned up to their highest degree of efficiency. The first and most important point is absolute and complete cessation of the use of the intoxicating substance. Some physicians have allowed their patients to chew tobacco, believing that smoking alone caused the toxic action, but it seems to me that abstinence from smoking or drinking must be absolute to get a satisfactory result.

The most important remedies used are mercury, iodide of potassium, and strychnine. Mercury may be given by the mouth as the biniodide, one-quarter grain three times a day, or if there is a suspicion of a syphilitic taint by inunction of the mercurial ointment or by hypodermic injection of one of the soluble salts. Potassium iodide is generally given as a routine from ten to fifteen grains three times a day, although the dose may be pushed up to one hundred fifty grains in twenty-four hours. Strychnine may be administered as the sulphate in doses of from 1-60 to 1-15 grain three times a day, administered either

in pill or hypodermically. Free sweating, produced either by the hypodermic administration of pilocarpine, in doses of from 1-10 to ¼ grain, or by the Turkish bath will aid in the cure. De Schweinitz and Edsall, have pointed out that there is often an associated disturbance of digestion of metabolism which may have had a part in predisposing the system to amblyopia and only after treatment of this nutritive disturbance will there be improvement in a persistent amblyopia. Autointoxication is a factor in the production of certain general disorders and of late it has been shown to bear a part in the causation of many eye diseases and it should be born in mind in the treatment.

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## TREATMENT OF "NERVES."

**By JANE L. GREELEY, M.D.**
JAMESTOWN, N. Y.

IN DEFAULT of new and interesting matters in recent experience to bring before you, I have decided to discuss briefly a topic on which I can truly say that ten year's practice has given me a right to form opinions, an old topic, probably as unwelcome as inevitable in the experience of you all—the treatment of "nerves."

I will admit at the outset that the procession which comes up in my memory as I speak the words is composed chiefly of women, but I take solid satisfaction in the admission of one stiff, taciturn surgeon, years ago, to a patient, that he knew just how it felt, for he had had a few months' personal experience of a state in which he wanted to cry on the slightest provocation or on none at all. Moreover, the books—strange to say—give the majority in neurasthenia to men. Frayed and rasped and unsteady nerves are not so rare that sooner or later anyone lacks experience of them in some form or degree. And among those who fill our offices and summon us to their houses a painfully large number, dislike the fact as we may, have "nerves" either as a chief or complicating ailment. One course of treatment is to ignore them, another is to ridicule them. Either would be wise and justifiable if it cured them.

Some forty years ago a genuine advance in medicine was made in the recognition of a distinct nerve exhaustion, an irritable weakness, which was labelled neurasthenia—the "American disease." Since that time it has become so fashionable, so all-embracing, so vague in common application that the term nervous prostration is fairly nauseating, and we long for the old days when total depravity and demoniacal possession were frankly held accountable for various unpleasant symptoms. There remains, however, under all the ebb and flow of medical fashion the solid fact that nerve force is a *material, chemical reality,* based upon changes in the protoplasm of nerve cells, that if we had instruments fine enough we could detect these changes. It is not a mysterious fancy—it is something capable of definite gain and loss, something whose expenditure may be wisely or foolishly managed. In proportion as a permanent state of "nerves" is a thing to be dreaded by the physician, the friends and the patient, above most evils of this life is it incumbent upon those who can foresee to try every means to prevent or to lessen or to cure.

A never-failing attitude of receptivity on the part of the doctor is the first essential in dealing with nervous patients. Some of them have a weary list of feelings to describe, while some few will keep back half the important ones for fear of seeming foolish. Both classes must feel sure that the doctor is open to conviction and truly interested. He will be much helped in his effort to exercise this open-mindedness by constant recognition of the fact that morbid nervous conditions often exist in an individual naturally of quite different tendencies and characteristics. I was much impressed by this fact in a recent case somewhat intimately within my knowledge, although not under my care. As typical of a certain class and as bearing upon the point just mentioned it may be worth describing. A young woman at the farthest remove from being weak or self-centered, who had from the age of sixteen supported her mother and sisters, planned for them, and kept a sunny spirit in their lives and hers, after fourteen years of this care married and bore and nursed two children. For a few years she showed increasing signs of "nerves"; finally, after an especially taxing year she one day was seized with a nervous chill, took to her bed, and for three months did not so much as lift her head from the pillow for food. But in common phrase there was "not one thing the matter with her." Organically she was sound, the substernal pain she worried over had no basis in local lesion. She was all right from head to foot, *except*—that her "bank was broken." For one year she was an invalid with a nurse, for a second year she could still talk of nothing long but how she felt; for a third year she could shoulder no responsibility. But she recovered, and to a full measure of unselfish mental and physical activity.

Would it have been wise or just to make light of the condition as a whole, to affirm that there was nothing but hysteria the matter with her, to urge her then to renewed activity? Could disease affecting any organ of the body have demanded and deserved more earnest and careful attention? There were many morbid ideas to be combatted, much persistent unreasonableness to withstand, but it would have been as untrue to fail to feel the real gravity of the ailment as to fix the mould by foolish sympathy.

I have sometimes found it helpful in dealing with patients of this kind to let them see—even more, to explain and impress upon them—the

gravity of this type of sickness and of its forerunners, to tell them that it is a definite result of definite processes, that in a certain sense they cannot just now help the feelings and ideas which seem foolish, that serious measures need to be taken to bring them back to normal poise. To feel that the physician appreciates the fact that he has a serious problem, even though he does not agree that numbness means paralysis or palpitation, heart-failure, affords a good working basis for co-operative effort at recovery.

Second, the physician must believe in the curability of "nerves." To be sure, there is hardly another state so slow to alter, but it can be changed. And an essential to that change is the belief of the physician and the reliance of the patient upon that belief. Argument, cheer, correction, stimulus seem to fall like water upon stone, but they do avail. Even in definite mental disease authorities advise persistent effort to reason out false impressions and reason in true. Much more in the simpler nervous states is the surrounding mental atmosphere a constant factor to be brought to bear in effecting a cure. But it should never be a cheer which is not appreciative of distressing symptoms at their full value. It seems to me that one secret of success is the combination in every interview of soothing and stimulating—never one without the other. The physician holds back with one hand, with the other pushes on. A patient will take a sharp or jolly thrust at some foolish fancy if within the same few minutes there has been shown real understanding and sympathy, and perhaps caution given in regard to some other line of symptoms. There are plenty of serious problems even in the most flagrant case of nerves, and by far the great majority of cases are composite with ample room for scientific thought in diagnosis. Patience must be endless and will be with a recognition of what is to some degree in all cases the condition so well expressed by Weir Mitchell, I believe, regarding neurasthenia:—

"The patient says 'I cannot,' his friends say 'He will not,' his doctor says 'He *cannot will.*'" Slowly must the will be restored, first by physical restoration of the substance of nerve centers, then by perception of and interest in different and better things than symptoms.

I think that as a rule we are too ready in nervous cases to stimulate before we have rebuilt. Irritability is always weakness, either weakness of plain subtraction or weakness of toxicity. But we are apt to overtreat it by tonics just as we sometimes hurry to treat neuritis by strychnine and stimulation before allowing a strained or injured nerve to rest, or a chemically irritated one to be washed free of poison.

The process of rebuilding usually involves some degree of change of condition, though not always the more radical measures that we would choose. Let us be glad, however, that it is not as hard as it used to be to get men and women out into the woods and on mountains and by sea. Don't be afraid to advise women to rough it now and then. I have not in a long time so exulted over the result of treatment as after sending a rather delicate young woman on a three weeks' camping trip with her husband in the north woods—sleeping bag, hemlock bed, fried pork and all. She told me that she had never before imagined the gulf between the ceaseless activity of civilized life and the peace of the woods. Women as much as men need the occasional experience of emptying the days of the incessant demands that fill them—the sojourn in some spot where bells do not ring and cooks do not leave. So good a thing as this, however, cannot always be brought within range, though oftener than is thought. Then comes the need of wisdom and understanding on the doctor's part in acquainting himself with the detail of each life, in studying how it can be clipped here, interleaved there, what waste can be avoided, what daily increment, however small, can be secured. Two or three points in daily routine insisted upon will often tip the balance and swing the patient out of collapse or nervous torment. A little help in the philosophy of living, a raw egg and an extra open window, a morning trip to market—these count the featherweight that swings the scale the right way.

But yet more sympathy and penetration are requisite in planning for the very hardest cases of all—those who have too little instead of too much to do, whose nerves are like arms just out of splints—untoughened by normal use. In this type the plan for activity is the all-important treatment, but the great difficulty lies in making the process of toughening both interesting and gradual. Just here let me slip in a plea for occupation for women—absorbing outside occupation—for young women and old maids. I know more than one young woman who would be waiting to-day for strength to live if circumstances had not necessitated and made possible absorbing, interesting, hard work. And I know more than one who could have been cured if she could have had it. Men do not always realize their advantage in being expected to have regular work outside their homes every day. Let the young woman have ideas and aims if she wants to. She has far healthier nervous tone than she would have killing time with the light weight occupations with which the waiting girl is supposed to content herself. Overwork, overstudy, overstrain—it is all bad enough, but no worse than underwork. There always seemed to me an element of absurdity in arguing gravely about the wisdom of permitting higher education for women. No one compels them to seek it, or to care for it. Of course some are foolish in the expenditure of strength there. So also are some in less worthy interests. Of all unhealthy conditions for nerves deliver me primarily from those that keep a mind idly turning upon itself and its own petty horizon. See that the growing girls have sleep and air, and moderation always, in all

things. Then let them have serious interests if they will, and follow them, and never fear but with sound nerves they will find home-making the best interest of all when "the hour and the man" appear.

I have gravitated unconsciously to prophylaxis, as everyone must who begins to think of the problem of nerves. In this connection one point impresses itself upon me frequently. While it is well to be honest with patients and well to have them treat matters of health with due thoughtfulness, we ought to be careful that we ourselves do not furnish too much food for morbid thought. Here and there a patient is fixed in an unwholesome nervous state by too forcible and vivid statements of this or that diseased condition as the foundation of all symptoms. I am increasingly skeptical as to whether single lesions, though severe, are to be viewed in any large proportion of cases as the sole couse of a long train of nervous symptoms. We are not such simple mechanism as that, nor are we set right so easily. As one cause an inflamed spot certainly does play his part, but I believe that often it is only the last straw in the burden, and that it sometimes assumes undue prominence in the mind of the patient, who is disappointed to find in the end that an abnormal physical self remains even when that spot is set right. Let us not forget that it is the total welfare of the patient as an individual that we seek.

I am much impressed with the necessity and the difficulty of treating nervous and mental cases in early stages. Grave disorders of this kind have their incipient stage like all others and a very much longer and therefore presumably more accessible one, so to speak. Recently two cases of insanity have come under my care, one a nursing mother, who recovered under rest cure in hospital, the other a young woman from a distant state who has probably a long period of mental sickness before her. As I look back on the history of these cases I can see plainly how little deviations from the normal should sooner have been noticed and treated as significant, how the pressure and tension was steadily increasing in a weak spot, how the exciting cause was only the last in a series of conditions paving the way. The common attitude in the preliminary stages is "How foolish and unreasonable!" "It's all nerves; don't pay any attention to those!" Not all cases have the hereditary weakness which influenced results in these two, but I am sure that your memory brings to you case after case of settled neurasthenia, or hypochondriasis, or general collapse, that had many years of preliminary symptoms and curable stages. For "nerves" *can* be cured. They are not a fixed and hopeless factor in every case, and they should be as much an object of patient, persistent, and hopeful medical endeavor on the part of us all as stomachs and livers and hearts. Great is the triumph if we keep one more victim out of that, to him unknown, to us unutterable, danger of becoming a curse to himself, his friends and his doctor.

Medicine is by no means a superfluity in treatment. In the first place, three-fourths of the cases are complex to start with and an organic lesion is none the less real because it exists in a nervous patient. In the second place, even where there is no localized disease, there is wrong chemistry, poor nutrition, deficient elimination, subtle and puzzling changes such as those dependent on altered functions of the ductless glands. Such conditions are to be studied and improved. Perhaps here and there will remain some simple case which has been so long rutted and grooved as to be unable to recognize perfect health of function when it exists, but even such a case was in all probability out of order physically at the start, and will serve as a melancholy warning to us to allow no other to become fixed in such mould.

Of the criminal folly of using opiates in the average nervous case it is unnecessary to speak. Medicines should be primarily corrective of wrong physical states, but may wisely also be soothing either in general effect or in alleviating minor discomforts while the main force and power of treatment lies in the direction of changing wrong ways of living or slowly rebuilding. No doubt a tendency to depend on multiple remedies may be unwise, but even when radical medicines are not needed, simple ones can be used and changed often while the solid work of repair and the mental stimulus go on. To recognize the value of this last is no reflection on doctor or patient. Why are we so slow to grant the scientific aspect of treatment by contact with a buoyant mind, and this even in purely physical disorder?

Aside from drugs, mechanical means of treatment are often very useful—the brief spinal rub night and morning, the definite mild exercise, the deep breathing out of doors. A share in the task of making health is a helpful factor for every patient.

To recapitulate after a somewhat rambling excursion into a broad field—unsteady, irritable, morbid nerves are an abomination; we all have to deal with them; nay, we are all liable to have them; we must be quick to notice unhealthy tendencies, deep to search into and understand them, warm-hearted to enlist a comradeship in fighting them, buoyant and hopeful in seeing a cure for them, and patient beyond all conception but our own in every dealing with them.

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## PERFORATIONS IN TYPHOID FEVER.*

By EDGAR R. McGUIRE, M.D.
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ACCURATE statistics regarding perforations in typhoid fever are exceedingly difficult to secure. It is estimated by various writers that we have about 25,000 deaths annually from this cause. With early diagnosis and

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early surgical closure from 25 to 50 per cent. could be saved.

The first man to advise suture of perforation in typhoid was von Leyden. During the same year, 1884, Mikulicz operated the first case with recovery. During the succeeding five years the mortality was 90 per cent. Gradually this has been reduced so that now the mortality is probably below 70 per cent. Many individual operators have a much lower mortality, but where a large number of cases are taken the mortality is still about 65 per cent.

The etiology of perforation is obscure. It is reasonable to assume that in a bowel ulcerated to the peritoneal coat, gaseous distension plays an important role. I have often wondered whether the typhoid cold plunge was not a contributing factor. It would seem probable in a case with but a very thin layer preventing perforation, that moving a patient into a tub of cold water might be sufficient to produce the rupture.

Much discussion has arisen regarding the type of case most liable to rupture. The frequency of perforation in the ambulatory has long been noted, but while perforations occur in mild forms of the disease, it is in the severe cases we must be especially alert to prevent this catastrophe.

Perforations may occur at any stage of the disease. In one analysis of 286 cases, 2 per cent. occurred in first week, 56.6 per cent. in the second and third, and 41 per cent. beyond the third week. Rupture usually occurs at lower end of the ileum. In 190 cases reported by Harte, 73 per cent. occurred within twelve inches of cæcum; 2 per cent. were four feet away, and 4 per cent. in the large bowel, the remainder not being specified, but presumably occurring in the upper ileum and the jejunum. Perforations are usually single, but may be multiple; in one collection of 271 cases they were multiple in 35.

The diagnosis is exceedingly difficult. This is evident from the number of cases operated where perforations were not found, and from the number not diagnosed until advaced peritonitis was present. Text-book descriptions of perforations are merely those of advanced peritonitis. Typical descriptions include hippocratic facies, profuse sweating, muscle rigidity, feeble, but rapid pulse, leucocytosis, absence of liver dulness, etc. All these are not symptoms of perforation, but those of peritonitis, or as Osler aptly remarks, "a rough draft of death!"

Pain is doubtless the most constant symptom. It is, I think, always present, and were it not present so frequently in other conditions, it would be very helpful in making a diagnosis. In any case of typhoid, however, developing sudden pain in the abdomen, perforation must always be suspected.

Rigidity of the abdominal muscles is an almost infallible sign of peritonitis. It is almost always present in perforations when peritonitis is well established, and may be present early in the peritoneal involvement. Sudden pain followed by increasing muscle spasm is exceedingly suggestive of perforation.

The temperature is of considerable importance. While, of course, exceptions are plentiful, most of the cases show a sudden drop in temperature. The temperature should be taken every hour in suspicious cases, because it will rise with peritonitis and one may miss the drop when it occurs. In any case developing sudden pain the temperature should be taken immediately.

The pulse varies greatly. I have seen the pulse go up at the time of perforation so that the temperature and pulse lines would cross in the ordinary temperature chart. Per contra I have seen the pulse drop with the temperature and suddenly rise later. Usually, however, the pulse rate rises rapidly.

The leucocyte count has been given great prominence in the diagnosis of perforation; in fact, many make the decision for or against operation on this alone. The leucocytes in typhoid are, of course, low in number and any increase above normal is exceedingly suggestive of some complication. The leucocytes should be counted at regular intervals throughout the course of the disease, and with the advent of pain, at least every three or four hours, in order to immediately detect any rise. The leucocytosis in perforations is due to the peritonitis, so we must not always wait for a marked leucocytosis. Early absence of leucocytosis would be negative, but if present would be very suggestive.

Absence of liver dulness is due to distension, which in turn is due to peritonitis; consequently it cannot be regarded as an early sign of perforation.

Hippocratic facies is a late sign of peritonitis.

The blood pressure should be taken at regular intervals throughout a case of typhoid, in order to learn what is the normal pressure for that particular individual. After onset of pain, reading ought to be made every hour to determine any appreciable rise. In perforations, blood pressure should steadily rise, but if one has had no previous reading he does not know what the normal pressure in that individual happens to be. Early diagnosis is exceedingly difficult, and almost impossible unless we use every possible care in watching our patients at this time. Consequently I think all typhoids ought to have regular examinations of blood and blood pressure reading, and in the event of sudden pain, one should be in constant attendance, making frequent examinations to note any and every change. Nearly all the signs are those of peritonitis and are prominent according to the degree of peritoneal involvement. Furthermore, perforation is at times so closely stimulated by hemorrhage, cholecystitis and pneumonia, that early positive diagnosis becomes exceedingly difficult. In hemorrhage blood examinations will help. The reds will be diminished, and while one may find

a relative leucocytosis, the polymorphonuclear forms are not increased. The blood pressure is also of great value, as it is here diminished, while in perforation it is increased. The discovery of blood in stools usually makes diagnosis positive. But hemorrhage and perforation may occur almost simultaneously, and then the diagnosis offers peculiar difficulties.

Cholecystitis is in itself a surgical disease frequently requiring operation for biliary drainage; consequently here an error in diagnosis is not so disastrous. Occasionally rupture of the gall bladder occurs; this constitutes another reason for exploring doubtful cases.

Pneumonia developing during typhoid fever may furnish an almost exact picture of perforation. The relation between certain diseases of the chest, such as pneumonia, pleurisy or pericarditis, and disease of the peritoneum is very perplexing. It is certain that thoracic disease may at times cause abdominal pains, muscle spasm, temperature elevation, increased pulse rate, leucocytosis, rise in blood pressure, in fact, an almost complete picture of peritonitis. I have four times been called to operate for an acute abdominal lesion where the source of the trouble was in the chest. Fortunately, in all of the cases operation was not performed, and the next day or two all the cases showed consolidation of the right lung. An important differential point is the muscle spasm. In peritonitis the rigidity is present, both during inspiration and expiration, even under anæsthesia, while in diseases of the chest the spasm often relaxes during expiration. In all suspected cases of perforation it is imperative to eliminate disease within the chest.

Early diagnosis is then so difficult that it can only be positively made either by waiting for marked peritonitis or by exploration. Fortunately, rapid exploration seems to do these cases no harm. I have explored one case where perforation was not present. On searching through the literature of the subject I find that although many such cases have been operated, no death has occurred directly ascribable to the exploration. In fact, most of these cases have entirely recovered. In doubtful cases, then, exploration is the safest procedure.

*Treatment.*—Under medical treatment alone the mortality is nearly 100 per cent., so that any success in operating means salvation of those who otherwise would have died. Furthermore, if we could operate within the first twelve hours, I am quite sure the mortality would be reduced from 70 per cent. to nearer 10 per cent.

A most important matter is the use of morphine. Administration of any anodyne to relieve pain during typhoid is most pernicious, for it will mask all symptoms and delay diagnosis, rendering surgery impracticable. In cases of actual perforation an early hypodermic dose of morphia is almost equivalent to signing the patient's death certificate.

The treatment of perforation is that of peritonitis. Peritonitis is essentially the same, except in degree, whether it is due to ruptured gastric ulcer, appendix or typhoid ulcer.

The peritoneum is a large lymph sac with almost unlimited facilities for rapid absorption. This occurs more freely near the diaphragm, and is most rapid in that vicinity. The pelvic peritoneum, on the other hand, absorbs more slowly; hence the first indication is to place patients in the sitting (Fowler's) posture and keep them there even during removal to the operating room.

The methods of prominent operators vary only in matters of detail,—all are practically united in the following particulars.

(1) Rapid operation is of prime importance, being a very deciding factor in recovery.

(2) There must be as little injury to the endothelium as possible as with gauze packing, irritant irrigations, etc.

(3) Rapid closure of the opening.

Whether one follows the advice of Blake and his followers, irrigates with salt solution and closes without or with very little drainage, or that of Murphy, who never irrigates but drains freely, is a matter of individual judgment. Excellent results follow either method, and it would seem the results must be due to the above rules, which are common to both.

I prefer generally anæsthesia; Ethyl chloride has proved sufficient in my cases, but, doubtless some would require ether or chloroform in addition. I do not favor cocaine, because rapid work is almost impossible under its use, and I believe time saved on the table to be a most important factor.

The incision used is a matter of individual choice. Most operators prefer the median incision, but many others feel that the frequency with which perforation is located near the cæcum is an argument in favor of lateral incision.

If the opening in the bowel be small, a simple purse-string suture makes a rapid and effective closure. If, however, one finds a large opening, he has the alternative of resection, or making an artificial anus. Most of these patients are in serious condition, and scarcely suitable for resection, so that under these circumstances an artificial anus would be preferable.

Opinion is greatly divided between those who irrigate and those who do not. It is exactly the same problem as that presented in operating for appendicitis. Personally, I believe nature is perfectly capable of taking care of the patient if we simply close the opening and do not kill him by a long operation. I think wiping out the abdomen and irrigation simply prolong the time of operating without adding to the factor of safety. Murphy's treatment of peritonitis I believe of great value. Rapid closure of the opening in bowel, exaggerated Fowler position, stab wound in median line to drain pelvis, and continuous salt solution per rectum, collectively con-

stitute a distinct advance in treatment of diffuse peritonitis.

Case 1.—J. R., 53, U. S. A., entered B. G. H., in Dr. Cary's service, October 22, 1907, on the fifth day of the disease which ran its usual course, temperature 101-104. Sponge baths only were used in treatment. Blood examination, October 24, 1907: hemoglobin, 85 per cent.; reds, 4,100,000; whites, 4,200; Widal, positive; blood pressure, 90.

On morning of fourteenth day, 2 A. M., temperature was 104.6, pulse 120. At 6 A. M., temperature 99, pulse 68; blood pressure 90. Patient at this time passed some blood per rectum and condition was thought to be one of hemorrhage. Patient given morphia, .015, every three hours, because he was in severe pain. At 2 P. M., temperature and pulse started upward; by 10 P. M., temperature was 103 and pulse 100. At 6 A. M., fifteenth day, I first saw him. He had temperature 105, pulse 120, with unmistakable signs of peritonitis. Abdominal rigidity marked; tenderness, pain, absence of liver dulness all noticeable. Leucocytes were 5,200; perforation evidently twenty-four hours old. Operation was done immediately under ethyl chloride anæsthesia; a small opening size of head of pin was found in the ilium, six inches from cæcum; it was closed with purse-string suture. A stab wound was made in median line, and a large tube placed in the pelvis. A small tube was placed in the lateral incision. Patient was placed in Fowler's position, continuous salt solution, per rectum, administered. Patient did well; drainage was removed in twenty-four hours, and recovery seemed certain. On the fourth day at 10 P. M., he developed difficult breathing and his lungs filled with fluid. He died in a few hours.

Autopsy revealed œdema of the lungs and a dilated heart. The perforation held water under pressure without leakage, and no peritonitis was present. At the time of operation the abdomen was filled with fæcal matter, and although no attempt was made to wash out same, at autopsy nothing was found in the peritoneal cavity.

Case 2.—Arthur L.; ran the usual course of typhoid, but the exact day of perforation is unknown. Dr. Crance, of Tonowanda, was called, and found boy in apparently dying condition, and so told the family. Next morning condition was still desperate, but apparently somewhat improved. One week later I saw patient, and found a mass in right iliac region. I advised section. Operated November 25, 1907. I found abscess leading to umbilicus; drainage was placed anteriorly and posteriorly. Recovery. February 11, 1908, Dr. Crance informed me patient had gained greatly in weight and was now perfectly well.

Case 3.—E. F., 24 years, entered B. G. H. November 11, 1907, in Dr. Stockton's service. His fever ran a mild course, cold spongings only being used. On November 24th he complained of pain in abdomen, without distension or rigidity; temperature 102, pulse 100, leucocytes 5,200. When I saw patient I at first advised delay, thinking it was not a case of perforation. Next day, 3 P. M., when I saw the patient again, pain was marked, distension and apparent rigidity being present. Leucocytes 7,500. Liver dullness diminished. Drs. Stockton, Rochester and myself all concurring in diagnosis, operation was immediately performed. No perforation was found; nothing abnormal was found in the abdomen. He made an uninterrupted recovery.

Case 4.—T. M., 38 years, service of Dr. Cary. This patient was in the fourth week of typhoid, and had had a slight hemorrhage four days previous to his present trouble. First onset of pain occurred November 16, 1908, at 4 P. M. Leucocytes 2,900; blood pressure 70; pulse 126; pain not severe; no muscle spasm. At 4 P. M., the leucocytes were 6,900; moderate spasm and tenderness were present. Through some error the patient was given morphia. I first saw him at 8.30 P. M. He was in no pain and there was no spasm. Leucocytes 6,500; differential count showed polymorphonuclears 64 per cent.; blood pressure 75; temperature was 103.8. Diagnosis seemed very doubtful even at this late time, but exploration was advised. Operation was made under ethyl-chloride anæsthesia, and a large opening found in the ileum ten inches from cæcum; the ulcer was excised, and the opening closed with two row sutures, a stab wound made in the median line. The operation lasted seventeen minutes. He was placed in Fowler's position, and salt solution administered continuously by the rectum. He died thirty hours later.

Case 5.—R. H., 16 years. Operation by Dr. Park. The patient entered B. G. H. in Dr. Stockton's service on the fourteenth day of the disease. He ran a mild course of typhoid until the twenty-fourth day of the disease, when, at 8 P. M., he suddenly complained of pain in the abdomen. During the week previous to this his temperature varied between 100 and 102; the leucocytes count gave 4,300; blood pressure was 90-100. At 8 P. M., when he first complained of pain, temperature was 100, pulse 90; blood pressure 100. At 8.45 P. M. pain was increased, some slight spasm was present; temperature 101, pulse 90; blood pressure had fallen to 90. At 9.30 P. M. he was seen by Drs. Park and Rochester. At that time his temperature was 101.8, pulse 90; blood pressure 110; leucocytes 14,800; abdominal spasm was present on right side. He was removed to the clinic—just two hours after onset of pain. Operation by Dr. Park. A perforation was found in the ileum four inches from cæcum. It was closed with two rows of sutures. Pelvis was mopped free from intestinal contents and abdomen closed with a Mikulicz drain placed in pelvis. Recovery was uninterrupted.

Reviewing these cases we have five operations for perforating typhoid ulcer. In one case there was no perforation—this patient recovered. Two cases of perforation recovered, one in which perforation was one week old, in the other of two hours duration. Two cases died, operated twenty-seven and seventeen hours respectively after perforation. One of these lived five days and had recovered so far as his perforation was concerned, since autopsy showed peritoneum free from peritonitis. The other died in thirty hours; no autopsy was allowed. In all only one case of the five died where perforation could be classed as the cause of death.

### *Conclusions.*

1. Early diagnosis is often so difficult that in doubtful cases exploration is the only safe procedure.

2. Rapid exploration causes little if any harm.

3. The sooner after perforation the operation is performed the greater the chance of recovery.

4. Rapid operating is essential to success.

5. Operation in the presence of advanced general peritonitis is practically useless,—it only brings discredit upon surgery.

I wish to express my gratitude to the medical staff for their co-operation in this work, and to Dr. Roswell Park for privilege of operation on some of these cases.

# PROGRESS IN THE ETIOLOGY AND DIAGNOSIS OF SYPHILIS IN ITS DIFFERENT STAGES.*

By T. S. VAN RIEMPST, Sc.B., M.D.
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THE etiology of syphilis, until four years ago, was in absolute darkness. More than twenty-five different micro-organisms had been considered as its cause; Lustgarten's bacillus held a favorite place, until it was found to be identical with the Smegma-bacillus. In March, 1905, the confusion vanished, when Schaudinn and Hoffman announced in the *Munch. Med. Wochenschz.* the constant existence of an organism in the serum of syphilitic chancres. Their discovery was almost immediately corrobated by scientists of the whole world, and to-day no physician hesitates to recognize the spirochæta pallida or treponema pallidum which name was suggested by Schatinn, as the causative agent of syphillis.

Although Koch's laws are not fulfilled, since the micro-organism has not been cultivated in a pure culture, we anticipate that soon a suitable culture medium will be discovered. Levaditi has already cultivated the S. Refringens and Noby the S. Obermeieri.

The most important factors which indicate that syphilis is produced by the S. Pallida are the following:

The morphology of the S. P. and other spirillar organisms is different.

The S. P. is present in all the different manifestations of syphilis.

It is only found in syphilis.

It has a definite relation to all the pathological changes which characterize syphilis.

After the use of mercury, the disappearance of the typical lesions and the disappearance of the S. P. are simultaneous.

In experimental syphilis of the lower animals, the S. P. is present with the same characteristics as in human syphilis.

The classification of the S. P. is still pending. Swellengrebel considers it as belonging to a catagory of organisms, which constitute a transition between the bacteria and the flagellatæ on account of the characteristics belonging to both groups.

The S. P. is a spiral, motile organism; its length varies from 6-20min. Its maximum diameter does not exceed ¼, its maximum diameter being sometimes immeasurable. The spirals, or coils, number from 5-15mm., but as many as 24 have been counted. These coils are preformed, and not the result of wriggling movements, which are of three different kinds.

First the organism rotates on its principal axis; the second motion is due to a bending upon its axis, and the third to a gliding back and forth. These movements, although very active, do not seem to give much propelling power to the organism, for a specimen can be seen for hours in the same place in the microscopical field. These active movements can be best studied with the aids of the dark-field illuminator, of which we will speak later.

The method used in the research of the S. P. is of the greatest importance; the failure to demonstrate the S. P. is generally due to a faulty technique. Drs. White and Avery, of the Hoagland Laboratory, who examined all the syphilitic patients in the House of Relief, recommend the following technique:

The lesion is washed and thoroughly cleansed with gauze. The juncture of the necrotic with the sound tissue, and also a part of the floor of the sore are then scraped with a small curette or scalpel, until the detritus and superficial tissues are removed, and a slight flow of blood is produced. The lesion is then sponged with dry gauze until the blood has ceased to flow and clear serum is seen to ooze. A drop of this serum is then spread on a perfectly clean glass-slide in the thinnest possible uniform film.

We have two different methods of examining the S. P.

1st. Staining.

2d. Dark-field illumination.

Of the 40 or 50 different staining methods, I will mention only two: the first Goldhorn's stain, on account of its ease of application and if positive, its rapidity in result; the second, Schereschewsky's method, the most reliable, because in several instances where Goldhorn's stain failed to stain the S. P. the latter could be detected with Schereschewsky's method.

A. Goldwin's method of staining:

Methylene blue, grains, 2.
Lithium carbonate, 2.
Ag. No. 3, 200.

This is heated until dissolved; after cooling, filtered through cotton, and one half of the solution is acidified with 5 per cent. acetic acid until the reaction is positively acid. The two different portions of the filtrate are then mixed and ½ per cent. eosin solution is added, until the color becomes dark blue and slightly fluorescent. A precipitate is formed which is filtered off on the following day; this precipitate is dissolved in methyl alcohol in the proportion of 1-100.

This alcoholic solution is applied for a few seconds on the serum preparation without previous fixing. The spirochæta pallida appear blue.

B. Schereschewsky's method, simplified by Avery and White.

The smears are carefully poured through the flame three times. The staining mixture is freshly prepared by adding 13 drops of Giemsa solution (Grübler) to 10 c. c. of a 0.5 per cent. watery glycerine solution. The mixture is then heated to boiling, immediately poured on the

* Read before the Columbia County Medical Society at Chatham, N. Y., May 11, 1909.

slide and allowed to remain for three to five minutes; the stain is then poured off and washed with neutral distilled water. The slide is dried by rapidly shaking it in the air and a second application of the stain is made for the same length of time. As a rule two applications suffice to impart to the smear a distinct pinkish tinge. Should the pink be too faint, a third application is made. When the desired shade is reached the slide is washed and dried and examined with a 1-12 oil-immersion lens (no coverglass is used because the Canada-Calsam makes the preparation fade).

The following precautions should not be forgotten: that all ingredients should be perfectly clean; if not, a bluish precipitate occurs on boiling, and the staining ability is impaired.

In the preparations the S. P. should appear a deep pink on a lighter background.

II. The dark-field illuminator or ultra-microscope enables us to make a positive diagnosis of the spirochæta pallida in a few minutes. The underlying principle of the apparatus is the lateral illumination of the object; the rays, reflected by the mirror, traverse very obliquely, almost horizontally, the liquid layer between the slide and the coverglass; the light cannot penetrate directly in the microscope, but the particles, micro-organisms, etc., which are in suspension in the liquid of the preparation, become vividly luminous in the same manner as particles of dust become luminous when a sun ray penetrates a dark room.

The necessary ingredients, besides a microscope with 1-12 oil-immersion lens, are a Leitz reflecting condenser, a bull's-eye lens, and a strong source of light; if electricity is available a Nernst lamp is ideal, although personally I have had excellent results with an inverted Auer-Welsbach burner.

The serum of the lesion is collected in the above described manner, and a small drop is placed on a very thin slide, which is covered with a coverglass, and immediately sealed with liquid vaseline to exclude air-bubbles.

Immersion-oil is applied on the condenser and cover glass both, to secure continuity in the differenc media through which the light must pass. At first everything looks dark, but as soon as the floating bodies are focussed, they appear as brilliantly illuminated bodies. The spirochæta pallida appears as described above, endowed with all its different movements.

If we add to the serum a small drop of distilled water, the spirochæta pallida appears larger and more brilliant, the coils are wider, and the ends are unrolled and straightened out.

Another important discovery is due to Metchinkoff and Roux, namely the inoculation of apes, the anthropoids as well as the lower apes, with the syphilitic virus. Not only do they develop the primary accidents as in men after an incubation period of 20 to 50 days, but they also develop a constitutional syphilis, because the virus always infects the whole organism. The anthropoids only develop this constitutional syphilis with secondary eruptions, desseminated over the skin and mucous membranes.

Every inoculation produces a typical syphilis, and when it is not brought on, it is either due to the death, or to the non-penetration of the virus; Metchnikoff and Roux never observed an attenuated syphilis, as, for example, a syphilis which remained localized in the place of inoculation; the inoculations were performed by scarifications of apparently intact skin; the corneal inoculations prove that the lesions of the blood vessels are not absolutely necessary to produce the infection.

Neisser claims that general infection can develop without primary process, if the S. P. immediately penetrate the blood-stream.

The same author has proven that every syphilitic product in man, whatever its site be, is produced by the S. P. Particularly does he lay stress on the fact, that not only the primary and secondary lesions, but the tertiary lesions as well, are due to the spirochæta, without regard to the length of time after which they develop.

Consequently the tertiary lesions are theoretically at least, contagious, but this contagiousness vanishes quickly, when, after opening of a gumma, suppuration and necrosis set in; furthermore, the danger of contagion in tertiary lesions is not very great, because these lesions are generally covered and usually so large, that they do not escape the attention of the patient.

The contagiousness is very marked in the secondary period, where the principal lesions are situated in or about the genital organs and in the mouth.

Keyes taught long before the era of the S. P. that syphilitic secretions cease to be infectious after 12 to 24 hours, and much sooner (at most 6 hours) when dry. This explains, he says, why we are not all infected by cigars, and why the syphilitic may live and dine with his family in absolute safety as long as the cups, spoons and forks that enter his mouth are washed and dried before being used by anyone else at the following meal.

The serum reaction.

A. The Wassermann-Neisser-Bruck reaction.

This reaction, like the other serum-reactions, is based on this fact: certain substances, called antibodies, which are probably of a lipoid nature, are produced in such great quantity in the human serum by the syphilistic virus, that it is possible to demonstrate them; and as these antibodies cannot be found in healthy serum, they are consequently reaction-products of the human system.

As space does not permit to give a detailed description of the principles and technique of this reaction, which necessitate a great practice and a well-equipped laboratory, I refer to the excel-

lent article of Dr. Howard Fox, which appeared in the *Medical Record* of March 15th, 1909.

I will pass in review a few other reactions which will be in reach of every practitioner:

B. The method of Porges and Meier.

Porges and Meier, considering that the liver-extract, which is used as antigen in the Wassermann test, owes its properties to the lipoid substances (of the order of lecithine) and the Bile-salts, advise the use of lecithine to differentiate syphilitic from non-syphilitic serum.

They prepare a 1 per cent. emulsion of lecithine in isotonic salt-solution; 0.2 C. C. of the suspension is introduced in a small test-tube, and 1 C. C. of 1.5 diluted serum is added. The tube is placed in a temperature of 37 degrees C. for a few hours; if the serum is syphilistic a characteristic precipitate will be seen.

Noble, Artz, Landsteiner and others use a 1 per cent. sodium glycocholate solution.

Klansner's method:

Klansner says that if syphilitic serum is added to distilled water, the mixture will be cloudy, whereas the mixture of normal serum and distilled water remains clear.

This reaction has not been confirmed yet.

Schürmann's color reaction:

Schürmann takes 0.1 C. C. of serum from a syphilitic patient and adds normal salt solution to bring the quantity to 3 C. C.

To this he adds one drop of perhydrol as an oxidizer; of the reagent, which must be freshly made in the following manner:

0.5 phenol.

0.62 of 5 per cent. iron chloride solution.

34.5 C. C. ag. distill.

He takes 0.5 C. C. which is added slowly to the serum-mixture; if the serum is one of a syphilitic patient a dark brown color will appear at the junction of the two liquids, and on shaking the mixture appears very thick. If the serum comes from a non-syphilitic patient a slightly green ring will appear at the junction of the two liquids, and on shaking will disappear and the mixture will be clear and transparent.

This reaction takes place one or two minutes after adding the reagent; if any change of color occurs later it is of no significance.

Schürmann controlled all these tests with the Wassermann reaction.

(*Deutsche Med. Woch.*, April 22, 1907.)

Clinical value of the Wassermann reaction:

The only confusion in the positive diagnosis of syphilis after the use of the W. test, would be scarlet fever, and sleeping disease. As the latter is practically unknown here, and the former can be easily diagnosed with its clinical symptoms, we may almost always be certain that in the positive tests syphilis is present. As far as the value of the other tests is concerned, we must wait until the results of their originators will be corroborated by the results of others.

Neisser, Levaditi and others say, that if we find the antibodies in human serum it is certain that the individual has had syphilis and still has syphilis. On the other hand, if the reaction is negative, we must not exclude the possibility of a former infection.

Ledermann reports 550 cases which were tested with the Wassermann reaction.

The reaction was positive:

In 81 per cent. of the patients in the latent stage when they had not taken treatment.

In 74 per cent. of the patients, who had one or two courses of mercury.

In 47 of the patients who had taken four or more courses.

In 100 per cent. of hereditary syphilis.

In 100 per cent. of general paralysis.

(Medic. Klin., March 20, 1909).

Blaschko reports the reaction in 1,000 cases with the following results:

In 30 per cent. the reaction was negative although the diagnosis of syphilis could be clinically made; these cases were mostly tabes dorsalis and syphilitic diseases of the bones.

In 90 per cent. of his cases, in whom a strong positive reaction was observed, the reaction became weaker or disappeared after vigorous anti-syphilitic treatment.

(*Deutsche Med. Woch.*, March 11, 1907.)

Lesser reports 2,000 cases.

The reaction was positive: In 69 per cent. of cases showing the primary lesions only; in 91 per cent. of early period with secondary symptoms; in 67 per cent. of the same period without symptoms; in 90 per cent. of the tertiary stage with symptoms; in 46 per cent. of this stage without symptoms; in 56 per cent. of cases of tabes dorsalis; in 100 per cent. of general paralysis.

The conclusion to be drawn from the reports of these three authors and of many others, are: that general paralysis is due to syphilis, and that the syphilitic injection has not been conquered. As far as tabes dorsalis is concerned, the absence of the reaction shows that the active syphilis is overcome in spite of the fact that the anatomical changes in the cord remain.

The positive reaction may be made to disappear by an energetic anti-syphilitic treatment, and this fact, according to Lesser, speaks for the conclusion that such reaction indicates that syphilis exists, and calls for specific treatment.

The practical value of the Wassermann reaction can consequently not be overestimated.

We can make a positive diagnosis of syphilis in cases where the disease is ignored, denied or forgotten; in cases or hereditary syphilis.

We probably have a criterion to prove that the last spirochæta pullida in a given patient is dead; we can begin treatment or suspend treatment according to the results of the reaction.

In selecting wet-nurses and other persons who take care of our infants, we have a means of preventing great calamities.

We can give the peace of mind to the unfor-

tunate syphilophobes, who wander from physician to physician to seek relief for their imaginary troubles.

In cases of repeated miscarriages and stillbirths, the family physician has a means to decide whether he or she, or both have to follow an antiluetic treatment.

In many cases already physicians were put on the track of tertiary syphilis, although at first a diagnosis of malignant tumor was made.

In the preparation of this paper I have consulted and borrowed freely from the following text-books and periodicals:

Keyes' Syphilis.
*Berl. klin. Wochenschr.*, 08, p. 731.
*Annales de L'Institut Pasteur*, October, 1907.
*Munch. Med. Woch.*, December, 1908.
*Tydschr. voor geneesk, Eerste Helft*, Nov. 10, 1908.
*Annales des Maladies veniriennes*, 1908.
*Deutsche Med. Wochenschr.*, March 4, March 11, April 8 and 22, 1909.
*Medis. Klink.*, Vol. 12, 419-756.
*Annales de L'Institut Pasteur.*
*Dermatol. Zeitschr.*, 1908, xv. 113.

## CERTAIN DISEASES OF THE EYE WHICH THE GENERAL PRACTITIONER SHOULD KNOW.*

By F. H. KOYLE,
HORNELL, N. Y.

*Mr. President and Gentlemen*:

THAT the thorough study of the whole body is a necessary preliminary to the specialization of one of its parts is a truth which no one may venture to gainsay. The interdependence of the various parts of the body through its vascular and nervous systems precludes the idea that any organ may be locally treated without the intelligent exhibition of rational therapeutics directed to the upbuilding of the body in all its parts.

To ignore this principle is to precipitate disaster; at least it serves to nullify one's efforts to promote rapid recovery, even in those cases the diagnosis of which we are not in doubt. In the study, however, of the manifold diseases of the human body, it has been found impossible for any one man to thoroughly master the knowledge necessary to the highest efficiency in the treatment of all its diseases. But as our knowledge has broadened and increased, and it has been found that the study and practice of any one branch of medicine is a sufficient tax on the time and energy of most men, a subdivision of labor has been necessary in order that our knowledge and efficiency may be still further broadened, and increased. The evolution of the specialist is therefore the necessary corollary to human progress along medical and surgical lines. Of what avail, however, is the specialist or his specialty if he has not laid a proper foundation, and if he does not keep in touch with the wonderful progress being made by the astute clinicians whose bedside studies, assisted by bacteriological research, have revealed to us so many of the mysteries of Nature. This amplification of his field of labor should not be thought a hardship. It should be his duty and his pleasure if he is to improve in his special field of diagnosis and treatment.

If these things may be told and said of the specialist, what shall be said of the general practitioner who prides himself on keeping abreast of the times but who, without shame, professes to know nothing or next to nothing about the eye? *Is* he keeping abreast of the times if he ignores general principles as applied to one of the most accessible organs of the human body? Diseases of the eye are universal; specialists congregate in the large towns. What is to become of our country friends in districts so remote that the family doctor can see them only once in two or three days? Some of them are crippled, or sick in other ways, and cannot travel. Others are too poor to pay even their traveling expenses if urged to consult an ophthalmologist. Shall the family physician not administer timely aid in such cases and thus save many eyes otherwise doomed to greatly impaired vision, perhaps destruction? It may be said in all truth that he does the best he can, but does he do the best he ought? Sometimes he hews closer to the line than he knows when he insists on thorough sterilization of the eye and leaves the rest to Nature. For, as is well known, injudicious meddling is often more harmful to a diseased eye than a severe letting-alone would be, provided the physician devotes care and attention to those details which make far greater resistance on the part of his patient. In these cases good food, properly cooked and thoroughly masticated, fresh air, rest, and attention to elimination will be of the greatest assistance. For example, take ulcer of the cornea. It must be determined, in general terms, whether the ulcer is the result of an injury or whether it is a symptom, a local manifestation of an unhealthy state of the system. If an injury, and on the cornea of a healthy person, it can probably be cured by local treatment. If not an injury, and on the cornea of an unhealthy person, bacterial toxins will be formed in the blood and tissues of the body and cannot be eliminated or overcome by antibodies until general is added to the local treatment. In this connection it may not be amiss to suggest the propriety of thoroughly washing out the nose with a mild antiseptic several times daily, no matter what the origin of the ulcer may be. It is not the author's purpose, however, to enter upon a detailed description of the source and treatment of the easily recognizable diseases of the eye. He would suggest the purchase of Haab's External Diseases of the Eye, one of Saunder's Medical Hand Atlases, a low-priced

* Read before the Seventh District Branch of the Medical Society of the State of New York at Hornell, N. Y., September 16, 1909.

book, thoroughly illustrated, by any physician who desires to equip himself with a good working knowledge of those diseases, among others, to which your further attention is invited.

Of course the simplest and most common eye disease we have to treat is conjunctivitis. But what kind of a conjunctivitis is it, and how do we know it to be this and nothing else. Both iritis and scleritis cause redness of the white of the eye. So does conjunctivitis. A very ordinary knowledge of ophthalmology and a little care in studying the clinical manifestations will enable us to make the differential diagnosis. It is especially important that a correct diagnosis be made in case of iritis for here we have a disease which in a very large percentage of the cases is caused either by syphilis or rheumatism, both of which conditions can probably be better treated by the family physician than by the specialist. Scleritis and episcleritis, being mostly seen in people of rheumatic diathesis should be early recognized in order that constitutional treatment may be begun at once. It must not be forgotten, however, that tuberculosis and syphilis are predisposing causes of these diseases. Keratitis, or inflammation of the cornea, is a most important disease and is of several varieties—viz., eczematous or phlyctenular, fascicular, marginal, neuroparalytic, parenchymatous, or interstitial, sclerotizing and scrofulous. It would be useless at this time to enter upon a detailed description of each of these varieties of keratitis, for to do so would consume more time than is permissible. It is enough for me to say that each has its own cause and treatment, the diagnosis being the essential factor in the successful handling of the case. By preference, it would be well to have counsel in all cases of keratitis, both to reinforce your own opinion and to secure advice as to the rhinopharyngeal disease which always accompanies them. One of the diseases of the eye with which every physician should familiarize himself is glancoma. In general terms it is a hardening of the eyeball. Violent pain in the eye, accompanied by more or less rapid loss of vision should at once suggest the propriety of taking the tension of the eyeball as well as making an exhaustive examination, subjective and objective, to determine the presence or absence of this dread disease. If the cornea is found hazy, the pupil more or less dilated, a greenish reflex in the depths of the pupil, a shallow anterior chamber and an increased tension, there can be little question as to the character of the trouble or what to do for it.

The author trusts that in giving expression to the foregoing ideas he will not be thought to be indulging in captious criticism. When we stop to consider the enormous amount of work being done at present by the various organizations in the prevention and cure of tuberculosis we cannot but be struck by the growing altruism of the age. Shall we not and can we not be equally altruistic as individuals?

## INJURY TO THE EYES FROM EXPOSURE TO INTENSE LIGHT OF SHORT WAVE LENGTH.

By W. T. MILLER, M.D.

SCHENECTADY, N. Y.

THE worker and experimenter with the various forms of electrical lights, wireless telegraphy and other forms of electrical apparatus is frequently exposed to intense light.

White light, as we know, is made up of the colors of the spectrum red, orange, yellow, green, blue, indigo and violet, which are waves of ether of different lengths, becoming shorter from red to violet. On the ultra side of the red are waves that are longer, which cannot be seen, but which produce heat and which we call heat rays. On the ultra side of the violet are still shorter waves which, although the eye cannot distinguish them, produce chemical action. They have the power of acting upon the photographic plate. This power is also possessed by the violet, indigo and blue rays in decreasing rate as we advance into to the spectrum from the violet side. The modern lights contain shorter waves than the old oil lamps of our fathers. Violet and ultra-violet rays when intense produce an injury to the eyes different from other forms of burn.

Beginning in the blue and becoming more injurious in the violet and ultra violet for one or two octaves beyond the violet are rays which seem to have a specific effect upon the eye, which is probably of a chemical nature and which is very destructive. A few moments exposure to these rays even of a moderate intensity may produce an inflammation of the eyes, the after effects of which may last for years. Effects produced by the ultra-violet are not at all like the high power radiation burn from short circuits, explosions, etc. After the acute symptoms have disappeared in ultra-violet burn there remains an inability of, or difficulty in fixing the eye upon any given object and reading becomes impossible, especially by artificial light.

The idea has been advanced that the macula lutea and fovea centralis are injured and so become quickly fatigued upon using the eyes, causing blurring of the vision. It seems more probable that the injury is not so much to the central part of the retina as to the ciliary body and muscle.

The lens of the eye would protect that part of the retina much the same as a glass would, for a glass of moderate thickness is capable of absorbing the ultra-violet rays, rendering them harmless. The ultra-violet rays could enter the scleral coat just outside of the lens directly upon the ciliary body and would penetrate the sclera as easily as the cornea. The ciliary body being injured, the muscle could not focus the object upon the retina, thus accounting for the blurring

of vision. The ultra-violet rays cause very little, if any, evidence of external inflammation. The symptoms do not appear at once, but after some hours, while in power burn the symptoms appear immediately. Recovery is slow, often taking months or years, and the eye may remain permanently sensitive to waves of short length.

The symptoms which appear after a few hours are deep seated, pain in the eyes, or even back of them, a difficulty in focusing the eyes upon any given object. The pain and headache yield very slowly to treatment and for weeks or months the effort of accommodation is not successful, and vision is blured, and the letters of print run together and deep seated pain follows the attempt to use the eyes.

After weeks or months these symptoms gradually improve, but inability to read by artificial light lasts the longest. Complete recovery sometimes takes years, and relapses are liable to occur from over-using the eyes, especially if light of short wave length used. The eyes are liable to remain permanently sensitive to short wave light, like the mercury arc, which to a normal eye is harmless.

A chronic form of the disease is to be found among those who work with unprotected arcs or with wireless telegraphy, the symptoms of this form are, occasional headaches located back of the eyes, which occur with increasing severity and frequency, followed by blurring of the vision and it becomes more and more difficult to focus the eyes upon any given object, until the patient is obliged to give up the work that exposes him to the ultra-violet rays, when, if the trouble has not gone to far, recovery will gradually take place.

Both power burn and ultra-violet ray burn may occur at the same exposure where the rays are mixed. Exposure to a carbon arc without a glass globe enclosing it may produce both forms of burn, such a light containing large amounts of high power radiation yellow and orange color, and also considerable ultra-violet rays.

In mixed ray burns the symptoms of power burn begin at once, sometimes with temporary blindness. There are severe pains in the face and eyes, the conjunctiva looks red and congested. There is copious lacrimation and photophobia. If not to severe, the symptoms will yield quickly to treatment. Some hours later the symptoms of ultra-violet ray burn begin by deep-seated pain in, or back of the eyes, and the usual symptoms of short wave burn, from which recovery is slow.

Glass is not quite opaque for the long ultra-violet rays nearest the visible violet, but for the shorter ones even a thin sheet of glass is opaque. For this reason arc lights enclosed in glass globes are harmless.

## THE REPORT OF A CASE OF AMOEBIC DYSENTERY.*

By H. W. CAREY, A.B., M.D.
TROY, N. Y.

WHILE amœbic dysentery is a fairly common disease in the sea-ports, particularly in the southern part of this country, it is very rarely met with in the north-eastern part of New York. So far as I have been able to determine only one other such case has been reported from the upper Hudson district, the one reported by Ward in the January number of the *Albany Medical Annals* for 1903.

The patient, Mr. T. A., was brought to me by his attending physician, Dr. R. G. Edmans, of Troy, for examination for pernicious anæmia. The following is a brief history of the case.

Mr. T. A.; admitted to the Samaritan Hospital, Troy, June 23, 1909; age, 31; occupation, butcher.

*Complaints*—Diarrhœa, pain in the abdomen and shortness of breath.

*Family History*—Unimportant.

*Past History*—Has had the usual diseases of childhood, but no serious illness, such as pneumonia, typhoid, rheumatic fever or pleurisy. He has been an excessive smoker and a moderate drinker. He gives no history of lues. His top weight is 165 pounds, but at present weighs 126 pounds.

At the onset of his illness he was serving in the regular army in the Philippines, in the 29th Infantry, and received his discharge in 1901.

*Present Illness*—He was taken sick in 1901, in Dumanjug, Cebu, P. I. It began gradually with a diarrhœa, present one day and absent the next. After a few days he averaged 40 to 50 stools a day. At first he noticed no blood or mucus in the stools. He was admitted to the hospital at Dumanjug and treated with large doses of Ipecac. During his stay of five months in the hospital he improved somewhat, but evidently was not cured as he was sent to San Francisco and discharged.

Since his return to Troy, in 1901, he has had a continuous dysentery, averaging 10 to 20 stools a day. During this period he has been under a large variety of treatments but does not recollect that the stools have ever been examined or that any positive diagnosis of amœbic infection has been made. Periods of improvement have been followed by relapses until at present the abdominal pain and tenesmus is extreme and he is hardly able to walk.

*Physical Examination*—A poorly nourished and emaciated young man of medium height. Expression anxious. The lips, conjunctivæ and finger tips appear almost bloodless. The pupils

* Read before the Third District Branch of the Medical Society of the State of New York at Hudson, N. Y., October 5, 1909.

are equal and slightly dilated. The cranial nerves are intact and the superficial and deep reflexes are normal.

*Lungs*—The chest is moderately emphysematous and a small area of diminishing resonance at the right apex front and back is found, over which the expiration is prolonged. No rales are heard after cough. Elsewhere the resonance and breath sounds are unchanged.

*Heart*—The area of superficial cardiac dullness is very small and entirely to the left of the sternum. The point of maximum impulse is not seen but can be felt in the fifth interspace 6 cm. to the right of the midsternal line. The sounds are all clear, but weak. No adventitious sounds are heard.

*Liver*—The dullness begins at the fifth rib in the midclavicular line and extends to the costal margin. The edge cannot be felt. There is only slight tenderness over the liver.

*Abdomen*—The superficial fat is completely atrophied. The shape is scaphoid. No peristalsis is seen. When palpated considerable tenderness is felt all along the colon. Aside from this nothing of note could be found in the abdomen.

*Stools*—Before entering the hospital the patient was instructed to bring a specimen of the stools for examination, but, while in two such specimens there was a large content of mucus and blood no motile amœbæ could be found. Subsequently a soft rectal tube was introduced into the rectum and the mucus adherent to the eye of the tube was examined immediately. On warm slides amoebæ in plenty were found actively motile and moving across the field. No other form of intestinal parasite was found and no ova.

The treatment consisted of putting the patient at rest in bed, a milk diet and colonic irrigations of normal salt solution, quinine sulphate and crude oil, after the method suggested by Hanes. The irrigations were given in the knee-chest position, first introducing the salt solution to cleanse the mucous membrane of the bowel and then using a liter of the quinine sulphate solution, beginning at 1-1500 and gradually increasing the strength up to 1-500. Upon this treatment the patient slowly began to improve, but after six weeks seemed to improve so slowly that the crude oil irrigations were substituted for the quinine. These were used for three weeks, beginning with 8 ounces of the oil to a quart of soap-suds and increasing the oil up to 12 ounces to the quart. While the oil seemed easier to be retained, it nauseated the patient so much that it had to be discontinued and the quinine resumed.

Since the resumption of the quinine the patient's condition has rapidly improved, until at the present time the stools are solid, contain no blood or mucus and average one a day. The salt irrigation is generally returned free of mucus, although occasionally some has been found. Examination of the mucus recently has shown no amœbæ.

The general condition has shown a marked improvement, his weight has increased 16 pounds. The temperature present on admission has been normal since the first week. The blood picture has shown a similar improvement; on admission the hæmoglobin was 80 per cent. and red blood cells 4,500,000, at present the hæmoglobin is 90 per cent. and the red blood cells 6,050,000. He will be discharged within the next few weeks symptomatically cured unless some unforeseen occurrence makes this unwise.

As I stated in the preface to this report, this is the second case of amoebic dysentery reported from this section of the State. Both cases were imported from the Philippines.

Although no endemic cases have so far been discovered in this district, the occurrence of such cases in Buffalo (reported by Stockton) and New York, (reported by Patterson), makes it more than probable that they exist. In one of Patterson's cases the infection apparently came from drinking the river water in the neighborhood of Fishkill.

The opinion generally held that amoebic infection is limited to the tropics and southern states of this country, is changing as the distribution of the disease is becoming better understood. In the cases collected by Patterson it was found that endemic infections had been found in most of the New England and Middle Western States.

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## OBSERVATIONS ON THE STUDY OF THE PERITONEUM.*

By T. L. DEAVOR, M.D.

THE peritoneum is the largest of all the serous membranes, about equal in extent to the entire surface of the body. In delicacy of construction it surpasses the rest, being soft and lifelike in appearance, flexible and free to adapt itself to the various movements of the organs about which it is folded. It is also an extensile membrane. This is exemplified in the formation and descent of a hernial sack, in the serous covering of the pregnant uterus, and of certain large cystic tumors of the pelvic cavity. It is well supplied with sympathetic, and partially with spinal, nerve fibres, and highly nourished by numerous small blood vessels, which do not bleed profusely when divided. It is prompt to

* Read before the Syracuse Academy of Medicine at Syracuse, May 1, 1906.

resent infection, and rapid in its power of absorption. Stimulation of the peritoneum as by operative procedure, or from perforation of a typhoid ulcer, increases blood pressure, and the pulse often becomes hard and wiry. Long continued irritation from handling the abdominal contents during cœliotomy, acts as a profound shock to the nervous system, and is followed by a rapid small pulse and lowered blood pressure.

For obvious reasons one is necessarily hindered in the study of the peritoneum during life, and although dissection is made immediately after death, many of the living qualities of this membrane will be found to have vanished. The peritoneum of the dissecting room is retracted and thinner than normal, and the subserous layer is compressed and sometimes hard to demonstrate. The abdominal organs are more fixed and do not possess the natural pliability. The calibre of the intestines, especially the descending colon, is often unusually small, and an appendix that previously projected over the pelvic brim, might now from contraction be drawn toward or into one of the pericæcal fossæ. The notch on the anterior border of the spleen is quite frequently absent, and the contour of the stomach does not always agree with the standard anatomical descriptions, that of the infantile variety being often an exact counterpart of the adult stomach figured in modern text-books of surgery. Exact knowledge of gross anatomy, therefore, greatly concerns the surgeon, who finds ample opportunity in abdominal work to test his power of differential diagnosis, by the sense of sight and of touch. And by this knowledge he acquires a feeling of security as to the nature of that which is appreciated through an exploratory incision.

In this paper, which covers about 200 observations, the various organs of the abdominal and pelvic cavities are considered together with the peritoneal membrane, since the relation between the two is everywhere quite intimate. Some of the observations here recorded were made on the living body, but the remainder have been collected during the dissection of male and female fœteses, infants, adults and aged subjects, the history of which, unfortunately, could rarely if ever be obtained. Many of the abnormalities are anomalies of congenital origin, while others are plainly the result of antecedent disease. For some reason it was not my good fortune to observe the peritoneal relations of a large number of bodies that, during life, had been subjected to laparotomy.

In a general way it may be stated that the peritoneum of each colored subject examined presented some variation from the normal. Three of these are worthy of a brief description. One was a shortened small intestine, measuring 10 feet 11 inches congenital in origin, natural in calibre and in appearance, and not associated with any other abnormality. I have not been able to find a similar record in literature. The other two were pathological. The first consisted of a volvulus of the transverse colon, five inches from its termination, due to an upward twisting of the gut, with consequent distortion and displacement of the great omentum, marked dilatation of the proximal portion of the transverse colon with secondary narrowing and contraction of the descending colon, including also the sigmoid flexure. A second saccule was found just beyond the point of constriction, after which abrupt narrowing of the descending colon began. So complete was the obstruction that it was almost impossible to distend the intestine with air or water for the purpose of demonstration. The dilated portion of the transverse colon had long rested far above its normal position against the anterior surface of the liver upon which it had made a permanent large impression. The liver was also compressed and crowded backward and to the left against the spleen. The re-arrangement of organs thus made, had caused a folding together of the descending portion of the great omentum between the liver and the stomach, carrying the latter organ downward and to the left, producing a gastro-splenoptosis with a marked sacculation of the fundus of the stomach, which extended into the left lumbar region to a point below the level of the umbilicus. In the region of the hepatic flexure of the colon, the misshapen omentum had formed two peritoneal pouches, two inches deep and as much in diameter, into which a loop of small intestine might readily have become strangulated. The subject, a male, was well nourished and had died as the result of a railroad injury.

The second pathological entity, or third in the colored series, a female subject, was one of universal adhesion between the small and large intestines, and between the intestines and the abdominal wall, presenting the appearance of a complex network of tubing, crossed and recrossed, and occupying every portion of available space within the peritoneal cavity. So unusually extensive and widespread were the adhesions that incisions through the abdominal wall, made anywhere or in any direction, resulted only in opening the tortuous intestinal tract, which baffled every possible attempt to determine its real course. The body was extremely emaciated. Imagine the difficulties surrounding the diagnosis of these two conditions, and the latter more especially, even with the aid of exploratory incision.

It is not enough to remember that in infants and children the liver and spleen are proportionally large, but that the area of dullness of these two organs may be continuous across the upper abdomen, slightly above a line extending downward and to the right through the umbilicus. The sigmoid flexure in the child is long and large and occupies an extensive area in the pelvis and abdomen, so that tympany in the hypogastric and iliac regions is due to distension of the sigmoid

flexure rather than the small intestine. On the other hand, the jejunum, for a time at least, is as large as the colon. And while the entire small intestine appears to be unusually long, it is confined to the center of the abdomen by a short mesentery, and may be grasped in the hand like a bunch of grapes. The child's appendix is invariably found long and curled up like a figure "6," from shortness of the mesoappendix. If then the disproportion between the appendix and its mesentery continues into adult life, it contributes largely to the cause of partial or complete obstruction. When a young child is suspended by the shoulders, or inverted, or turned upon the side, the rotund abdomen does not change its shape as is true in the adult; partly from the pressure of a tense abdominal wall, but more particularly because the abdominal cavity is, so to speak, over-filled, having a large liver and spleen above, a capacious bladder and sigmoid flexure below, and a long, small intestine well fixed in the center.

Numerous folds of peritoneum varying from a half to three-fourths of an inch in width are sometimes found running from the colon to the parietal peritoneum, or to the liver, or from the broad ligament to the pelvic brim, subdividing the general peritoneal space in these regions. These bands often serve a valuable purpose, and even help to save life, by acting as a barrier to the spread of infection. This is nicely exemplified in the case of a perforation of the duodenum, when the exudate if unhindered may find its way into the ileo colic space. In addition to this, each extra fold helps to more firmly fix the abdominal and pelvic organs and so prevent visceral ptosis. We have been able once to demonstrate the rare appendiculo ovarian ligament, a slip of peritoneum extending from the appendix to a point on the broad ligament near the fimbriated extremity of the fallopian tube. Traction on the broad ligament or the appendix is necessary to reveal the presence of this fold, and it will then be found to pass to some part of the appendix or its mesentery or both, giving attachment on its way to the parietal peritoneum along the pelvic brim. When it does exist, it is distinct and need not be confused with the numerous smaller folds which have a very indirect communication, if any, with the vermiform process. It is supposed to cause reflex symptoms of appendicitis during the menstrual period, but probably not through transmission of infection.

Occasionally the last eight inches of the ileum instead of passing directly upward and to the right above the pelvic brim to join the cæcum, is found to have a very narrow mesentery which is attached below the brim, coursing through the pelvic cavity. In such an instance, the pus from an appendicular abscess would strongly tend to gravitate into the pelvis, where its presence could be appreciated by vaginal or rectal palpation. Repeated dissections reveal conditions that are always new and quite interesting, especially about the ileo cæcal region. The appendix may be very short, club-shaped or contorted, so that its own mesentery, together with adhesive bands, divides the ileo cæcal and subcæcal fossæ into a labyrinth of spaces, any one of which might elude the most skillful search for purulent exudations.

Riedel's lobe of the liver was found once, and consisted of a large wedge-shaped piece of normal liver tissue, about four inches in length, extending downward from the right lobe of the liver to the crest of the ileum. When present it is a most interesting feature, since dulness in this region associated with abdominal pain would suggest a renal tumor or disease of the biliary passages. However, Riedel's lobe would constitute a painless mass, continuous with the liver, rather too far to the right for a distended gall bladder, and having the tympanic colon posterior to it. In two instances the gall bladder possessed a distinct mesentery, and in two instances the foramen of Winslow was found absent or completely closed. Adhesions between the diaphragm and the liver, and between the posterior surface of the stomach and the floor of the lesser cavity were found in several bodies. A point which might help to explain the cause of pain in the hypochondriac and epigastric regions, when other more severe lesions can be excluded.

Hour glass stomach was twice in evidence, one being a typical case. No other abnormality was associated. This was undoubtedly a congenital condition, since careful examination of the stomach wall failed to reveal any trace of former disease. Meckel's diverticulum was seen twice. The origin was at, or near the free border of the ileum, about thirty inches from its termination. Each one consisted of a non-adherent flask-like pouch, two inches in length, having a constricted neck and a small, slender mesentery, carrying blood and nerve supply. One was a more valuable specimen than the other because it possessed a secondary saccule as large as a hazel nut. This also received a slip from the original mesentery. On one occasion the duodenum was found unusually large, both in calibre and extent, and reached to the promontory of the sacrum. From this and numerous other observations, I am inclined to believe that we should consider the duodenum as holding a much lower position in the abdominal cavity than is usually supposed. A congenital diverticulum of the duodenum was discovered, and it occupied the usual site, next to the head of the pancreas. This is to be distinguished from a similar condition due to ulceration by the normal appearance of the gut the presence of all its coats and the absence of induration and scar tissue.

Solitary kidney was revealed once in a male subject. There was a complete absence of both kidney and ureter, there being but one ureteral orifice in the bladder wall, though the trigone was apparently normal. Nothing in the life history of the patient existed to indicate this most

important anomaly. Double renal artery was found once on the right side; and once on the left side, a superior renal artery passed to the kidney. Several small supernumary spleens could be demonstrated in one body. They were located in the gastro splenic omentum. Two other anoamlies remain to be mentioned. They are cleft pelvis of the ureter and tortuous ureter in its pelvic portion. The former condition should be remembered as one likely to invite the formation of a calculus, which, if it occupied but one of the pouches might give rise to all the other symptoms of a nephro lithiasis without producing obstruction. The latter should be looked upon as a cause of hydro ureter, or as an impediment to the passage into the bladder of a stone which would easily clear the abdominal portion of the tube.

There was a time when the peritoneal cavity was a wilderness to the surgeon. Only a few years ago the first appendix was removed. Quite recently the stomach, liver, and its excretory apparatus have been dealt with in a marvelous way. Transplantation of organs, notably the kidney, is a procedure that has gained vantage ground. Partial excision of the bladder for inveterate cases of cystitis has been accomplished with hopeful results. The multitude of people who are going about with but one kidney, or without the gall bladder, or appendix, or with a shortened intestine, or an abbreviated set of internal generative organs, proclaim the wonderful advance made in antisepsis and in surgical technique.

## MYELOCYTOSIS

### REPLY TO DR. HENRY GOODWIN WEBSTER.

By A. L. BENEDICT, M.D.
BUFFALO, N. Y.

NOT for the sake of controversy but because Dr. Webster's syphilitic case with marked and rapidly declining myelocytosis is exceedingly interesting and may give a clue of great value both theoretically and in the clinical observation and treatment of disorders of the leucocytes generally, I venture to reply to his reply.

From the title and text of his article in the June issue, I certainly understood that he considered the case as leukæmic but his reply in the November issue shows that we are in accordance on this point.

There is a dearth of well tabulated knowledge as to the leucocytic changes, absolute and relative, characteristic of various diseases. So far as I know, syphilis is not an etiologic factor in the production of leukæmia although, of course, it may be included in the past history. Nor is an increase of myelocytes characteristic of syphilis. My practice does not include syphilis as a principal diagnosis but many chronic digestive diseases are complicated, in one way or another, with syphilis, occurring in about the same latent, neglected form, as is instanced in Dr. Webster's case. Yet I have never found any comparable blood picture, even when the spleen and lymph nodes are enlarged, as they usually are, to some extent, in syphilitic cases of this grade.

As to the existence of myelocytosis, I want to be courteous and at the same time entirely frank. Personally, I am quite unable to classify every cell in the microscopic field, as some fail to take the stain perfectly or, otherwise, do not present characteristic appearances. Thus, without questioning the accuracy of the observation, any such report has a dangerous tendency in leading to the collation of similar reports by men intermediate between those competent to differentiate the white cells with great accuracy and those like myself who know that they do not know enough to do so.

Of course, when a blood contains even a small percentage of myelocytes, enough are present in a slide so that any observer of fair experience can detect most of them. A percentage of 16, suggests leukæmia. But a reduction to 4 per cent. in 4 days and to 2.1 per cent. in 4 days more and then an absence for a year, with only two X-ray exposures and medication of a routine nature, is radically diffierent from the course of leukæmia even as noted in some favorable reports of Roentgen treatment.

So far as I am aware, a functional myelocytosis or a marked myelocytosis outside of leukæmia. or a myelocytosis rapidly and permanently disappearing either as the result of treatment or by "good luck," as Dr. Webster too modestly says, is something unprecedented. I should certainly not believe my own eyes if the case were my own, but I am open to conviction, and perfectly willing to admit that Dr. Webster's case may prove to be a landmark in hæmatology. The problem involved is too important to allow a false sense of courtesy to withhold criticism and, at the same time, I hope that Dr. Webster will overcome me in the unpleasant role of Devil's advocate.

## REPORT OF A CASE OF SCARLET FEVER IN COUNTRY PRACTICE.*

By J. J. MONTGOMERY, M.D.,
LUZERNE, N. Y.

THE following report is not intended to present anything new in either diagnosis, prognosis, or treatment; but it is presented with the idea of discussing what was, to the writer, a very interesting and severe type of that very common, yet much-to-be-dreaded exanthemata—scarlet fever.

No pretention has been made to elaborate clinical data, nor to scientific detail, but only

* Read before the Medical Society of the County of Warren, Glens Falls, July 14, 1909.

such facts as have been preserved from record and memory are presented.

On or about February 1, 1905, a woman was called from her own home in a back country district, to a neighboring town to nurse her two oldest daughters, who were in attendance in high school, and who were ill with scarlet fever.

After only a partial convalescence of the daughters, the health authorities of that place allowed the mother to return to her home, without having taken the necessary precautions to prevent the conveying of the disease to her two younger children. Both these children promptly took the disease and were violently ill.

On February 13th I was called to treat these children. Upon arrival at the house, a distance of about eleven miles, and upon careful examination of Peter B., aged 11, and Josephine B., aged 9, I found I had two severe cases of scarlet fever to deal with.

The eleven year old boy went through the different stages of the disease without complications, and serious symptoms worthy of comment.

With the nine year old girl, however, matters were different. In spite of all treatment with antiseptic sprays and gargles, this child's throat assumed the exact picture of severe diphtheritic conditions with typical deposits on the fauces and tonsils.

The day following was the 16th, when 3,000 units of diphtheria antitoxin were injected beneath the skin, below the clavicle. The next day some considerable improvement of the throat symptoms was evident, and 4,000 units of antitoxin were injected. The day following the condition of the throat was so markedly improved that no more antitoxin was deemed necessary.

In the meantime, and from February 16th to 18th, one ear had begun to discharge pus, and the patient complained of "ear-ache" and there was bulging of the tympanic membrane of the opposite side. A crucial incision in this ear drum was followed by a discharge of pus.

The ears were frequently syringed with antiseptic solutions, alternating between a saturated solution of boric acid and bi-chloride of mercury, of the strength of 1.4000. The throat was sprayed with hydrogen peroxide, antiseptic gargles were used, and all possible precautions were taken.

The pulse remained more than 120 beats per minute and the temperature ranged from 102 to 105 degrees F. from day to day, showing other threatened complications.

On and about February 24th to 26th, the child cried with pain in one arm, and there was stiffness of the muscles with redness and swelling, very strongly simulating rheumatism.

The arm was carefully wrapped in dry sheet wadding and covered with oiled muslin. In the course of the next three or four days a large abscess formed on the dorsal aspect of the hand, near the wrist joint, and although the abscess was opened, drained and dressed antiseptically, pus seemed to find its way past the posterior annular ligaments of the wrist, and several ugly abscesses formed, both on the forearm and hand.

In due time these abscesses were subdued but left considerable stiffness and contracture of the muscles and fixation of the extensor tendons. Thorough passive motion, however, restored the hand to unimpaired usefulness.

The ears, not seeming to want to be outdone in pernicious activity, continued to discharge large quantities of pus, and cause the child pain. Although I saw the child on an average of every two days from the first, and every known thing done to prevent it, mastoiditis and mastoid abscess formed on the right side.

I urged the parents to have the child removed to a hospital, where surgical and other treatment could be properly applied and carried out.

On April 18th I accompanied the child to a hospital, where I assisted a skillful surgeon in opening a large, bulging abscess in the right mastoid region. Considerable quantities of pus and broken down tissue were removed at this operation, but not all of the necrosed bone was removed.

About four days thereafter I received a message by telephone from the surgeon now in charge of this case, stating that the left mastoid region had developed very similar conditions to that of the right side, and that an operation was imperative.

As the little patient had been placed in my charge by the parents, to do for as I thought best, I advised in favor of the operation, and which was immediately done.

On May 4th the patient left the hospital and remained with a relative three miles out, instead of eleven miles, the distance to her own home. She appeared at my office on alternate days during the remainder of May and all of June for the cleansing and dressing of the wounds.

No amount of antiseptic washes and dressings seemed to arrest or lessen the amount of suppuration and discharge from these abscess cavities. I was more or less discouraged, but was consoled by the advice of a prominent surgeon, who told me I would still be dressing these wounds six months from that time.

There seemed to be considerable necrosed bone and I informed the parents of the child that I deemed another operation advisable and necessary, and advised again to take the child to a hospital. To this proposition they strongly protested, in fact, almost flatly refused, and urged me to do all necessary operations myself.

Summoning all my surgical courage into activity and mustering into service my wife as first assistant, and the child's father to look after the child, who was already anesthetized, I rapidly made a crucial incision, enlarging the old wound on the right side to the desired dimensions.

Using a pair of bayonet sequestrum forceps for the bony parts, and a sharp rinsing curette for the soft parts, I removed every portion of necrosed tissue in sight, including a large seques-

trum, measuring about five-eights inch by one inch, which had (partially) exfoliated from the mastoid portion of the temporal bone. Attached to this sequestrum was the cochlea, with its spiral canal. What was supposed to be the remains of the ossicles were curetted away and the cavity cleansed and carefully packed with iodoform gauze, rinsed in sterile water. This packing was left in situ five days.

The results of this operation were much beyond my expectation. No more pus was exuded, but instead there was a roomy cavity with healthy granular walls, which soon filled in, though leaving the outward cup-shaped depression seen after what is called the "Radical operation."

The left side, seemingly not wishing to be outdone in any way by the right, had steadily refused to be benefited by any treatment, and, according to the demands in the case and, encouraged by the success in treating the opposing side, on August 28th, a very similar operation was done on the left side and with similar results.

Without going into details, I will only state that not such extensive destruction of tissue prevailed on this side as had been found on the other, due largely, I believed to the early incisions into the tympanic membrane.

In conclusion I will state that no injury was done to the facial nerve of either side. The child was brought to me on an average of every three to five days up to October 22d, when both ears and the mastoid cavities seemed to be in quite satisfactory condition.

I saw the child last in April, 1909. The hearing is very badly impaired on the right side and slightly so on the left side.

There are few stories without their morals. There are some points in this report I wish to emphasize.

First.—That scarlet fever is, in itself a serious disease. That its complications are legion, many of which are frequently fatal to human life. That preventive measures are its best treatment. Had preventive medicine been carried out, and the health authorities of the place where the mother attended her older daughters, had done their whole duty, there would have been no report of this case. Much suffering and expense would have been prevented, as well as the permanent deafness in this young girl.

Second.—That I believe diphtheria antitoxin should be more often resorted to in scarlet fever where severe throat symptoms prevail, whether true diphtheria is present or not.

Third.—That country physicians are more or less handicapped in their treatment of severe cases of any disease, where the distance is as great as in the case reported, between the patient and physician. Therefore, the physician is sometimes unjustly criticised for seeming negligence.

Fourth.—Country physicians should be so prepared as to meet nearly any surgical emergency as well as medical cases of severe character.

## "ACUTE IODO-THYROID TOXAEMIA."

By F. S. STANNARD, M.D.

TROY, N. Y.

MISS N. D., age 26, had an interstitial thyroid or bronchocele, first noticed at the age of sixteen which gradually grew to a large size, causing a decided disfigurement. One sister, older than she, also had an enlarged thyroid, the family history is otherwise negative as regards her case.

About eleven months ago upon the advice of friends and against the advice of her physician, she decided to have this gland treated by injections to cure it. The procedure as near as I can make out, was to inject one and sometimes two hypodermic syringes full of an emulsion of equal parts of ether iodoform and olive oil, at other times the gland was aspirated and a reddish brown fluid withdrawn and then washed out with a solution of Seiler's tablets in water. Under this treatment the gland decreased markedly in size, but she, also, began to lose weight and twice after these treatments she said her mouth became sore and her teeth felt on springs. She, also, frequently after being treated was sick at her stomach and vomited for twenty-four hours following a treatment.

At about the end of ten months treatment, going twice or three times a week (and I wish to say that during the last two or three treatments no iodoform was used) the following train of symptoms occurred: She said that the aspiration of the gland at this treatment caused her intense pain and that what appeared to her to be a large quantity of dark blood was withdrawn and after the gland had been washed out she had a succession of chills. Proceeding to a car she was seized with nausea and vomiting, she was helped to her home, when remembering her former experiences she did not call a physician but waited with the hope of growing better. The next evening I was called in and found her without elevation of temperature, pulse 90, countenance anxious and pale, diarrhea, stool containing a considerable blood and vomiting of reddish brown mucous with great pain and tenderness over intestines. The tongue and mucous membranes of mouth were completely covered with little vesicles. There was a constant desire to move the bowels and urinate in small quantities. The thyroid was very hard, hot and red especially at seat of injection. She developed severe attacks of dyspnœa. The next day the dyspnœa and strangury increased and she began to menstruate profusely and spasmodically and had attacks of hiccoughs lasting for several hours at a time. Her breath was fetid and apparently every bit of the mucous membrane of her body were the seat of small ulcerations, from the tip of her tongue through the gastro-intestinal tract out on to the anus, the

later becoming quite large and causing intense suffering.

After three days of intermittent hiccoughing, her symptoms grew a little milder, the bloody diarrhea, vomiting and strangury still keeping up, but I now found a systolic endocardial murmur plainest over the aortic orifice and reflected to back. The body, arms, and face began to swell, but did not pit on pressure, nor was there any ascites, but the urine became very scanty and was passed only during attacks of strangury and so mixed with blood and fæcal matter I could not examine it. The pulse still never went over 96 and the temperature was only ½ degree above normal in the afternoon, and that for the first seven or eight days only. During this time she was mildly delirious, very anxious and depressed and suffered intense pain and tenderness over stomach and intestines and præcordium.

Upon the tenth day an erythema appeared over the thyroid gland rapidly extending over face, body, arms and legs, dark red and at first becoming white upon pressure and not raised. It soon became coalescent and extended into the deeper layers of the derma, not paling on pressure and beginning in seven or eight days to desquamate. This desquamation keeping up constantly for the next four weeks, every particle of skin on the whole body coming off repeatedly in some places in sheets three or four inches square, in others like bran. The parts in contact with the bed becoming very sore and painful. About this time the ulcerations of mucous membrane of mouth began to heal and hæmorrhagic exudations from the mucous membranes which were entirely denuded of epithelium occurred, the cardiac disturbance began to be marked, the pulse ranging from 110 to 140 and at times 180. The temperature ranging from 97.5 to 98.5. Urinary analysis on the eleventh day was as follows:

Specific gravity, 10.10; dark amber and slightly cloudy; slightly acid; no albumen; no sugar; no casta; some pus and blood cells.

On the fifteenth day the specific gravity was 10.15, on the twenty-fourth day the same but lighter color, on the twenty-seventh day: specific gravity, 10.05; acid and light straw color; trace albumen; pus cells; granular casts; quantity 20 ounces.

I was unable to find a practical test to detect iodine in urine as the starch test was not sufficiently delicate. On the thirty-third day urine was normal, albumen and casts absent, quantity four pints. Blood count on seventeenth day showed white 141,000, red 3,141,000, hæmoglobin 90, diminished coagulability. Differential count polynuclear, 78 per cent.; lymphocytes, 14 per cent.; large mononuclear, 6 per cent.; eosinophile, 2 per cent.; transitional cells, 2. One hundred and two cells counted. Between the thirtieth and fortieth days she had attacks of a fine trembling lasting from one-half hour to twenty-four hours in duration, occurring when asleep as well as when awake, and sufficient to shake the whole bed. About the thirty-fifth day the passages became normal and diarrhea stopped, but if she did not have at least one vomiting spell in twenty-four hours she would develop toxic attacks in which it was feared she would die, her pulse becoming small and so fast as to be uncountable. The ulcers on anus were relieved decidedly by a mixture of orthoform and bismuth dusted on. The conjunctival mucous membranes were affected with the rest, ulcerating, desquamating and exuding blood and pus from the denuded epithelial surface. The swelling of face, arms and trunk also disappeared and convalescence became established. An examination on the fiftieth day showed pulse 100 and endocardial murmur gone. Two weeks later her pulse dropped to 90. A cystic degeneration of the middle lobe has since taken place causing an abscess which opened in the median line and at the most dependent portion of the gland. The gland has become quite small and her health fairly good except for a stiffness of the knees and back which makes it very difficult to walk or get up after sitting. This has since disappeared.

In conclusion it seems to me that this condition resulted from a traumatism allowing an abnormal quantity of thyroid secretion to escape into the vascular system from what is normally a ductless gland and at a time when the system was at the extreme point of toleration from long continual use of iodides, and the interesting features are the marked trophic disturbances of the mucous membranes and skin, absence of disturbances to nervous system and temperature. In fact, all symptoms being apparently due to the trophic and toxic disturbances.

## SOME PERSONAL EXPERIENCE WITH DISEASES OF THE BREAST.*

By J. W. EDDY, M.D.
OSWEGO, N. Y.

I WAS taught in college when a women presented herself with a tumor of the breast that I must advise that she should have it removed at once, and it is good teaching, but sometimes the woman will not submit to operative interference, and then if it turns out that it is not malignant the surgeon is censured by every one that is interested in her and those that take pleasure in injuring a professional reputation.

In the first year of my practice a lady twenty-six years of age, unmarried, came to me with a tumor in her right breast which was nodular. The nipple was retracted and a sticky discharge oozed from it. I at once told

* Read before the Fifth District Branch of the Medical Society of the State of New York at Watertown, October 14, 1909.

her that the growth must be removed, or she would eventually die from cancer. A family consultation was held, and she went to New York and saw the late Frank Hamilton, who agreed with me that no time should be lost in its removal, and it must be done at once, as it was a cancer. On going back to her hotel she met a relative who was a friend of Dr. Gouley, so she was taken to Dr. Gouley's office and after several examinations, he said it was cystic disease, and that it was not malignant, and if let alone would not kill her. On her return home she informed me what Dr. Gouley had said, of course, I disagreed and told her Dr. Frank Hamilton was right and that Dr. Gouley was only a genito-urinary surgeon, and not a general surgeon, but she decided to let it alone.

After a few years it ruptured, discharged, and healed, and after thirty-four years she has no trouble with her breast and is enjoying perfect health. This breast was coarsely enlarged, indurated, and nodular, and there was a slight discharge from the nipple. On what grounds Dr. Gouley made up his mind that it was cystic disease I do not know, because it certainly had the appearance of carcinoma. Several times during my professional career I have made the same mistake, and it has turned out in about the same way, and I feel that it has not added to my glory.

When a surgeon advises operation, and he does so honestly, and the woman gets obstinate and will not have it done, and it does not turn out malignant it is anything but pleasant. I will cite just one more case; a patient of mine forty-four years of age discovered a lump in the left breast which in four months doubled in size; she also discovered three nodules about the size of hazel nuts, which greatly alarmed her so that she went to a surgeon in a neighboring city, and he at once pronounced it malignant and advised immediate operation, which she refused to have done. Then she went to another surgeon who advised her to allow him to puncture the breast with a trocar; she objected and came to me. I insisted that she allow me to make the puncture which she finally consented. I drew from the breast nine ounces of a dark chocolate colored fluid, and in four months the three nodules disappeared, and she has remained perfectly well ever since, and that was twelve years ago.

These above cases go to show that the physician should be guarded in his prognosis, and at the same time earnestly urge the removal of suspicious growths, but do not be too positive about it being malignant, because even though operations are believed in by the laity nowadays, and the woman that has not been operated upon may feel that she should be; we do find old fashioned creatures that do not believe in innovations, and when we tell them they will die, if they do not submit to operate interference, oftentimes we make a mistake which reflects on our skill.

In closing will say that cystic disease of the breast may have all the symptoms and outward appearances of malignant disease and a diagnosis cannot be made until it is submitted to the knife and microscope.

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# Medical Society of the State of New York.

104TH ANNUAL MEETING.

*Provisional Program.*

Provisional Program for the Scientific Meeting of the Medical Society of the State of New York, Albany, January 25th and 26th, 1910.

*Symposium on Appendicitis.*

Under the Auspices of the New York Surgical Society.

"Appendicitis in Children," Charles M. Dowd, New York.

"Masked Appendicitis," George E. Brewer, New York.

"Conditions Simulating Appendicitis," A. B. Johnson, New York.

"When to Operate in Appendicitis," Joseph A. Blake, New York.

"Deductions to be Made from 1,000 Hospital Cases," Clarence A. McWilliams, New York.

"Appendicitis," Roswell Park, Buffalo, N. Y.

*Symposium on the Heart.*

"Elements of Prognosis in Valvular Disease of the Heart," R. Abrahams, New York City.

"Dilatation of the Heart," Wesley T. Mulligan, Rochester, N. Y.

*Symposium on Vaccine.*

"Vaccine Therapy with the Report of a Case of Human Glanders," A. T. Bristow, Brooklyn, N. Y.

"Vaccine Therapy," Frank Billings, Chicago, Ill.

"Treatment of Surgical Tuberculosis by Vaccines," James A. MacLeod, Buffalo, N. Y.

"Vaccine Treatment of Surgical Tuberculosis," Lewis L. McArthur, Chicago, Ill.

*Symposium on Bone and Joint Changes.*

"Tuberculosis of the Bones and Joints," Leonard W. Ely, New York.

"Metabolism, Its Relation to Bone and Joint Changes," William H. Porter, New York.

"The Joint Changes as Related to the System Diseases of the Cord," Bernard Sachs, New York.

"The Rheumatisms, Their Etiology and Pathology," Egbert Le Fevre, New York.

"Osteitis Deformans," (Paget's Disease), with Report of two cases, Henry L. Elsner, Syracuse, N. Y.

"Lantern Slide Demonstration of X-ray Pictures of Osteitis Deformans and Stomach and Intestinal Diseases," Clarence E. Coon, Syracuse, N. Y.

"Spleno-Medullary Leukemia; Its Treatment by Roentgen Therapy, with the Report of a Case," Homer E. Smith, Norwich, N. Y., and L. A. Van Wagner, Sherburne, N. Y.

"The Diagnostic Value of Eosinophilia," Ira S. Wile, New York.

"Pellagra," C. H. Lavinder, Passed Asst. Surg., Marine Hospital Service.

Experimental Poliomyelitis and its bearing upon Epidemic Poliomyelitis. Simon Flexner and Paul A. Lewis, New York.

"Test Meal and Feces Examinations, Some New Methods and Their Clinical Value," Anthony Bassler, New York.

"Relation of the Physician to the Hospital Training School," Charles Stover, Amsterdam, N. Y.

The Relationship between the State Board of Regents and Training Schools. Joseph Merzbach, Brooklyn, N. Y.

"The Wasserman Reaction in Leprosy," Howard Fox, New York.

"Demonstration of the Wasserman and Allied Reactions by the Hoagland Laboratory." (In a separate room.)

"Adequacy of the Present Day Treatment of Syphilis Tested by the Occurrence of Syphilitic Nervous Diseases," Joseph Collins, New York.

"The Treatment of Potts Disease," Brainerd H. Whitbeck, New York.

"Phlegmenous Gastritis," Richard W. Westbrook, Brooklyn, N. Y.

"A Contribution to the Studies of Tremors," Marcus Neustaeder, New York.

"U. S. Pharmacopœia," Eli H. Long, Buffalo, N. Y.

"The Effect of Alcohol Observed in the Diseases of the Skin," L. Duncan Bulkley, New York.

"Some Remarks on Anæmias," Charles O. Bosworth, Rochester, N. Y.

"Lumbar Puncture as a Diagnostic and Therapeutic Agent in General Practice," Nelson G. Russell, Buffalo, N. Y.

"Complications of Typhoid Fever Requiring Surgical Treatment," J. B. Harvie, Troy, N. Y.

"The Importance of Care in Closing the Abdominal Incision," LeRoy Broun, New York.

"Chauffeur's Fracture," William S. Thomas, New York.

"Shall all Fibroid Tumors of the Uterus be Removed with the Knife," Frank DeWitt Reese, Cortland, N. Y.

"Animal Experimentation," Jacob Gould Schurman, President of Cornell University.

"Animal Experimentation," J. R. Day, Chancellor of Syracuse University.

"Some Medical Aspects of the Food and Drugs Act," Harvey W. Wiley, Chief of the Bureau of Chemistry, Department of Agriculture, Washington, D. C.

"Obituary Hamilton Dox Wey," Henry L. Elsner, Syracuse, N. Y.

## CORRESPONDENCE.

New York, October 27th, 1909.

NEW YORK STATE JOURNAL OF MEDICINE, 17 West 43rd Street, New York.

*Dear Sirs*—On the 15th of this month a newspaper in New York City published a front page column article on the lunacy case of Warner *vs.* Packer and Wilgus, and as the statements therein were in many ways at variance with the facts as brought out in the trial, I trust that you will publish this letter so as to correct many of the judgments made in the minds of readers of that article. Several of my friends have spoken to me in the matter, and as their understanding of the case was based on this article there are probably many others who have formed like erroneous opinions.

Will you kindly let me say in brief that this patient was committed in due and legal form to the Middletown State Homeopathic Hospital, whence, after remaining under custody between four and five months, she was discharged improved and not as recovered, as stated in the paper. No such statement or affidavit regarding her recovery as was mentioned in the article in question as having been issued by the Superintendent of the Middletown State Homeopathic Hospital was ever in existence, except in the imagination of the person who fathered the article. The suit was begun soon after her discharge from the hospital and the trial was held in a country community friendly to the patient, and the jury found a verdict against us notwithstanding that the patient was under treatment for several months and was discharged by the superintendent and his staff as still incompetent. The accounts of the trial show this, as the hospital records were entered by us as evidence. They also ignored the fact that such eminent witnesses in the case as Dr. Charles L. Dana and Dr. B. Sachs agreed that the certificate in lunacy was justified. When suit was brought against us we considered that such just cause for commitment existed that we fondly imagined the verdict could be nothing but favorable to us and therefore we secured our own counsel and fought the matter at our own expense. But at the conclusion of the trial, two years ago, we turned the matter of the appeal to the Appellate Division over to the New York State Society, and we hope to have it off our hands in the not distant future.

Yours respectfully,

SIDNEY D. WILGUS.

1 Madison Avenue, New York City.

## BOOKS RECEIVED.

Acknowledgement of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

MODERN MEDICINE. Its Theory and Practice in original contributions by American and Foreign Authors. Edited by WILLIAM OSLER, Regius Professor of Medicine in Oxford University, England; Honorary Professor of Medicine in the Johns Hopkins University, Baltimore; Formerly Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and of the Institutes of Medicine in McGill University, Montreal, Canada. Assisted by THOMAS MCCRAE, M.D., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore; Fellow of the Royal College of Physicians, London. Volume VI. Diseases of the Urinary System—Diseases of the Ductless Glands—Diseases of Obscure Causation—Diseases of the Muscles—Vasomotor and Trophic Disorders—Life Insurance. Illustrated. Philadelphia and New York, Lea & Febiger, 1909.

THOSE NERVES. By GEORGE LINCOLN WALTON, M.D., Consulting Neurologist to the Massachusetts General Hospital; Author of "Why Worry?" Philadelphia and London, J. B. Lippincott Company, 1909.

Introduction to Practical Chemistry for medical, dental and general students. Specially adapted to meet the requirements of the conjoint Boards' examination of the Royal Colleges of Physicians and Surgeons, but suitable for general use in schools and for private students. By A. M. Kellas, B.Sc. (London), Ph.D. (Heidelberg), Lecturer on Chemistry at the Middlesex Hospital Medical School; Formerly Examiner in Chemistry to the Conjoint Board of the Royal College of Physicians and Surgeons. London, Henry Frowde, Hodder & Stoughton. Oxford University Press, Warwick Square, E. C., 1909. Price, $1.35.

The Diseases of Children. By Henry Enos Tuley, M.D., Professor of Obstetrics, University of Louisville, Medical Department; Visiting Physician Masonic Widows' and Orphans' Home; Secretary of the Mississippi Valley Medical Association; ex-Secretary and ex-Chairman of the Section on Diseases of Children, American Medical Association, etc., Louisville, Ky. Illustrated. Baltimore, Southern Medical Publishing Company, 1909. Price: Cloth, $5.00; half leather, $6.00.

A Practical Study of Malaria. By William H. Deaderick, M.D., Member of the Arkansas Medical Society, American Medical Association, and American Society of Tropical Medicine; Fellow of the London Society of Tropical Medicine and Hygiene; Corresponding Member Société de Pathologie Exotique (Paris); President of the Tri-State Medical Society. Fully illustrated. Philadelphia and London, W. B. Saunders Company, 1909. Price: Cloth, $4.50 net.

Collectanea Jacobi. By Abraham Jacobi, M.D., LL.D., Consulting Physician to Bellevue, Mt. Sinai, German, The Woman's Infirmary, Babies' Orthopedic, Minturn and Hackensack Hospitals; Member American Medical Association, Medical Society of the State of New York, New York Academy of Medicine. In eight volumes, including addresses on pediatrics, pathology, therapeutics and miscellaneous subjects. Illustrated with half tones and portarits of the author. New York, Critic and Guide Co., 1909. Price, up to January 1, 1910, $10.00 per set. After January 1, 1910, $15.00 per set.

## BOOK REVIEWS.

The Principles of Pharmacy. By Henry V. Arny, Ph.G., Ph.D., Professor of Pharmacy at the Cleveland School of Pharmacy, Pharmacy Department of Western Reserve University. Octavo of 1,175 pages, with 246 illustrations, mostly original. Philadelphia and London, W. B. Saunders Co., 1909. Cloth, $5.00, net; half morocco, $6.50, net.

This voluminous book follows the conventional arrangement, the consideration of pharmacopeias, weights and measures and the various pharmaceutical processes being the prelude to chapters on the manufacture and properties of the individual galenical preparations and the inorganic and organic chemical drugs. Then attention is given to testing and assaying and to prescription writing; and the book terminates with an unusual feature, the outline of a course in manufacturing pharmacy for the student. The matter is presented in a concise and readable form, and the details show careful study and selection.

That no man can serve two masters is a well-recognized truism in the medicine and pharmacy of today, hence the pharmacist's work is avowedly not that of the physician. This being the case, a book written strictly for pharmacists could hardly possess great interest for a medical practitioner, and its perusal would have for its chief effect merely an increased appreciation of the knowledge and skill required in the sister profession. To one group of medical men, however, the present work is full of valuable suggestions, namely, to the teachers of materia medica and therapeutics; and to these we can recommend it as an addition to their reference books, to be used as a source of verification for chemical and pharmaceutical data about drugs. To the pharmacist a book of its class is a necessity.

W. A. B.

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A Manual of Obstetric Technique, as applied to private practice, with a chapter on Abortion, Premature Labor and Curettage. Sixth Edition, enlarged and fully revised. Philadelphia and London, J. B. Lippincott Co., 1908. 258 pp., 16 pl., 2 col. pl., 12vo. Price: Cloth, $1.50, net.

This little book which sets forth the whole duty of the obstetrician in a very lucid manner should appeal to the busy general practitioner because of the few words the author uses. He deals with his subject concisely, and, without any attempt to be didactic, presents clearly the best accepted rules for the conduct of normal pregnancy and labor, and also the indications and methods of treatment in some of the more common complications which beset this so-called physiological act, childbirth. The opening chapters are devoted to the condition and care of the patient during pregnancy, and give in detail methods of diagnosis, directions to the patient, periodical examinations, etc. During the later months, pelvimetry examination for presentation, position and posture and general preparation for labor. Much care has been expended in the development of a system whereby the every-day household practice of midwifery may be put upon as aseptic a basis as that in the best-appointed maternities. This consists of the preparation of the lying-in chamber, of a considerable list of articles to be obtained and prepared by the patient, and of an "Obstetric Box," which contains everything that could be desired in the way of sterilized water, solutions, etc., to be sent by the doctor to the secene of operation sometime in advance of labor. Description of the aseptic technique is complete and no practitioner following the author's plan will go wrong in this respect. But cannot the same practical results be obtained by a simpler régime than that which is set forth? It would seem that in point of cumbersomeness and expense to doctor and patient, the criticisms of this method, which appeared after an earlier edition, are in some degree pertinent. The chapter on forceps is of particular interest. Attention is called to the selection of an instrument, and it is advised that the doctor should have in his possession four pairs of forceps to meet the demands of general obstetric practice. With this, however, the writer disagrees, believing that it is better to have one good instrument and to familiarize one's self with that. The chief desideratum is sufficient room between the blades to avoid compression of the head. It must be remembered that the grasp should be at the base of the skull, not upon the cranium. Therefore, the cephalic curve should be ample. The instrument should be of the axis fraction variety, as this principle applies not only in high operations, but in the lower part of the strait also, and it is altogether safer in the hands of the inexperienced.

The steps of the various obstetric operations—Version, Induction of Labor, Curettage, Cæsarean Section, etc., are accurately described and well illustrated.

Many a man who appreciates the necessity of asepsis in his obstetrical work, and who understands the indications for surgical interference when they arise, still lacks a definite knowledge of technique. This book not only tells what to do but how to do it.

William P. Pool.

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The Diagnostics of Internal Medicine. A clinical treatise upon the recognized principles of medical diagnosis, prepared for the use of students and practitioners of medicine. By Glentworth Reeve Butler, M.D., Sc.D., LL.D. With five colored plates and 272 illustrations and charts in the text. Third revised edition. New York and London, D. Appleton & Co., 1909. Price: Cloth, $6.

When Butler's book was first issued it was received with marked favor, and justly, for it very thoroughly

reflected the recognized principles of medical diagnosis, as it proposed to do. This third edition is published after a very thorough revision by both publishers and author. The former tell us that the book has been entirely reset and is now printed from new plates. The author's work shows his appreciation of the fine service he has at hand. He candidly says it is an agreeable one, and we are happy to say to him the up-to-date result is evidence of the fact. It will hold the same assured position that it always has. It is a concise statement of the essentials for diagnosis. It is a complete and logical arrangement of these facts and as such must appeal to teacher and practitioner.

A new section has been added on Iife Insurance Examination, prepared by Dr. Thomas C. Craig, Surgeon U. S. A. (retired). Another addition is a section on Diseases of the Tropics, by Dr. Hartwig Kandt. Dr. Edward R. Baldwin contributes an article on recent tuberculin tests. Dr. Archibald Murray has revised the section on Examination of the Blood, and the section on Examination of the Stomach Contents and Fæces has been much improved by Dr. Dudley D. Roberts.

Surely this work is a fine addition to the literature of medicine. H. A. F.

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MEDICAL SOCIOLOGY. A series of observations touching upon the Sociology of Health and the relations of Medicine to Society. By JAMES PETER WARBASSE, M.D. New York and London, D. Appleton & Co., 1909. Price, $2.00.

The preaching of Public Godliness is like a Voice crying out in the Wilderness, as many a clergyman will testify, and the preaching of Public Cleanliness, which is the next thing to Godliness, is like the same voice crying in the same wilderness. Nevertheless, the meager results observed from such preaching does deter those who think they have a message, and in Dr. Warbasse's book on Medical Sociology we have a message to the public. The aims and mission of medicine, in its relation to the community, are here set forth in vigorous, clear, incisive and dignified language. In the same way that the school children are made to study hygiene, one could almost wish that this book could be placed in the hands of all those set over us, from the alderman of the city all the way up to the gentlemen that form the president's cabinet. But there is no need for despair or loss of hope in this matter; for in the short time since the doctor wrote concerning a National Board of Health, we are already nearer the realization of it. When a certain desirable measure is advocated in the platform of both of our great political parties in this country it is a sign that the need for it is recognized by the people at large.

The time will soon come when it will not be said that the sheep with anthrax receives more attention from the government than the man with tuberculosis. The question of health, personal and public, is receiving more attention year by year, and books like this one are needed, where, by advice and argument and criticism, the legislators, or, rather, public opinion, may be guided to recognize the fact that human lives are as valuable as trees with diseased bark or cattle with foot and mouth disease.

Of the doctor's fine satire on the ladies' afternoon card parties, or of the contrast between the lady shoveling snow and enjoying the fun of it while her neighbors peep out from behind blinds at her (what a picture for a good artist), or of his poetical description of sleeping in the open air, not for the health it brings but for the joy of it—of all that, we can only say, get the book and enjoy it. PETER SCOTT.

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GRAPHIC METHODS IN HEART DISEASE. By JOHN HAY, M.D., M.R.C.P., Assistant Physician, Liverpool Infirmary. With an introduction by JAMES MACKENZIE, M.D., M.R.C.P. London, Henry Frowde. Oxford University Press.

This book is an exposition of the methods employed today, by means of instruments of precision, to record certain features of the circulation.

In the case of abnormal conditions of the heart the diagnostician's work is merely touched upon when he defines the nature and extent of the organic lesion and the character of murmurs. He must, in addition, determine accurately the capacity of the heart muscle to meet the demands made upon it, and must also measure its reserve force. Another problem is to state the functions of the myocardium which are at fault.

The graphic methods enable the diagnostician to form an opinion of the activity of the various functions of the myocardium.

Graphic records of the apex beat, and various portions of the præcordium, such as second, third and fourth interspaces and epigastrium, are essential, also tracings by the sphygmogram from the radial artery or carotid, and tracings of the venous pulse by the phlebagrom. The instruments used are a modification of the Dudgeon sphygmograph, named the "clinical polygraph" and the "ink-writing polygraph."

The instruments, methods of using them, and the interpretation of their records, with illustrative cases, are the subject of this interesting volume. The author is careful to state that "it is not pretended that these should always be used in the routine examination of patients with heart affection."

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## OBITUARY

Dr. Eugene Beach, for many years a prominent physician of Northern New York, died at his home in Gloversville, July 8, 1909. To his intimate friends his death was not unexpected. He had given all of the marked symptoms of arterio-sclerosis, in the loss of vision, and he knew well his true condition; however, he continued his professional work and was able to close his official duties in connection with the State Board of Medical Examiners to his entire satisfaction. Dr. Beach was known to many of the members of the Medical Society of the State of New York. He had been in very constant attendance upon the meetings for nearly thirty-five years, had served upon all of the various committees, had been vice-president, and was loyal and punctual in all of the duties that devolved upon him.

Dr. Beach was born at Greenville, Greene County, New York, graduated from the Albany Normal School, was a teacher in the Brooklyn Polytechnic Institute, and graduated from the Long Island College Hospital June 28, 1866.

When the Board of State Medical Examiners was organized he was among the first appointed, and always fulfilled the duties of his position with the utmost fidelity.

Dr. Beach was a man much respected and beloved by his professional friends and always held in high regard by his wide circle of acquaintances. He was the author of some very excellent papers, and in his profession was a most conservative, able practitioner. He was a man of strong personality and much beloved by his fellow citizens. He was twice elected mayor of Gloversville, and served faithfully in other official positions, such as member of the Board of Education, and the Board of Health. He will be greatly missed at our annual meetings, but the memory of his good work will ever remain.

## DEATHS.

W. A. BELL, M.D., of Yonkers, N. Y., died November 15, 1909.

GABRIEL GRANT, M.D., of New York City, died November 8, 1909.

EDWARD J. HOGAN, M.D., of New York City, died November 7, 1909.

GEORGE SEYMOUR, M.D., of Utica, N. Y., died November 8, 1909.

# INDEX

NOTE.—Original articles are indexed in *italics*. Other abbreviations are as follows: Editorials (E); New Books (B).

# ORIGINAL ARTICLES.