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EDITORIAL.

THE CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS.

A glance through the tenth annual report of this association at once shows that great work is being done in the way of the prevention of tuberculosis. The past year is reported as one of the best in the history of the association. During the year many lectures were given in various parts of the Dominion and a large amount of literature distributed. The Dominion Government has doubled its grant. The thanks are tendered to the railways for free transportation and to the public press for much assistance.

Dr. J. George Adami, of Montreal, is the president and Dr. G. D. Porter, of Toronto, the Secretary. In the hands of the able officers, aided by an influential body of co-workers, the association is bound to do much good and to mould public opinion along sound lines.

The several provinces were well represented by delegates. The transactions of the meeting held in Montreal are full of useful information. The reports from the different city centres where there are local associations are of a most encouraging character, and bespeak very much activity and a thoroughly awakened state of public feeling. This is a healthy condition, as it is not until the attention is fixed upon a matter of this kind that any marked progress need be expected.

There are about \$12,000 lost yearly in Canada from tuberculosis. The Committee of One Hundred in the United States, in dealing with the vital statistics of the country, came to the conclusion that every life is worth \$1,735, taking one age with another. This would give the loss by death from this disease as equal to \$20,820,000 a year. There are probably 50,000 persons ill with the disease all the time. In loss of time and treatment there would be another very heavy loss.

There are now scattered throughout Canada many institutions for the treatment of consumption. It is a pleasing feature of the report to notice that several donations of considerable magnitude are recorded. All this is matter for much congratulation.

THE CANADIAN HOSPITAL ASSOCIATION.

This association is now a little over four years old. During its short career it has done much good work. The report of the Montreal meeting contains a number of excellent illustrations.

There are also several articles of much value on the construction and management of hospitals.

We congratulate this association most heartily upon the work it is doing. The distribution of such valuable information among those interested in hospital work is of the utmost value.

THE VITAL STATISTICS OF ONTARIO.

The report for 1908 is now before us. The population for the province is given as 2,226,860. The births were 57,155, the marriages 21,058, and the deaths 32,714. This is a healthy growth.

The birth-rate was 25.6 per 1,000. The marriage rate was 9 per 1,000, and the death-rate 14.6 per 1,000. No less than 22.56 per cent. were babies under one year of age. This is a sad record. This gives a total loss by death of 6,895 under one year.

The report is got up in very excellent form, and reflects much credit upon Dr. Hodgetts.

THE MARITIME MEDICAL NEWS.

Among the exchanges that have been coming to us for years none has been more welcome than the *Maritime Medical News*. It always had the freshness of the sea breeze about it.

Notice in the December issue that it has been decided to discontinue its publication. We regret this, as we always felt it was of signal service to the medical profession of the eastern provinces.

With kind feelings we bid good-bye to esteemed contemporary.

THE WESTERN MEDICAL JOURNAL.

We learn from the latest issue of the *Saskatchewan Medical Journal* that the name in the future shall be *The Western Medical Journal*, as the journal has outgrown a local name.

This medical journal has done good work in the past, and has stood for high ideals in the medical profession. The papers that have appeared in its pages have done credit to our western confrères.

Under its new name we wish it long life and a widened sphere of usefulness.

THE MONTREAL MEDICAL JOURNAL.

In the editorial section of this journal for December we are informed that it has ceased publication.

We had learned to like this journal. It was looked upon somewhat as an exponent of medical teaching and writing as they have been found to exist in McGill Medical College for years past.

McGill has no reason to be ashamed of its record. We shall miss the *Montreal Medical Journal* and what it might have had to tell us of McGill.

THE STATE AND PUBLIC HEALTH.

It is a matter for the utmost congratulation that the governments of the various provinces and the Federal Government have become active of late years in promoting the health of the people. We have pointed out on many occasions that each life is worth, on an average, \$1,735 for all ages.

For Canada, with a population of say, 8,000,000, this would give a grand total of \$13,888,000,000 as the value of the people of Canada.

We do not know that the forest, the mine, the streams, or the fields can show more worth. It is well, therefore, to care for the health of the people.

OVERCROWDING IN THE MEDICAL PROFESSION.

From all over the world comes the same complaint, that the medical profession is overcrowded. The following statement will throw some light upon the condition of medical men in some of the leading countries:

"It is an easy matter to prove that the medical profession in America is overcrowded. In France, which has a population of 37,000,000 or so, there are only 17,000 medical men all told, and in England, with a population of more than 40,000,000, there are about 32,000 medical men,

while this country and Canada, with perhaps nearly 90,000,000 people, have more than 120,000 physicians. This proportion is preposterous, and the natural consequence is that a considerable proportion of American practitioners have hard work to keep the wolf from the door.

“With the increase in cost of living the physician earns less than he earned some few years ago. There is also another aspect of the case which deserves attention. In all countries the medical man has more difficulty in collecting his just dues than has the member of any other profession or trade.”

From the foregoing it would appear that the medical profession will soon become less and less attractive to the young man of ability. This tendency is already showing itself in some parts of the world.

THE DANGERS OF OVERCROWDING.

That there are many dangers to health from overcrowding is well known.

Dr. J. D. Nasmith, the bacteriologist of the Health Department of Toronto, gave in his evidence in the investigation on the overcrowding in the street cars that consumption, pneumonia, and grip can be contracted in an overcrowded street car.

Those who have paid only a slight amount of attention to such matters will concur in this opinion of Dr. Nasmith. The Board of Health for Chicago has emphasized this danger.

TO PROHIBIT WHITE PHOSPHORUS.

Presenting the Government bill prohibiting the use of white phosphorus in the manufacture of matches and the sale or importation of the same, Hon. Mackenzie King, in a vigorous address, set forth the determination of the Government to put an end to the terrible dangers which occurred through the use of this poison. His measure was based upon the British legislation of 1908, which had been adopted by the leading countries of Europe. The Minister quoted from the reports of the English departmental officers and of Dr. J. B. Andrews, of New York, published in the United States Bureau of Labor to show the results which have attended the use of white phosphorus in the making of matches.

QUEEN'S DISSENTS.

Queen's Medical College authorities object to the request of the Toronto Medical College to be allowed to license its graduates and any who have passed since 1906, without taking the examinations prescribed by the Ontario Medical Council. It is held by Queen's that so long as the council exists and its examinations are higher in standard than any medical school in the province, so long should the graduates of all colleges pass the council before being licensed to practise. The Government, Queen's claims, cannot give exclusive powers to one college, and to give the privilege to all would not tend to the best qualifications being demanded from medical men practising in the province.

MEDICAL EDUCATION IN ONTARIO.

There has been a good deal of discussion for some time over the right of the University of Toronto to have its degree in Medicine carry the right to practise independently of the council license.

This is a very wide and important subject, and must not be gone on with in too much of a hurry. It will pay to hasten slowly. In Germany the State Universities do not qualify to practise. Every medical practitioner must take the state examination.

It has been felt by a good many that the Carnegie Report has not done full justice to the medical colleges of Canada. It appears that too much attention was paid to buildings, chairs, tables, bottles, etc., and not enough to the quality of the teaching given by the staffs to the students. The right sort of a teacher could teach a medical class under the shade of an old oak tree, and make good practitioners of them.

We do not advocate any such a primitive college as this. We are only speaking of what is possible. With a very poor plant good teachers may be able to do very good work. The fact should be borne in mind that the students from Queen's Medical College, Kingston, and the Western Medical College, London, have acquitted themselves well before the Medical Council examinations.

What every one desires is to have a high standard of medical education, not only in Ontario, but throughout the whole Dominion. Before any legislation is enacted, we contend that the Ontario Government should appoint a commission to examine into the whole subject of medical education in this province.

The quality of the teaching in the University of Toronto, in Queen's Medical College, in the Western Medical College, and their facilities for

teaching, would all be made the subject of the most careful study. A careful study could be made of the percentages of the students from those medical colleges that passed or failed. Then, again, the care and judgment with which the medical council conducted its examinations would come in for due attention.

We have often said that there are too many examinations. This commission would, no doubt, be able to formulate some working scheme whereby fewer examinations would answer the requirements of keeping up a high standard and relieving the students of unnecessary tests of this sort. Such a commission would have to be of an absolutely impartial character in order that its findings would carry due weight.

THE MANITOBA MEDICAL COLLEGE.

The Carnegie Report on Medical Education has now become a somewhat famous document. In speaking of the Medical College in Winnipeg the criticism is rather favorable upon the whole.

The population of the city is given as 150,000. From this there should be a fair amount of clinical material.

The entrance requirements are the University matriculation or its actual equivalent. The course is one of five years. The attendance of students is 115. There are 22 professors and 19 teachers of other grades.

The resources for maintenance are the fees of the students, amounting to \$14,000.

The instructions in chemistry, bacteriology, histology, and pathology are given by the University of Manitoba. The other branches are taught by the medical staff. The equipment is adequate for routine work, and is steadily being improved. There are several hundred wet specimens. "The appearances indicate a conscientious and intelligent employment of such resources as the school has had."

This is very satisfactory and speaks well for this comparatively young college.

The clinical facilities are obtained in the Winnipeg General Hospital, an institution of 400 beds. "The relation between the school and the hospital is admirable. Students work freely in wards, clinical laboratory, operating rooms, obstetrical wards, etc."

All admit that there is an almost unlimited future for the West. It is very necessary that the colleges should be alert to their opportuni-

ties. From Winnipeg to the Rockies there is a vast expanse of country that will yet feed its millions. We do not hesitate to state that the government of Manitoba, and the city of Winnipeg would do well to liberally aid the medical college.

From the standpoint of the city it would be a good investment. There are 115 students according to the report. In the very near future there will double this number. Each student in fees, board and other outlays will spend at least \$300 a session. This would mean a grand total of \$60,000 a year to the city.

MEDICAL INSPECTION OF TORONTO SCHOOLS.

That this is an important question none will deny. In Boston the amount saved in the prevention of contagious diseases was equal to the cost of the medical inspection of the schools. In Montreal a few years ago a state of affairs was revealed by an inspection of the pupils that made a startling impression on the public. In Britain many cities have medical inspection. The findings have proven that there are very many pupils attending the schools who are the victims of serious diseases.

In Toronto a good start has been made in securing the services of Dr. W. Graham, Dr. Helen MacMurchy, and several nurses. This work should be reduced to a definite system, if it is to yield the best results for the city. Every well organized department must have a competent head to it.

The names of Drs. Bryans and Struthers have been mentioned in this connection as being well qualified for the position of Chief Medical Inspector. Either one could take charge of the chief work of medical inspection. Should either receive the appointment he will discharge the duties of the office with much ability and energy. Those who know them best, know their many good qualities of both head and heart.

The people of Toronto are spending upwards of \$2,000,000 on its public schools for the education of about 45,000 children. These children are worth in money at a very conservative estimate \$45,000,000. A few dollars spent in proper medical inspection should be cheerfully made.

Do not forget the Ontario Medical Association at Niagara this year. Keep a few days free for it.

ORIGINAL CONTRIBUTIONS.

"STOMACH SURGERY, ESPECIALLY ITS AFTER-RESULTS IN
NON-MALIGNANT CONDITIONS."*

By G. E. ARMSTRONG, M.D., Montreal.
Surgeon Montreal General Hospital.

DR. ARMSTRONG thanked the president and fellows of the Academy for the invitation to address their meeting. The privilege is one he very highly esteemed. The subject for remark was not, perhaps, stated quite correctly. It was selected in a hurry as he was leaving for Europe, and it embodied an idea Dr. Armstrong had for a long time, namely, that of tracing the after-history of patients operated upon for benign conditions of the stomach, to ascertain how much benefit they receive from operation. He had not had time to do this as he would have liked.

Looking up the history of 2,000 cases of autopsy in the Montreal General Hospital, he found that fifteen had died of gastric hæmorrhage.

The subject is one of great interest and importance, and the frequency in which death occurs from hæmorrhage in ulceration of the stomach makes it worth our while to recount what can be done to save life in this connection.

In these cases the bleeding may be capillary, venous or arterial. The first question to be answered by the physician and surgeon is "When is surgical interference indicated?" This question may be simplified by noting specially the types of cases. In one the hemorrhage may be repeated at short intervals, and in another the blood is brought up in larger and larger quantities. The answer is not difficult. Operation should be performed when, in spite of treatment, the small hæmorrhages continue to occur and when a fatal issue is imminent. The operation should be performed also in the second case—that of the vomiting of larger and larger quantities of blood.

The operation decided upon, there is the direct or the indirect method of technique. In the former the bleeding vessel is occluded in the latter a gastro-enterostomy is performed. There are advocates of each method, and each method has its successes and failures. Simple gastroenterostomy does not fulfil the conditions, and in many cases opened into in this way by different surgeons the bleeding has continued, and caused the death of the patient. Some 25 per cent. of the patients die after gastro-enterostomy. By this method, in the presence of normal and contracted pyloruses, there is not sufficient rest secured to allow a thrombus to form in the bleeding vessels.

* An abstract of an address read at the Academy of Medicine, Tuesday, Jan. 3, 1911.

There are two other methods of procedure, namely, to tampon the stomach, and, secondly, to perform jejunostomy. This latter method, as applied in six cases, five died and one recovered.

In carrying out the direct method there is the difficulty of finding the bleeding point and of dealing with the bleeding point when found. The ulcer and opening may be adherent to the liver and pancreas, or may be adherent to other parts. The indirect methods are untrustworthy, and are followed by a high mortality. By the direct method of searching for and ligating or cauterizing the bleeding point the percentage of recovery is increased. When the bleeding is capillary, or from superficial ulcers or fissures, the cautery may be used. If from larger vessels the ligature should be used. The tissues are often friable, but if we can approximate the walls of the artery, adhesion will do the rest. When ligature is impracticable the artery may be tied on both sides of the bleeding point.

Excision of the ulcer should be reserved for exceptional cases.

When the source of the hæmorrhage cannot be found the resources of the surgeon may be taxed to the extreme. So far Dr. Armstrong has not met with any cases in which he could not find the bleeding point. He said if he did come to a case as this, and could not find the bleeding point, he would do a pyloroplasty.

A new method of finding ulcers of the stomach is advocated by Rolsen, of Copenhagen, by using the gastroscope. In February, 1909, Rolsen advocated the use of the gastroscope to elucidate the bleeding point in cases for operation upon for ulcer, and in the same year he demonstrated the instrument before the German Surgical Congress. The instrument has been found useful in a number of cases. The gastroscope is introduced, then the stomach distended with air, the light turned on, and the vessels of the stomach wall become plainly visible, as well as any ulcer, cancer, or other tumor present.

In this line of surgery one expects a larger percentage of recovery in small, repeated hæmorrhages than in those cases vomiting large quantities of blood, and on whom emergency operations have to be performed on short notice. When we start making statistics on this subject we find it impossible to get any statistics together to satisfy ourselves because of the imperfect case reports.

Personally Dr. Armstrong has had nine cases of gastric hæmorrhage and eight of these were submitted to operation. There was no hæmorrhage in any of these cases after operation, and in all of these cases the direct method of procedure was used.

In the discussion that followed Dr. J. F. W. Ross said that the doctor is to be congratulated on the result in these cases, and there is no doubt at all as to the progress being made along this line of surgical achievement, and he would count Dr. Armstrong's success as an evidence of what may yet be done to save life by a well-directed practice of this special line of the surgical art. The opening of the abdomen and drawing out the stomach is not a serious matter. What has to be decided is what shall be done after the stomach is out. There is a difficulty in recognizing the ulcer itself. If this cannot be discovered, then the stomach should be opened for exploration.

He had looked into the pathological department the other day, and there saw a stomach with three ulcers taken out post-mortem. The patient had died from gastric hæmorrhage, resulting from perforation of one of the large vessels of the stomach. He did not know why this death occurred, or whether the case could have been operated on or not. The opening of the abdomen and arresting of hæmorrhage, either by the application of cautery or ligature, is a method of practice that has come to stay.

Dr. Alexander Macphedran said it was not necessary to offer congratulations to Dr. Armstrong, as the doctor already knows that we appreciate his good work. Speaking of the necessity for operation, he said the treatment in most of these cases has been treatment of the gastric ulcer, the hæmorrhage being merely an accident, as a result of the ulceration. He had not seen any cases requiring severe measures to relieve this form of hæmorrhage lately. A good many years ago, however, a man who had chronic renal disease and arterio sclerosis, with uræmic coma and convulsions and gangrene of the lung, and later there developed, as a complication, gastric hæmorrhage. He died within three days, and there was no previous sign of stomach disease. At the autopsy an ulcer of the stomach was found about one and a half inches in diameter, with thickened edges and thickened base, but the hæmorrhage was not from that, but rather came from a tiny opening one and a half inches from pyloric end of stomach. He believes now that this patient might have been operated on and his life saved. He thought, at the time the case occurred, however, that the bleeding point could not be found. Later results, as we have had reported to-day, have shown that it is quite possible to find these bleeding points on opening the stomach for examination.

Dr. Macphedran asked Dr. Armstrong to indicate more clearly as to the seat in which gastrostomy should be done.

Dr. Herbert Bruce said he was sure that all present had been intensely interested listening to the reading of the able paper by Dr. Armstrong. One or two points that struck him in regard to it were, first, as to the wisdom in performance of a gastrostomy in all cases of gastric hæmorrhage, especially when one is often not able to cure cases of gastric hæmorrhage by gastrostomy. Dr. Armstrong states his evidence in cases in which there is capillary hæmorrhage frequently repeated, and from a report of his success we may hope to get favorable results from gastro-enterostomy. Dr. Bruce recalled the case of a patient operated on four years ago for repeated hæmorrhages brought to the General Hospital. These hæmorrhages were large, a pint at a time. After a large hæmorrhage, 20 to 24 ounces of blood, Dr. Bruce operated, and found an ulcer two or three inches in diameter. He ligated the bleeding vessels, with favorable results. Six months later another hæmorrhage occurred, not so copious as the former ones, and the woman was again sent into the hospital under his care. He did a posterior gastro-enterostomy, and was not able to find any evidence on the surface. The patient made a recovery, and has remained well for two years. Dr. Bruce agreed with what Dr. Armstrong said with regard to ligation, or excision, of ulcers rather than the performance of gastro-enterostomy as a routine practice. He had lately seen a number of stomachs photographed by X-rays, showing the peristaltic wave. We may hope to gain a considerable amount of information by these X-ray photographs in various stomach conditions, perhaps in callous ulcers and thickening about the pylorus, or in malignant disease of the stomach. The use of the bismuth meal, followed by cinematograph photographs, enables the radiographer to give cinematographic pictures of the stomach in contraction.

It struck Dr. Bruce as a very singular thing the enormous amount of contraction of the stomach during the wave. In looking at these photographs one would think that the pyloric ring was in the middle of the stomach, so small had the organ become during the wave. There was another point he wished to refer to, and that was in regard to a term used by Dr. Armstrong. When he speaks of the internist in the future he would have to mean by that the surgeon and not the physician.

Dr. H. B. Anderson said his experience had been similar to that of Dr. Macphedran, that death as a result of uncontrolable hæmorrhage in gastric ulcer is a very, very unusual condition. He had not seen a case of death from that cause in his private practice, and during the time that he was pathologist to the General Hospital, Grace Hospital, and the Western, there came to his notice only three cases in which death had

occurred from gastric hæmorrhage, and these cases were ones in which the bleeding was from varicose vessels associated with hepatic cirrhosis. The experience in Toronto is that the operation of gastro-enterostomy is associated with a high mortality, and we do not know what mortality would be associated with the operation recommended by Dr. Armstrong in the treatment of these cases. For this reason Dr. Anderson would like Dr. Armstrong to give statistics of the mortality in cases with and without operation.

Dr. N. Powell asked Dr. Armstrong if in his experience in dealing with non-malignant diseases of the stomach he had had cases of spasm of the pylorus. Reporting a case of pyloric spasm, Dr. Powell said he had one now in which he had opened and drained the gall bladder for cholecystitis. The patient recovered, and was well for a number of months, and then developed an attack of spasmodic pain. Getting into the hands of many doctors, one washed the stomach, another incised it. He then went to Paris, and they removed the gall bladder and appendix and made several other improvements. He came back, and was better. He then began to have these spasms again. He went to Vienna, and was advised that no operation was necessary and that he would recover. He came back, and got worse. He returned to Vienna, and a gastro-enterostomy was done. He now wears a tube passing into the stomach, and from this large quantities of gaseous emanations are produced. For some time after the tube was introduced he was better, but now has attacks as bad as ever. He has recently come back from Vienna. Dr. Powell said that Dr. Bruce is mistaken in the use of the word photograph. We cannot yet take photographs of the stomach. We take shadowgraphs, but not photographs. A number of these pictures were taken of this man, and no two of them were found to be alike. One of these was sent to me by a distinguished surgeon there, the one who opened the abdomen and attempted to approximate the ascending and descending colon and make an anastomosis here.

Dr. G. E. Armstrong closed the discussion, and said in regard to the question about intravenous injection he had not gone into that part of the detail, but had made use of this in all these cases. He uses a warm table, and has the limbs swathed in warm clothing and the chest and arms kept warm. The operation is performed as rapidly as possible. The amount of intravenous is generally considerable—two to three litres.

The small, tiny point referred to by Dr. Macphedran was interesting, and in those cases the gastroscope introduced would be found to be useful. If the gastric walls are covered with adherent blood clot, one

cannot tell much by the use of the gastroscope. It is, therefore, necessary to get out this blood clot before using the instrument. In finding points that can only be seen with a magnifying glass the gastroscope is very serviceable. As to when to do a gastro-enterostomy, he did not know that he could make it more plain. If one cannot find the bleeding point and the pylorus is normal, then do it. The condition most requiring this form of operation and the best one in which to do it is in marked pyloric stenosis; also in small hæmorrhages this operation does very well.

In all these cases, so far as he could judge, the point should be searched for and directly controlled, if possible. Adhesions of the pancreas are extremely difficult. They have to be dealt with according to circumstances. We must remember that if we get a ligature around the vessel and approximate it, then we have perfect control of the hæmorrhage, and in those cases of pancreatic and liver adhesions this can be done with the round, curved needle to introduce the ligatures.

Ninety-five to ninety-seven per cent. of these hæmorrhages are cured by the physician, but few cases die, and it is in those few cases that we can interfere and save a very large percentage.

A vote of thanks to Dr. Armstrong was moved by Mr. Irving Cameron and seconded by Dr. Primrose, with the very hearty accord of the fellows.

EPILEPTIC EQUIVALENT.*

By GEORGE A. YOUNG, M.D., Toronto.

THE term "epileptic equivalent" is said to have been first used by Hoffmann in 1862. It was applied to certain psychic attacks which seemed to take the place of the ordinary fit. For example, an epileptic has a sudden attack of mania coming on at a time when the fit might be expected. This attack would be considered an equivalent or substitute for the epileptic seizure. In other words, if the mania did not occur there would be an epileptic fit.

Some of the more recent writers, while agreeing to retain the term epileptic equivalent for certain mental states, are not prepared to admit that they are true equivalents in the sense mentioned. Spratling says: "Bizarre forms of epilepsy are sufficiently common to permit us to believe that what might be termed an 'equivalent' is in reality an incomplete attack or the accentuated variation of an ordinary attack." Aldren Turner takes similar ground. "Psychic mental equivalents," he says,

* Read at the Academy of Medicine, Toronto, 11th January, 1911.

"are the mental phenomena of the pre- and post-convulsive states when they occur without convulsion or spasm."

The two viewpoints are important, since the definition of epilepsy depends on which opinion is correct. Certain cases have been reported as epileptic equivalents which have not been psychic, but visceral. If attacks of various sorts showing periodicity are to be included under the name epilepsy, the disease has a wider range than the usual definition gives it credit for. Whatever may be the true position, there are some considerations which point to the possibility at least of a true epileptic equivalent. It is, perhaps, scarcely safe to speak of nerve force in terms of other forms of energy and motion. And yet it would seem that in the brain there is stored up latent energy, some of which can be utilized on the instant. Before it can discharge it must be converted into active force under tension. The pressure may be slight and momentary, as in the activity of every-day life. But there is a large reserve of latent energy which cannot be tapped except by emotional excitement or toxic or traumatic irritation. Under such stimuli high tension discharges will occur along the paths of least resistance. These paths are partly fixed by heredity and in part by the mental history of the individual. During the emotion of anger one man will strike, another will talk; but if the first be unable to strike, the nervous tension will probably be relieved by a discharge along another path, viz., to the organ of speech. Not only may one motor path be substituted for another in the case of the voluntary muscles, but involuntary muscles may receive the nervous discharge where the ordinary path is blocked. A badly frightened horse will most naturally run away, but if held up tightly, the chances are that there will be marvelously rapid intestinal peristalsis and a sudden semi-liquid movement.

It may be objected that the enormous explosive discharge of the major epileptic fit could not be sidetracked into any substitute path. The most natural and undoubtedly safest outlet is to the general muscular system. But it is not necessary to conceive of inhibition acting in the moment of the explosion. Inhibition may act in preventing the conversion of latent into active energy. Certain epileptics never have a fit except at the precise moment of falling asleep. To quote Spratling: "It would appear in such cases that the extremely delicate stimulation of consciousness alone is sufficient to inhibit some epileptic convulsions." If the seizure may be prevented so easily in some cases it is quite possible that, under certain circumstances, inhibition may substitute one outlet for another. Sir William Gowers, who avoids the term epileptic equivalent altogether, makes the following statement in regard to mental

states and epilepsy: "The most important practical fact connected with mental feebleness is the frequency with which it is manifested when attacks cease which have been going on for a long time. . . . Its chief cause is probably the repression of the discharge to which the brain has been accustomed. Nerve energy must be evolved, ready for escape, as the result of previous liberation. If this escape be prevented, and yet the processes for the production of nerve energy continue, it is easy to understand that there may be a widespread interference with the activity of the brain." From this one can scarcely avoid the inference that nervous energy repressed at one point may exercise its force at another.

Case I. R. B. had his first convulsion when two years old. The attacks, at first several months apart, became more frequent and more severe up to the age of five, when they ceased. Then for a period of five years there were no diurnal seizures, nor was there any evidence of nocturnal attacks. In February, 1906, at the age of ten, he suddenly complained of being afraid, wanted to leave the house, had hallucinations and delusions, and became so violent as to require restraint. After several days the mental symptoms disappeared. He remained well for two weeks and then again became suddenly insane, the attacks lasting a few days, as before. A third and fourth attack followed, with the same intervals of good health. Then he underwent an operation for adenoids, and was put on Bromides. It was several months before he had another outbreak of insanity. At this point the case was lost sight of. A recent letter from the father states that the attacks gradually merged into "sleepy spells," and that even these have now disappeared.

The above case would probably be accepted as one of epileptic equivalent, even by those who consider this phenomenon as a pre- or post-paroxysmal manifestation. It is possible that the mental derangement may have been preceded by a convulsive seizure so mild as to be overlooked by the child's parents.

Case II. In 1898, during an epidemic of gastro-intestinal trouble, Mr. A. B., then aged 41, was taken with diarrhoea and vomiting. The purging soon ceased, but the nausea continued, without apparent cause. After 36 hours of uncontrolable vomiting, he was given a hypodermic of morphia, gr. $\frac{1}{4}$. The effect was startling. Inside of five minutes he exclaimed: "Why, my stomach is quite settled now!" At the same time it was noticed that his breathing was becoming shallow and irregular, and that there was some cyanosis. Finally, about 15 minutes after the hypodermic, he had a general convulsion. This was followed by normal respiration, improving color, and a quiet sleep. He awoke feeling well and free from nausea. In 24 hours the sickness suddenly returned. He

became somnolent, irritable, and complained that his head was not clear. Hot packs were given, and the patient seemed to experience some relief when warm and perspiring. After two or three days his stomach became quite settled, but he complained of seeing strange pictures on the wall. From this on convalescence was uneventful except for a severe pain in the calf of one leg. This lasted only a few hours and then disappeared completely.

During the next three months he was well, and then was taken again with nausea and vomiting, the attack lasting eight hours. Next day, within two hours after declaring that he never felt better in his life, he was vomiting and deathly sick. On being given a hot pack, he passed into another convulsion, this time without the aid of a hypodermic. The nausea, after a few hours, came on again, and, after two days, was relieved at once by morphia hypodermically. For twelve hours the stomach was settled. Then followed three days of vomiting and finally a light convulsion. After this the patient had no further trouble, and was soon back at work.

Since then during the last twelve years he has had similar attacks, at intervals of from two to six months. The length of the attacks has gradually increased, sometimes continuing off and on for two or three weeks. The interval between attacks has also lengthened. Convulsions have been exceptional, but muscular twitching has been present at some time during every attack. This occurs generally when the stomach has become settled and patient is drowsy. At certain times he has had hallucinations, once transient ptosis, and almost always in the convalescent stage a severe neuralgia in some part of the body and lasting for a few hours. In fact, he is always glad to have this, as it seems to indicate that the storm has passed.

The character of the vomiting deserves special mention. The paroxysms are extremely violent. One would think that the patient's life depended on his getting something up. Often he will push his fingers down his throat so far that the knuckles show the indentations of the teeth for some time afterwards.

The case was studied and treated from every point of view. The family history was suggestive. His mother died, at 65, from uræmia. The father had senile dementia for several years before he died, aged 80. The patient and his brothers are men of energy and of unusual capacity for mental exertion. The patient himself, though not highly educated, is a lucid speaker, and has attained some local prominence in municipal and political life. He was rather wild as a young man, but after marriage settled down at once, and has been very happy in his home relations. There has never been any evidence of specific trouble.

The possibility of a local stomach trouble was excluded by the fact that he could eat a hearty meal and smoke a cigar without the slightest discomfort an hour after the severest nausea had been checked. Examination of the stomach contents during the attack showed nothing except a moderate hyperchlorhydria.

The trouble was regarded for a long time as uræmia. But the urine was examined scores of times over a period of ten years, without showing casts or albumin, except when the latter appeared as a transient post-convulsive albuminuria. Nor could auto-intoxication from any other source be blamed, since the most active elimination with abstention from food for days had absolutely no effect.

The close association of the vomiting and respiratory centres in the medulla and the peculiar effect of morphia on both suggested a minute lesion in this location, but the prolonged history of the case without progressive changes is altogether against this diagnosis.

It was thought for a time to be, partly at least, a functional nervous condition, but it was found impossible to place it. The patient is clearly not neurasthenic. He is a man capable, when well, of prolonged mental concentration, a clear thinker, and seldom known to complain of fatigue. He is always quick to assure his friends of his good health, and is not often depressed or worried.

Locomotor ataxia can be ruled out by the presence of knee-jerks and normal pupil reflexes. Patient has never complained of severe pain in the abdomen during any of his attacks.

It seems certain that this man is an epileptic. He has had one convulsion without nausea either before or afterwards. He has had at least two attacks of sudden momentary unconsciousness; also without gastric disturbance. The question naturally arises: Are the attacks of vomiting a manifestation of epilepsy? If so, they exhibit a most significant phenomenon. When the vomiting stops suddenly and spontaneously, it is followed almost immediately by a convulsion or by muscular twitching. If it is checked by morphia, there is the same result—convulsion or twitching. In other words, when the discharge of nervous energy to the muscles concerned in vomiting is inhibited a discharge occurs along another path, leading to a general convulsion or, more commonly, muscular twitching. It must be admitted that this looks very much like a case of true substitution or equivalence.

The Ontario Medical Association 'this year should be the largest in its history.

A CASE OF PERICARDIOTOMY.

By K. J. MANION, M.D., Fort William.

M. C., age 13, boy—Acute rheumatism developed on January 25, 1910, with tonsilitis, and some lung involvement (he already had valvular heart trouble, due to previous rheumatism). T., 100-104; p., 140; r., 25-50.

February 1.—T. and p. normal for two days, when it went up again, and I resumed treatment soda sal. mixture and stimulants. He had at times severe pericardial pain, for which I had to use sedatives as morphine 1-16 and laudanum compresses. I could find no rub of pericarditis.

February 7.—T. and p. normal again; but February 8 they went up, and patient became very sick. T., 101; p., 145; r., 60-80. Marked dullness over whole left side. Looked like pleuritic effusion, but I tapped and found none.

February 10.—I noted a pericarditic rub, and I tapped pericardium in the fourth intercostal space, just to left of sternum, and got serous fluid. I tried to aspirate it, but needle would plug, so I tried blisters repeated and a dietic mixture, stimulants, and so forth; but boy kept going down. T., 100-102; p., 140; r., 70-80.

February 16.—I had him taken to operating room and given ether, and I tried aspiration, but again needle plugged. I quickly cut down and removed an inch of sixth costal cartilage, opened pericardium, put in tube through which the serum bubbled, dressed, and put back to bed, in pretty fair condition. After operation, t., 99.4-5; p., 140; r., 70. Kept tube in three days; then gauze three days. By February 19 and 20 he was much improved. T., 98-99; p., 120-130; r., 28-44. By February 28th the discharge was slightly purulent from infection from skin, I presume. I replaced tube again at this time and left it for ten days. He gradually improved, and went home March 15. Got up gradually, and was about on April 15, a little over ten weeks from date of illness.

From this time he rapidly fattened up, and passed the summer in first-class health, and to-day he has no signs of previous trouble except a mitral murmur, which he had when he got sick.

 NEURASTHENIA, ITS CAUSES AND TREATMENT.

IN the *Practitioner* (British) for January, 1911, there appeared a series of articles on the much discussed subject of neurasthenia. These articles may be taken to give the most recent views upon this condition.

and, therefore, we submit for our readers a synopsis of some of these papers.—EDITORS CANADA LANCET.

F. W. Watt, M.D., F.R.S., F.R.C.P., takes up the subject of "Neurasthenia and Some Associated Conditions." He attempts in this article to indicate how a correct diagnosis may be reached in these associated conditions. Under the associated conditions he names the following constitutional and organic diseases which may be preceded by, or associated with, neurasthenic symptoms: I. *Constitutional Syphilis* in which he states it may occur in the secondary stage as the result of the action of the virus on the blood and tissues. But a more important factor in its production is the psychical trauma, the effect on the mind in which the normal sense of the individual has received a profound shock.

When a syphilitic individual in the secondary period suffering from neurasthenia is put on mercurial treatment, his neurasthenic symptoms may disappear, but this is not likely to occur, and a group of symptoms more or less characteristic of neurasthenia are likely to persist. It will then be necessary to differentiate either partially or wholly these symptoms of neurasthenia from those of cerebro-spinal syphilis.

Amongst the very early signs of syphilitic brain disease, the author mentions, squint with double vision which may be only transitory; unequal pupils with alterations of the reactions; stiffness of the muscles of the neck, typical headache which gives rise to intense pain which is lancinating, boring, tearing in character. In neurasthenia there are many subjective symptoms, but few, if any, objective signs. He states that lumbar puncture and examination of the cerebro-spinal fluid will afford the best clue to diagnosis.

A condition very hard to diagnose is that of a patient who years ago had syphilis and now has symptoms which point to either syphilitic endarteritis cerebri or neurasthenia in which loss of memory, irritability and states of depression are especially well marked. If the pupils are irregular and unequal in outline, with abnormal reactions organic disease should be suspected.

In all doubtful cases the author recommends a Wassermann reaction of the blood to be done, and if possible put patient on mercurial treatment.

Tubes Dorsalis.—In differentiating this condition from neurasthenia, one may meet with considerable trouble, especially where the individual has been taking alcohol to excess, and as a result the knee jerks may become lost, gait unsteady, sluggish acting pupils, and perhaps a history of previous syphilitic infection. In cases of doubt, the author recom-

mends lumbar puncture, for if the fluid is free from lymphocytes, then tabes can be excluded.

Again tabetic patients worried by the thought of suffering from a progressive, incurable disease become sleepless and depressed, and develop besides the organic disease, a neurasthenic condition.

Genreal Paresis of the Insane.—One of the most difficult questions of diagnosis occurs between neurasthenia and the commencement of general paresis, a neurasthenic state may precede for many months the first appearance of signs of general paresis.

The neurasthenic will be found almost always to be self-conscious, and self-critical, he analyses his troubles, discusses them with others, he comes at once to consult his doctor. The general paralytic does not come spontaneously to consult his doctor. He is ill before he discovers it, and his personality is changed. He has become depressed, irritable, brooding, preoccupied, somnolent, and apathetic, and answers in monosyllables. He may be apprehensive and will not go out without a companion. But with these there is usually some evidence of intellectual failure, and this is the feature that helps to distinguish this disease from neurasthenia. His memory fails him and he forgets where he has placed things, and he forms erroneous notions of his financial position. Following the depression, or alternating with it there may be periods of mental activity. His mind may be full of new schemes and projects of all sorts. There is a failure even early in the disease of the auto-critical faculty.

It is difficult to tell when the preparalytic period began. An injury to the head may give rise to traumatic neurasthenia, and also to general paralysis; but in the case of the latter there is a predisposition to the disease. A careful examination will decide this as a rule. It is very difficult to distinguish neurasthenia from general paralysis when complicated by alcohol. The eye symptoms will aid. It may be necessary to place the patient under control till the effects of the alcohol has passed away.

Arterio-sclerosis.—Many of the symptoms of neurasthenia may stimulate arterio-sclerosis. Some neurasthenics may develop arterio-sclerosis in later life. The two diseases are associated in etiology, as the causes may be common to some extent. Both of these diseases are products of multiple factors, for example, physical and mental stress, infective disease, notably syphilis and influenza; habit and occupation, intoxication, as alcohol, tobacco, and lead; auto-intoxication, as gout and diabetes; and absorption of intestinal poisons. Heredity plays a part in both.

Many symptoms common to both, such as cold hands and feet, anginal symptoms, pseudo-asthmatic attacks, palpitation, tachycardia, bradycardia, cardiac arrhythmia, headache, vertigo, noises in the ears, or slight clouding of consciousness, have a very different prognostic value as there may or may not be arterio-sclerosis present. When cardiac symptoms accompanying neurasthenia the emotions are likely to play a prominent part. If there be organic disease present, physical exertion is more likely to be a cause for the disturbance. A defective supply of blood to the brain is early manifested by mental failure. Thus arterio-sclerosis is very liable to cause faulty nutrition of the neurones and give rise to neurasthenia.

Arterio-sclerosis is an important factor in the causation of involuntary psychoses. The mind fails, there is melancholy, the person weeps readily. In the true neurasthenia the depression is less and the state of consciousness is perfect.

David Ferrier, M.D., F.R.S., discusses the subject of "Neurasthenia and Drugs." The author states that the successful treatment of neurasthenia must be directed by sound views as to its pathology. He further states that in his opinion there is little to justify any co-relation between neurasthenia, arthritism, colaemia, or other forms of auto-intoxication, or between it and visceral derangements of any particular type. Hence, he argues that it is unnecessary to prescribe drugs, baths, or methods of treatment with a view of eliminating the toxins which are supposed to be exerting a deleterious action on the nerve cell.

He highly commends the rational psycho-therapy of neurasthenia, as expounded and practised by Dubois, of Berne.

With regard to the Weir-Mitchell treatment, he speaks cautiously and though while a treatment so generally used it is not itself all in all, many neurasthenics going through the treatment without any real benefit. In neurasthenia associated with malnutrition, anaemia and general physical prostration, rest in bed, massage, over feeding, tonics, etc., work wonders, and tends to improvement of the condition. The author considers the Weir-Mitchell treatment, properly carried out under the immediate and constant supervision of a psychologist, as the best treatment in the severe forms of neurasthenia.

As to the treatment of the symptoms, such as oppression in the head and back, palpitation, dyspepsia, etc., these are practically drug proof and that if medicines are to be prescribed they should be as vehicles, *i.e.*, more psychological than pharmacological in their action so as to avoid developing a habit and doing the patient harm.

He contends that if hypnotics and narcotics are prescribed at all, they should be both disguised and varied.

He advocates healthy occupation of both body and mind even to the most pronounced neurasthenic.

Dr. Robert A. Fleming, M.D., F.R.C.P., deals with "Neurasthenia and Gastralgia." He describes the following types of neurasthenic dyspepsia.

- (I.) Atonic dyspepsia, with generally dilatation of stomach and always a tendency to stagnation of gastric contents. This variety is associated with hypochlorhydria.
- (II.) Cases of hyperchlorhydria, constant or intermittent. The severity of the condition varies.
- (III.) Cases associated with gastroptosis or mobility of some abdominal organ.
- (IV.) Cases in which there is no chemical or other change, from the normal condition of the stomach, but in which there is pain and nervousness and the abdominal aorta pulsates with undue vigour.

Pain is a prominent feature in any of these types of dyspepsia. These varieties are not sharply defined and two or more types may exist in the same patient. In addition to pain the neurasthenic may suffer from severe vomiting. Such cases usually belong to the type in which hyperchlorhydria is present.

The various theories of the etiology of neurasthenia is fully considered. Bouchard's view that it is due to gastric origin. But the writer of the article cannot accept this theory as a complete explanation of its etiology. Beau, Hayem and Winter regard dyspepsia as a cause of anaemia and that this is a cause for the neurasthenia. Here again the writer differs, and points out that there are many cases of neurasthenia in which there is no digestive trouble at all, or at least none which could be looked upon as of primary importance. This, however, does not preclude the very great importance of the digestive factors in etiology. He lays great stress on the idea that there is some radical defect in the nervous, and that any strain placed upon them may cause a break down. This implies something lacking in their structure. Dyspepsia means malnutrition and often pain. One cause of the disease is gouty gastric indigestion. Displacements of the abdominal organs have been considered a cause in some instances, but this is rare. The sexual factor in the causation of neurasthenia must not be overlooked.

There are several clinical types in which gastric pain occurs.

1. There is that with atonic dyspepsia, with or without gastric dilatation. This is practically always associated with diminished free

hydrochloric acid, limited digestive capacity of the gastric juice, and a consequent stasis of the gastric contents. These cases are amongst the most common of the gastric varieties of neurasthenia.

2. There are cases with an excess of free hydrochloric acid, which may be intermittent or constant. In gouty patients there is frequently this hyperchlorhydria. The appetite may be good, but pain comes on in one-half to three hours after taking food. There is heat and burning in the hypochondrium. The discomfort is greatest after a large meal and is again relieved by eating. There are some of these cases where the pain and acidity goes on to the provocation of vomiting. These conditions may be reduced to three types: (1) Simple excess of gastric juice; (2) Constant and great excess of free hydrochloric acid, and (3) intermittent excess of free hydrochloric acid.

3. Cases associated with gastropotosis and mobility of the kidneys. These are very rare.

4. Cases in which there are no chemical changes in stomach. There is, however, pain in the stomach. There is a marked pulsation in the abdominal aorta, and great nervousness. In these cases there may be a gastric hyperaesthesia. This type is rather common.

In the diagnosis he states that it is impossible to discuss the diagnosis without discussing neurasthenia as a whole, but he advises a careful consideration of the patient's history prior to the onset of the gastralgia. The absence of the typical signs of gastric ulcer and the presence of the general symptoms of neurasthenia, should assist in the diagnosis.

The prognosis is largely that of neurasthenia itself. No case of neurasthenia is rapidly cured. The author of the article states that the disease is a slow undermining and weakening of nervous and the cure is a gradual reconstruction and strengthening, which are greatly aided by convincing the patient that he is improving.

In the treatment of the gastralgia of neurasthenia he emphasises the importance of studying the constitutional element in the case. He states that to ignore a gouty element in neurasthenia is very serious.

The prophylactic treatment in children of neurasthenic parents is important. The three essentials in the treatment of neurasthenia are, rest both physical and mental, isolation, and massage.

When the gastralgia of neurasthenia is associated with dilatation and diminution of free hydrochloric acid 10 minims of the dilute acid B.P. with a bitter infusion, such as quassia calumba, *immediately* before meals. In cases of hyperacidity he sometimes gives this dose of dilute hydrochloric acid 15-20 minutes before meals. An alkali may also be

given 30 minutes after the food or when pain starts. For severe pain chloral, bromides, heroin, etc., give prompt relief, but should be given very cautiously so as to avoid habit formation.

He recommends a mountain climate when the season is suitable. General tonics are invaluable as strychnine (except in cases where it over excites), arsenic, iron, formates.

The patient should be kept under medical supervision until the weight is made up. Milk he emphasises as the chief dietetic article and recommends giving 2-4 pints per day. Alcohol should not be given and tobacco restricted to very moderate use.

The patient should always be encouraged. An open air life is best and suitable employment should be secured. In some cases he believes the high frequency currents of 300-400 milli ampères applied locally is beneficial in relieving the pains of the gastralgia of this condition when other remedies are less successful.

A. F. Tredgold, L.R.C.P., M.R.C.S., contributes a paper on "Neurasthenia and Insanity." He states that neurasthenia and insanity are very closely related diseases. They owe their origin to precisely similar causes. "In each of them as exciting factors, we find such conditions as the stress and strain of modern life, shock, grief, infections and intoxications like influenza and alcohol, auto-intoxications, trauma, enteroptosis, and so forth." The predisposing cause is also identical. "In each disease there is a diminished physiological margin—a weakness—of the central nervous system." This weakness may be acquired, but in most instances it is inherited.

As to their pathology, in neither neurasthenia nor insanity has there yet been discovered any structural alteration of the nervous system; they both belong to the functional group and the change as far as we know is a bio-chemical one.

There is a similar resemblance from a clinical aspect. In neurasthenia the dominating symptoms are visceral or bodily, while in insanity they are mental. In many cases of insanity, however, the bodily symptoms figure largely, and there are few, if any, cases of neurasthenia in which mental symptoms, in some form or other, are not present.

"In spite of these resemblances, however, there is one fundamental difference: the sufferer from neurasthenia is still sane, and the methods of treatment, especially as regards the social relationships of the sane, are essentially different from those of the insane."

"The clinical resemblance is mainly due to the fact that in both these diseases there exists derangement of the same cerebral and mental

processes." Although similar symptoms may be present in the two conditions, the manner in which they are combined in the two diseases is essentially different.

The essential features of insanity is a perversion of mind associated with disorders of brain. The functions of the brain comprise many other than those purely mental and then may be considerable cerebral disturbance without any marked perversion of the mental faculty.

"In pure neurasthenia there is no disturbance of the general relationship of the individual to his environment, no disorder of conduct, and, therefore, no insanity."

VAGINAL, CESAREAN SECTION IN ECLAMPSIA.

H. D. Fry, Washington, D.C. (*Journal A. M. A.*, January 7), advocates the use of vaginal Cesarean section in eclampsia more than is done at present. The natural method of dilatation of the cervix is slow and gentle, but in this condition we need a rapid method. Manual and instrumental dilatation will not accomplish the results, without subjecting the patient to the injurious influences of forced mechanical stretching, while by vaginal section a clean-cut surgical wound is left to be repaired instead of bruised and torn tissues. The objections made to the operation are chiefly the result of the use of faulty technic, and the accidents are largely preventable. The danger from infection is no greater than that from forcible dilatation. Injury to the bladder can be avoided by careful separation of the organ from the cervix. The connective tissue here is softened and loosely attached during the latter months of pregnancy, except in the uterovaginal ligament in the median line. By cutting this and carefully working beneath the tissue and close to the cervix danger to the viscus is obviated. Other injury, such as opening the peritoneum and tearing, can only result from carelessness or insufficient cutting. He mentions one complication not heretofore noticed, that is, post partum hæmorrhage. He has encountered this once, but it was not fatal. The operation should not be undertaken by unskilled hands, but it is not difficult to one skilled in surgery.

All who intend reading papers at the Ontario Medical Association should be at work now. Good papers cannot be prepared in a hurry.

CURRENT MEDICAL LITERATURE.¹—
MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.

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APNOEA AND SHOCK.

In the *Johns Hopkins Hospital Bulletin*, August, 1910, Henderson discusses the problem of shock. Crile has defined surgical shock as consisting essentially in low blood pressure but he found in his experiments, as the writer did, that death would often result from respiratory failure in dogs in which the blood pressure was fair and the heart beating strongly; indeed artificial respiration had often been used to permit of the animal being kept alive till the blood pressure was reduced and the true surgical shock in the sense Crile uses induced.

The text-book teaching was that the respiratory centre was automatic but it was conclusively shown in recent years that it will stop at once unless kept up to its work; it was said that normal breathing was dependent on afferent nerve impulses, but while these may modify they do not induce or maintain the activity of the centre; it was said to be maintained by the need of oxygen but this is true only in a limited sense, it is indifferent within wide limits to changes in the oxygen contents of the blood, even to a total lack of oxygen it makes no immediate response, although it may be killed thereby. CO_2 is the normal stimulant of respiration, the blood contains 40 vols. of this gas to 20 of O.

Forced respiration furnishes the clue to the problem. If one breathe deeply for two minutes or five if one's determination last long enough there will be produced a degree of acapnia as the writer calls it, a lack of CO_2 , and when the voluntary effort ceases one will feel strangely light-headed, one may be temporarily paralysed, or the arms and legs may be asleep; in fact if one's energy were great enough when one ceased forced breathing, one would stop breathing altogether. If the store of CO_2 has been sufficiently reduced, one will remain breathless, become cysnosed and quite possibly suicided.

This form of respiratory failure has been called apnoea vera, and that it is due to acapnia has been fully proven by Priestly and Haldane. They have shown that when breathing pure oxygen that an increase of .2 per cent. CO_2 to the air automatically doubles a man's pulmonary ventilation. In a demonstration before the British Physiological Society, Peulton performed forced breathing for two minutes and a half, he then lapsed into apnoea; after a couple of minutes his face assumed a leaden corpse-like appearance characteristic of lack of oxygenation yet

it was a full minute after before he experienced any desire to breathe. Such experiment often repeated demonstrates conclusively that lack of oxygen itself is not a respiratory stimulant.

After the oxygen supply of the blood, lungs and tissues has been exhausted, the asphyxia of the tissues results in the appearance in the blood of the products of incomplete tissue combustion—a form of acidosis—this circulating in the blood furnishes a respiratory stimulant and deep breathing begins again, this soon oxygenates the acidosis bodies and apnoea appears; this succession of respiratory events gives us Cheyne-Stokes respiration.

Now as an example of shock, we take the case of a man who has suffered a severe injury and suffers intensely, morphine failing to relieve ether is given when breathing failed and he died with a fairly good pulse for sometime after respiration had ceased. The explanation is furnished by the facts given before, the deep breathing induced by the pain resulted in reduction in the CO_2 content but the pain acted as a sufficient stimulant to keep the centre going, the ether caused still further deep breathing and removing the pain the centre lacking stimulation ceased working. That this furnishes a satisfactory explanation of shock has been proven by many experiments, and by estimation of the CO_2 and O content in the arterial and venous blood during forced respiration.

If this be the true explanation it gives a clue to the prophylaxis and treatment of the condition. When we find a patient suffering from an injury causing intense pain, we should prevent excessive respiration by the use of morphia or anesthetic unless the subject has suffered for some time, in that case their administration would merely hasten respiratory failure unless given in conjunction with CO_2 . The writer has found that when a moderate degree of shock exists that there is a rapid recovery of the arterial pressure by infusion into the vein of saline solution saturated with CO_2 and by making the animal breathe an atmosphere of O and CO_2 . If the shock had gone on to the formation of acidosis products and tissue asphyxia this method fails, probably only transfusion of blood would be successful.

When apnoea supervenes during anesthesia if a soft catheter is passed down to the bifurcation of the trachea and a gentle stream of oxygen supplied, the subject will lie for a long time in apnoea until the acidosis bodies are oxidized and CO_2 accumulates, when breathing will start. Another method is to administer oxygen containing 5 or 6 per cent. CO_2 and to start respiration by one or two artificial respirations, but it must be borne in mind that CO_2 is a powerful drug and should not be administered in greater strength.

ARABIAN MEDICINE.

A wonderful necromancer is Father Time. Only the other day he conjured up a picture of Saracenic medicine ten centuries ago. It was all done in a brief paragraph in the lay press, which related that the Berlin University has conferred the degree of doctor in medicine, *summa cum lauda*, upon Hamed Waly, an Arab sheik from Egypt. This most interesting colleague had passed first through the Mohammedan university in the Adahar mosque at Cairo and the graduate school, the Dar el Ulum. A decade ago this uncommon scholar was sent by the Egyptian Government to Berlin in order that he might teach Arabic in the seminary for Oriental languages; and there he devoted his spare time to medical study. Dr. Hamed Waly will, on returning to Egypt, become a sanitary inspector. His dissertation was on the Arabic history of medicine in the thirteenth century—when, it would seem, the Arabs and the Jews were the world masters in medical science and art. It were interesting to consider briefly that period.

After the dreadful vandalism which wrought the destruction of the Alexandrian library and its medical contents, the Arabians turned to Grecian science for instruction in the practice of healing. Both Hippocrates and Galen were translated into Arabic. Simplicity of thought and of method are almost never lacking in genius, yet precisely for their simplicity were the works of the Father of Medicine less preferred than those of Galen, whose metaphysical refinements and elaborate arrangements pleased the Arabian taste. The successors of Mohammed rested after their conquests, and were disposed to round out their mighty achievements by the cultivation of peaceful pursuits. Nevertheless their great intellectual lights made no addition to general science, other than the invention of chemistry and alchemy, which they introduced into medicine.

The Mohammedan faith excluded practical anatomy in the present day sense; midwifery and gynecology were forbidden men, as is to-day largely the case in the Orient. It will delight our confreres in surgery to know that such practice was considered unworthy of a man of honorable disposition; it was confined only to the "despised lithotomists and persons of the lower class, who, in consequence of the fatalism of the Arabians (despite the remarkable tolerance of the Orientals, even to-day, for painful operations), were very rarely allowed to have recourse to the knife. Such operations as venesection, cauterization, and the incision of arteries were not becoming a physician of respectability and consideration; they were suitable for the physicians' assistants only. These latter,

in reality the servants of the medical man, had relegated to them also such other operations as incision of the eyelid, removal of the veins in the whites of the eyes and of cataract (!) Moreover, no honorable physician would impart to the patient any other advice than such as referred to food and medicine.

Medicine proper was chiefly taught, and chemistry, pharmacy, *materia medica* and the history of medicine were well cultivated. The Arabians were the first to describe smallpox; and they greatly improved drugs, in consequence of their elaborate researches in chemistry.

In the tenth century Avicenna epitomized in one work the conclusions of the Greeks, and this was until modern times the civilized world's text-book and laws of the healing art. Anatomy, physiology, and *materia medica* received consideration; camphor, iron in various forms, amber, aloes, manna, and many other drugs were detailed; gold and silver being considered "blood-purifiers," gilded and silvered pills were held to be especially efficacious. Those among us who are amused by such a perversion of logic should recall the great market value attained in our time by "pink pills for pale people"; this is just Avicenna's reasoning brought up to date.

Avicenna wrote much of nervous diseases. He considered *tic douloureux*, measles, tetanus, and the three forms of inflammation of the chest—pleuritis, muscular rheumatism, and mediastinitis. He is said to have been the first physician to teach the contagiousness of phthisis. He distinguished fifteen kinds of pain; in great coldness and great heat he gave no medicines, and considered that a remedy good in one locality would be injurious if employed in another. In surgery Avicenna wrote of cataract extraction as a dangerous operation, as well he might have; he would do no operation on strangulated hernia (and must have lost many a patient in consequence); he described puncture of the bladder, the method by which foreign bodies might be removed from the gullet, hardened wax from the ear, and the like; he preferred to loosen the teeth by means of the fat of tree toads rather than to pull them out.

Albucasis, later in the same century, had no foolish pride. He was as great in surgery as Avicenna was in medicine. He did not scorn to venesect, opening the vein on the sound side; he recommended this practice as a prophylactic. Thus he was instrumental in perpetuating a custom on the whole pernicious, by reason that veins were opened as a routine procedure, and quite without consideration of its propriety or necessity.

Albucasis was familiar with gangrenous epidemic erysipelas, warty excrescences, fractures (which he rectified by the heroic use of

machines) ; he valued anatomy as essential to the practice of surgery—a bold position in an Arabian at that time.

The celebrity of the Arabian school of medicine seems to have been based, not on its essential merits, but by reason that the rest of civilization was in a much lower state of medical knowledge. Europe, from the eighth to the twelfth century, was, as regards natural science, almost completely immersed in superstition. What remained from the ancients of a taste for literature, the fine arts, and science were cherished in the middle ages by the Moors and Arabs ; and it was from this source by the intervention of the crusaders, and the intercourse thus effected between Europe, Asia, and Northern Africa that the ancients again came into their own, especially in Italy and France. The study of Greek was generally suspended in Europe during the dark ages, and it is possible the works of the ancient Greek physicians might have been entirely lost to us had the Arabians not preserved them in translations.—*Medical Times*, Jan. 11.

THE CAUSE OF GENERAL PARESIS.

Softening of the brain, general paralysis of the insane, or, in its more modern terminology, general paresis, has become a widespread affection. In the therapeutic attack on it we stand helpless, and therefore any clues that may be offered regarding the factors that assist in its development are eagerly grasped at in the hope that they may lead to its conquest.

Since Fournier's time the most widely accepted belief has been the syphilitic origin of paresis. Many English psychiatrists have maintained, and some even now hold, that sexual excesses, especially sexual aberrations, fellatio in particular, may cause the disorder in the absence of syphilis, but the more careful analysis of histories, the newly-acquired knowledge concerning pseudoparetic syndromes in brain tumor, in arteriosclerosis, in multiple sclerosis, in alcoholism, plumbism and allied toxemias, and particularly the utilization of the cytologic examination of the spinal fluid with the Wassermann test of both blood and spinal fluid—these have all served to establish more firmly than ever the dictum "without syphilis no paresis."

But even when this is said, the goal has not been reached, for the newly-explored field of comparative psychiatry shows some very striking anomalous conditions, which compel one to stop and analyze the factors, especially since it would appear in the light of these newer facts that some other element than syphilis alone is essential.

It was but natural that alcohol should have been thought of as the chief contributory element in this etiologic chase. The early French psychiatrists so taught, and the belief is fairly universal that alcoholism and syphilis are the necessary elements. But we learn of the high percentage of paresis among peoples such as the Japanese, who have a low percentage of alcoholism and a high percentage of syphilis. Conversely, recent studies of the native peoples of North America—Mahomedans for the most part, and non-alcoholic—show that general paresis is extremely rare among them, in spite of the fact that from 60 to 70 per cent. of the population of some regions suffer from syphilis, all stages being represented.

Only a few years have gone by since it was announced that the cause of paresis was to be found in a definite bacterium. Originally explained as a primary infection, the role of Ford-Robertson's diplococcus has fallen from that of a possible infectious factor secondary to that of an ordinary laboratory contamination. The possibility of light has been shut off in this direction.

Can comparative psychiatry throw some light on the subject? This question seems to be answered in the affirmative in a recent communication by Rudin, based on some studies of paresis made on the native races of Algeria. Rudin has gone very completely into the much-discussed question concerning the presence of paresis among these races, and has apparently established the fact that for the present state of occupation and culture the native races of Algeria, notwithstanding a 60 to 70 per cent. infection with syphilis, are free from paresis, and the evidence further points to the fact that syphilis is no new disorder in Algeria, but was probably introduced there in epidemic form about the same time that it showed itself in Spain in Italy, *i.e.*, in the post-Columbian period.

Rudin looks on the process of civilization as the answer to the problem, which he looks at from two points of view.

In the first place, the severe stress of higher civilization and race culture shows itself more particularly in the nervous system. Modern modes of life place particularly heavy burdens on the nervous energy and the nerve centers. One result of the struggle with syphilis and excessive nerve-strain combined is paresis. In primitive peoples, in whom the latter factor is absent, the brain does not give way, and syphilitic lesions are more common in those parts of the body more exposed to physical wear and tear, namely, the skin and the bones.

Secondly, the advance in superiority of the white races, which has come about largely through increasing complexity of the nervous system, has entailed a high percentage of hereditary shortcomings. The studies

of Julius and Arndt have shown, contrary to the usual belief, that hereditary factors are very prominent in the ascendants of paretics. It thus becomes plain that, after all, paresis, although primarily a result of infection, brings into high relief the general problem of the relation of soil to the processes of destruction. Given a brain not deteriorated by hereditary factors, and not called to work at the high pressure forced on it by modern factors of civilization, a syphilitic infection rarely leads to a parietic breakdown. This is the final conclusion of this interesting study of Rudin in the field of comparative psychiatry.—*Jour. A. M. A.*, 31 Dec., 1910.

THE POSITION OF VACCINE THERAPY.

The opinion of the medical profession as a whole wavers somewhat as to vaccine therapy. There are those who believe in it, those who are skeptical, and those who openly deny its efficacy. Recently, both from England and from Germany, encouraging news has come with respect to the benefits accruing from antityphoid vaccination. Experiments on a large scale in the British and German armies seem to show conclusively that beneficial protective results have come from vaccination against typhoid fever.

In the American army the outcome of the use of the method has been attended with most satisfactory results. It appears to have been proved beyond a doubt that the procedure is harmless and effective.

In the *Practitioner* for December, Dr. E. von Offenheim endeavors to correct certain misconceptions which have arisen concerning the method. Referring to one reproach, the lack of confirmatory statistics, von Offenheim points out that far too much importance is usually paid to statistics, and that, as everyone knows, these are easily made up to prove a point that it is desired to prove. It is said that vaccine therapy often fails, and is consequently regarded with distrust, on account of the ignorance of the general practitioner of the proper technique of the method. Further, according to von Offenheim, medical students and physicians are not sufficiently trained in the principles of vaccine therapy, so that a very large number of practitioners do not know which cases are suitable for such treatment and which are not. The argument is made that when suitable cases are treated in a scientific manner vaccine therapy fulfils all that has been alleged for it by its earnest advocates. Of course, this is not to say that vaccine therapy has not its limitations, for it most obviously has. Von Offenheim, however, lays down this

axiom, that all infections of which the organisms are known or can be found and can be grown *in vitro* are amenable to vaccine therapy, provided there are no uncontrollable autoinoculations and the lesion is accessible to the blood stream.

There is little doubt that the principle of vaccine therapy is right from the scientific point of view, and, so far as typhoid fever is concerned, such treatment is effective. As was said before, its protective value against typhoid fever has been clearly shown in the recent report of the surgeon-general of the United States Army, in which it is stated that among the unvaccinated of the army the case rate of typhoid fever in a thousand was 4.11, and the case rate among the vaccinated .26.

GALL-BLADDER DISEASE.

J. P. Runyan, Little Rock, Ark. (*Journal A. M. A.*, December 31), reviews the pathology and diagnosis of morbid conditions in the gall-bladder and bile ducts. He accepts the evidence that infection frequently occurs by the route of the portal vein. The history is of great importance, and we should not regard the statement that gall-stones may produce no symptoms, and also remember that they may occur before middle age. The most prominent symptom of gall-stone disease is a history of long-standing dyspepsia and digestive disturbances, usually independent of ingestion of food and frequently relieved by it. In gall-stone disease we have often at the beginning a sense of constriction rather than actual pain, and accompanied with a sort of characteristic chilliness, jaundice, hematemesis, etc., later symptoms after complications have occurred. From a surgical standpoint it makes no difference whether we have gall-stones, gastric or duodenal ulcers, pericholecystic or perigastric adhesions; the same incision will do for all. The consequences of gall-stones and inflammatory diseases of the gall-bladder are noticed in order. Whenever there is obstruction and the bile is absorbed into the blood we have jaundice. The toxic biliary salts are responsible for some of the consequent toxemia, and the exclusion of the bile from the intestines interferes with the absorption of fats which undergo excessive cleavage from the action of intestinal bacteria and ferments and give rise to irritating decomposition products and produce diarrhoea. Fats should, therefore, be excluded from the diet in these cases, as the pancreas has the unfortunate defect of sharing its outlet with the bile it often becomes involved, probably in close to 50 per cent. of the cases, and gall-

stone disease may, therefore, be considered as the cause of a very large proportion of cases of pancreatitis. Complete exclusion of the pancreas secretion is rare without coexisting exclusion of bile. The cleavage of fats in the intestines is considerably diminished, and some claim its absorption is also lessened. There is much fat in the stools, which are large, and the muscle nuclei pass through the intestine undigested, as shown in Schmidt's test. In addition, lipase may appear in the urine (Hewlett's test) and pentose (the Cammidge reaction), and much dextrose. The nature and extent of the operation for gall-bladder and gall-stone disease must depend on the condition of the pancreas. In biliary disease with chronic pancreatitis, the removal of the stone with temporary free drainage is generally sufficient. The removal of the gall-bladder is not advisable unless there is malignant disease. The keeping of the gall-bladder intact allows of a secondary cholecystenterostomy if necessary, and we must keep in mind that the mucus of the gall-bladder has a function, and protects the pancreas as well as relieves the tension in the common duct at the head of the pancreas. Runyan has always been impressed with the importance of chronic pancreatitis, and has always advocated a cholecystenterostomy in all cases of distended gall-bladder and dilated common duct, with or without stones. In performing this operation we should always bear in mind the function of the bile in the intestines, and never make an anastomosis between the gall-bladder and the colon unless the conditions demand it. The most logical place for such union is between the gall-bladder and the duodenum as near the opening of the common duct as possible, though this may not always be practicable. In acute pancreatitis complicating gall-stones or gall-bladder disease the pancreas should be incised and free drainage established; the anterior abdominal incision is better than the posterior. If the patient's condition admits it and there are stones in the gall-bladder or ducts or an acute infection of the bile passages, the stone should be removed and drainage of bile established through a right lateral incision. If jaundice is present drainage is imperative. In all diseases of the gall-bladder and ducts we can prevent complications only by an early diagnosis. There is danger in waiting for an attack of biliary colic, vomiting, hematemesis or pancreatitis to make the diagnosis before operating.

SURGERY.

Under the charge of H. A. BEATTY, M.B., M.R.C.S., Eng., and A. H. PERFECT, M.D., C.M.,
Surgeons to the Toronto Western Hospital.

RADIUM'S CONTRIBUTION TO SURGERY.

Dr. Robert Abbe, of New York, at the meeting of the American Medical Association in St. Louis, said that his one desire had been to test radium, not to exploit it. He had used it in 500 cases of disease. The variety of rays given off from radium were productive of wholly different results when brought to bear on living structures. The *alpha* rays have not been demonstrated to have any therapeutical result. The *beta* rays carried negative electricity and were acquiring importance. Some of these penetrate deeply into living tissues. The *gamma* rays penetrate even more deeply, but carry no electric discharge that is measurable. As far as it is possible to understand, this mysterious force we are dealing with a nascent electric atom, an electron, which supplies a negative discharge. Dr. Abbe had kept accurate notes of every case treated during seven years, and summarized the results as follows: He had failed to cure any case of lip cancer and Dr. Wickham, the greatest living authority, confessed that as yet he had failed to cure permanently any case of lip cancer. Of lingual cancer one had to speak cautiously. These must be differentiated from ulcerated or non-ulcerated papillomas of the tongue. Of the latter he had promptly and permanently cured four, one of which showed undoubtful epithelial changes. An ulcerated cancer of the tongue is increased by foul bacterial infection and this may be modified and improved by radium treatment. Epithelial growths, complicated by old syphilitic taint, yield almost without exception to the judicious use of radium, in part, and often wholly, with cures that have been watched from one to three years. In malignant growths of the esophagus, stomach, rectum and uterus they were facing that which defied every resource of their art, so far radium had no complete conquest to offer, unless retardation and temporary relief be so regarded. Dr. Abbe reported some cases which offered proofs of the scientific curative action of radium on certain tumors. Radium was particularly effective in combatting myeloid sarcoma, and there is a similar response in a specialized type of embryonic vascular tissue, nevoid growth. Radium exerts a beneficent action on many varieties of glandular hyperplasias, notably on some goitres, also on parotid sarcomas. In trachoma and obstinate vernal catarrh there have been demonstrated some brilliant cures. The cases have not been sufficiently numerous nor long enough studied to classify in groups warranting definite promise of uniform results.

TEACHING THE PRINCIPLES OF SURGERY, THE IDEAL AND THE PRACTICAL.

Dr. Martin B. Tinker of Ithaca, New York, said that the predominating fault of present day teaching was the failure to recognize the relative value of the teachings. The student should be taught the things which all practitioners should know. He should be taught the simple things, the control of hemorrhage, treatment of nose bleed, leg ulcer and minor injuries in general. The ability to do such work and to do it properly was the measure of the usefulness of a medical man to the community. His uselessness was measured by his attempts to do major surgery before he was properly qualified. This should be done in the future only by men who had long continued service as hospital internes, as residents and as assistants to some of the great operators. What was wanted was more training in the simple every day things. Nothing was more erroneous than teaching young men the newest, perhaps little proved surgical procedures. It was more necessary that the young graduate should know the practical preparation of his hands, of catgut, and of the operative field, than that he should know the size of needles to be used in anastomosing blood vessels. The teaching of general anaesthesia should be a class room routine procedure, for everyone should have a practical knowledge of this branch. Emphasis should be laid on principles rather than on the presentation of jumbled facts. Teachers should be paid enough to enable them to devote the major part of their time to their work rather than to try to practice at the same time. The university should control its own hospital where surgical diagnosis rather than treatment should be the keynote of bedside teaching.

In a case of known or suspected visceral carcinoma, the finding of small nodules in or just beneath the skin is of vast diagnostic and prognostic importance. If an excised nodule is shown to be cancerous this will at once establish both the diagnosis and the futility of operation. In cases of intra-abdominal carcinoma these superficial metastases are curiously, most often found in the skin to the left of and below the umbilicus.

Overdistention of the bladder due to neurasthenia, hysteria, shock or prolonged voluntary retention may be overcome by administering a rectal enema consisting of a pint of warm water and an ounce of glycerin.

VERMINOUS APPENDICITIS.

H. A. Lediard, *Lancet*, September 17, 1910, reports two cases of appendicitis, in whom the oxyuris was found in the appendix. In the

first case, a child, the live oxyuria were found; in the second case, an adult, the worms were imbedded within a concretion. Appendicitis resulting from oxyuris within the appendix has been reported frequently, notably by Guinard, Kelly and Ashoff. They give rise to inflammation by burrowing into the mucosa.

The passage of a sound or catheter into a tortuous or narrowed urethra is facilitated by injecting the urethra full of sterilized olive oil.

THE WASSERMANN REACTION.

In *North West Medicine*, April, Lensman gives a lucid description of the principles and technique of this rather difficult reaction which has recently been developed to the position where it can and should be used in all cases where there is a reason to suspect the presence of syphilis, but where the the clinical manifestations are uncertain. He says:

"1. The reaction is of value in all cases in which an ulcer upon the genitalia is of obscure origin or atypical.

2. Certain acute exanthemata, if they give a negative reaction, rule out the possibility of syphilis.

3. It is of value in the diagnosis of diseases of the nose, throat and eye, in cases of internal medicine, surgery, obstetrics, and neurology.

4. In differential diagnosis of many important cases.

5. In life insurance.

6. In cases of matrimony.

7. In control of treatment."

If an animal be injected with increasing quantities of bacilli it develop in its serum the power of dissolving this particular organism; this power is due to two substances, the first substance, which is a direct product of the reaction, has an affinity on the one side for the exciting agent, the bacterium or antigen as it is called, on the other side for the second substance called complement. This first is called the amboceptor, it resists heating to 56 deg. C., and so is said to be thermostabile. The second called the complement because it completes the reaction is found in fresh blood of all animals, is made inactive by heating to 56 deg. C., and so is said to be thermolabile. Therefore the members of the bacteriolytic group are: the antigen, the amboceptor and the complement.

Parallel to this we find that the blood serum of an animal has the power to dissolve the red blood corpuscles of another animal. Here we have three members; the red blood cells, the antigen, hemolysin the amboceptor, and the complement.

If this group of a hemolytic system are mixed hemolysis or laking of the corpuscles takes place; if you mix the three members of the bacteriolitic group no visible change takes place, if immunity took place then immune bodies were present and binding took place, because an amboceptor had been developed.

Now to determine whether the complement is free or united we add red blood cells and hemolysin to the bacterial group, if the complement has been bound to the antigen by the bacterial immune body (amboceptor) hemolysis would not take place, the red blood cells sinking to the bottom of the tube; but if the antigen and the complement have not united, the complement is free and solution of the red cells takes place at once.

In the blood of the syphilitic there is due to the *spirocheta pallida* specific amboceptors against the virus of syphilis, and we reason as follows:

"If to the *spirocheta pallida* were added known syphilitic blood, containing supposedly syphilitic amboceptors, and if to this were added fresh blood serum for complement, half an hour later the members of this group would unite and, if red blood corpuscles and hemolytic amboceptors were added, no hemolysis could take place because the complement would be used up or bound. Again: If to a solution of *spirocheta pallida* normal blood be added, containing no syphilitic amboceptors and fresh blood serum complement, no union would take place, and if you add red blood corpuscles and hemolytic amboceptors hemolysis would take place at once, because complement is present and not bound."

As so far it has been impossible to cultivate the *spirocheta pallida* Wassermann selected and made extracts from the liver of a luetic foetus which contains many of them, and uses for the experiment,

"1. For antigen we use at present an alcoholic extract of the fetal lentic liver.

2. Serum from syphilitic patient, or lumbar or ascitic fluid of syphilitics.

3. Fresh guinea pig serum for complement.

4. Hemolytic amboceptor; the serum of a rabbit immunized with washed red blood corpuscles of a sheep."

"606."

Dr. C. F. Marshall, a well-known authority on syphilis, writes:

A certain firm of chemists have announced that they will this month put dioxydiamido-arsenobenzol on the market under a trade name, at what one may call the exorbitant price of ten shillings per dose. Whether

this firm has the monopoly of the drug; whether such a monopoly is possible, seeing that the chemical composition is known, and whether the advertising of such drugs under fancy names is in harmony with the ethics of the medical profession, I leave for others to decide. The main point is whether there is sufficient evidence in favor of "606" to justify our recommending it to our patients. I think that most of us who have followed the continuous stream of literature extolling the virtues of "606" must have been reminded of the even greater sensational boom which took place some twenty years ago when tuberculin was introduced, and must have wondered whether "606" would share the same fate. Although it seems to be proved that arsenobenzol has a remarkable therapeutic effect in certain cases, the reports on its curative effects appear to have been premature and exaggerated, and the claim of its effecting a "sterilisatio magna" has not been proved. Because spirochætes have been seen to disappear from chancres and other superficial lesions, it does not follow that all the spirochætes in the body have been killed. After the somewhat wild enthusiasm of the German medical press, it is interesting to learn the opinion of Professor Gaucher, the eminent Parisian syphilologist, who gives the results of his experience with "606" at the St. Louis Hospital. He states that relapses are common; that some cases do not respond to the treatment at all; that the chief lesions benefited are superficial ulcers, mucous patches, and other benign lesions which usually heal quickly under mercury; that the drug has no effect on visceral syphilis, nor on para-syphilitic lesions such as leucoplakia, general paralysis, and tabes. On the other hand, some cases which had failed to improve under mercurial treatment certainly healed under "606," at any rate temporarily. In short, Professor Gaucher considers that "606" is indicated only in cases which are resistant to or intolerant of mercury. But, as he truly remarks, such cases are far from common. I think that most of the cases said to be resistant to mercury are due to the adoption of routine methods of treatment. For instance, a case which does not improve under a course of injections of gray oil or some other preparation of mercury will often respond when the preparation or its mode of administration is changed or replaced for a time by iodides. In my experience there are very few cases of syphilis which will not respond to judicious combinations and variations of mercury and iodides. Returning to the question at issue, the indications for "606," it must be remembered that Ehrlich originally formulated a long list of contra-indications. He considered the drug contra-indicated in children and old people, in debilitated, alcoholic and cancerous subjects, in lesions of the fundus oculi, in organic disease of the heart, liver,

kidneys, lungs, and central nervous systems, and in arterio-sclerosis and aneurysm—in fact, in most of the severe sequelæ of syphilis. Ehrlich's main object seems to have been complete destruction of all the spirochætes at an early stage of the disease, rather than a cure-all for all complications due to syphilis. However, that such a *sterilisatio magna*, or abortive cure, has ever been attained by 606 or any other drug is impossible to prove; for, in the first place, it is possible that in some cases the power of resistance of the body is sufficient to overcome the spirochætes without the assistance of any drug; secondly, we know that long latent periods may elapse between the primary and tertiary periods. It is true that Neisser claims to have proved abortive cures in the case of monkeys, by the success of re-inoculation with syphilis after treatment with 606 or other arsenical preparations, but there is evidence to show that re-inoculation with syphilis may take place before the first infection has been cured. Again, the partisans of the Wassermann reaction tell us that a persistent negative reaction means a cure. However, considering our ignorance of the real nature of this reaction, and the knowledge that it is not specific for syphilis, I do not think the evidence of the Wassermann reaction can be accepted as absolutely conclusive. Moreover, as Fleishman and Butler have pointed out, it is possible that in an apparently cured case of syphilis an encapsuled focus may remain, incapable of producing the bodies which cause the complement deviation of the Wassermann reaction, unless roused to activity by some extraneous cause. To sum: (1) There is not proof that an abortive cure of syphilis has been effected by 606; (2) relapses are common, and some cases are refractory; (3) it has no effect on parasymphilitic lesions, which are the most dangerous of all the effects of syphilis; (4) there are many contra-indications to its use; (5) its chief and perhaps only indication is in cases which are resistant to or intolerant of mercury, and such cases are extremely uncommon. Before leaving this subject, it may be mentioned that a fatal case has recently been reported by Jacquet, who attributes the fatal issue to the direct action of "606." The patient, a man, æt. 46, had a syphilitic ulcer of the thigh, and also suffered from dilation of the stomach and vomiting. After an injection of 50 cgs. of 606 the ulcer healed, with pyloric stenosis and dilation of the stomach. Jacquet is of opinion that death was due to the vaso-dilator effect of the drug, and that the latter is contra-indicated in cases of ulcer of the gastro-intestinal tract. After all this, I suggest we should think twice before recommending "606" to our patients, and insist on a written statement if they demand it.—*Medical Press*, 14 Dec., 1910.

A CONSIDERATION OF SURGICAL METHODS OF TREATING
HYPERTHYROIDISM.

Charles H. Mayo, Rochester, Minn., says that the glands of elimination are provided with an intermittent discharge, and among these is the thyroid. It is difficult to estimate the amount of hypersecretion; the entire absence of secretion might occur and be compensated by other glands of associated function. One can hardly tell the amount of over-secretion that can be neutralized by other glands. The author's observations cover over 2,000 cases operated on, and it is evident that the amount of disease in the gland varies much as to the appearance of symptoms. Goiter may be a reversion to a former function of the gland; hyperthyroidism is a toxemia due to absorption of thyroid secretion. The stimulus may be the same as was present in primitive man; this was then a normal stimulus; it may still be present in food or water, be formed through some process in the intestine, result from metabolism, or exist in the air. The types of goiter are but stages in a general process. Goiter may be classified as to pathology, into cystic chronic parenchymatous hypertrophic, papillary cystic goiter, hypertrophic fetal goiter, and fetal adenoma of the thyroid. The operative mortality in surgical treatment of simple goiter is very low; in hyperthyroidism it is quite a different matter. This condition often causes death or invalidism. If fatal, death occurs within a few weeks of the beginning of the disease; seldom does it progress slowly to death. The ligation of vessels, nerves, and lymphatics seeks to cause a reversion to simple goiter. Early cases may be treated thus; serious cases with degeneration of heart, liver, and kidneys, are also benefited by this operation, there being a gain in weight immediately. Over 1,100 patients operated on at St. Mary's Hospital show mortality after ligation of 37-10 per cent.; after extirpation of 39-10 per cent.; about 70 per cent. of the patients consider themselves cured.—*Medical Record*, Dec. 31, 1910.

THE CHEMICAL PROPERTIES OF SALVARSAN ("606").

(Contribution from the Chemical Laboratory of the American Medical Association).

W. A. PUCKNER and W. S. HILPERT.

At the request of the Council's referee for Salvarsan ("606"), its examination was taken up in the association laboratory. Inasmuch as the statements in articles regarding the chemistry of this new remedy have been somewhat vague, it is deemed of interest to record the following experiments:

The specimen of Salvarsan was contained in a sealed glass tube, said to contain 0.6 gm. of the product. To determine its content the tube was weighed, the contents transferred to a beaker, the tube washed out with water, dried and weighed. It was found that the contents of the tube amounted to 0.6510 gm. When the tube was opened a marked wood-spirit-like odor became apparent, probably due to the vapor with which the tube was filled as a means of preventing the decomposition of Salvarsan by air. The powder, which was light yellow in color, when treated with water became a soft, transparent, gelatin-like mass, which dissolved to form a clear yellow solution. This solution was made up to 100 c.c., and portions used for the following tests:

TESTS.—The solution was distinctly acid to litmus. When sodium hydroxid solution was added gradually, a precipitate appeared, which on further addition of alkali redissolved. The reaction which takes place apparently consists in the liberation of the water insoluble free base; thus, $\text{HCl} \cdot \text{NH}_2 \cdot \text{OH} \cdot \text{C}_6\text{H}_3 \cdot \text{As} : \text{As} \cdot \text{C}_6\text{H}_3 \cdot \text{GH} \cdot \text{NH}_2 \cdot \text{HCl} + 2\text{NaOH} \rightarrow \text{NH}_2 \cdot \text{OH} \cdot \text{C}_6\text{H}_3 \cdot \text{H}_3 \cdot \text{As} : \text{As} \cdot \text{C}_6\text{H}_3 \cdot \text{OH} \cdot \text{NH}_2 + 2\text{NaCl} + 2\text{H}_2\text{O}$, the phenolic hydroxyl of which then reacts with the alkali to form the water soluble sodium salt (the phenolate of the base) thus: $\text{NH}_2 \cdot \text{OH} \cdot \text{C}_6\text{H}_3 \cdot \text{As} : \text{As} \cdot \text{C}_6\text{H}_3 \cdot \text{OH} \cdot \text{NH}_2 + 2\text{NaOH} \rightarrow \text{NH}_2 \cdot \text{ONa} \cdot \text{C}_6\text{H}_3 \cdot \text{As} : \text{As} \cdot \text{C}_6\text{H}_3 \cdot \text{ONa} \cdot \text{NH}_2 + 2\text{H}_2\text{O}$. When to the aqueous solution of Salvarsan a solution of sodium carbonate was added, a precipitate appeared, which did not dissolve when further quantities of the alkali carbonate were added.

The solution was not affected when treated respectively with diluted hydrochloric, diluted nitric and diluted sulphuric acids. When the aqueous solution was treated with strong nitric acid a yellowish-white precipitate was produced, which redissolved when more acid was added, yielding finally a dark red solution. When the solution was treated with strong sulphuric acid a yellowish-white precipitate was formed, which dissolved when more acid was added, yielding a solution which at first was almost colorless, then became brown, and finally black, apparently through carbonization.

When the solution was treated with a little ferric chlorid solution, a violet coloration, such as is given by many other phenols, was produced, which, on standing became dark red; finally the liquid became turbid. When the solution of Salvarsan was treated with dilute nitric acid and then silver nitrate solution added, a yellow precipitate was produced, which rapidly darkened and soon became black. When the Salvarsan solution was treated with an alkaline solution of potassium permanganate and warmed, the permanganate was reduced and an odor of ammonia developed.

When the solution was treated gradually with a tenth normal solution of iodine the iodine was reduced, as shown by disappearance of the iodine color, and it was noted that at the same time the color of the Salvarsan solution became less pronounced. The gradual addition of iodine solution being continued, a colorless liquid finally was obtained. This reaction appears to be perfectly definite, and in several experiments for 0.0651 gm. substance 10.5 c.c. tenth-normal iodine was required—this regardless of the dilution.

The arsenic content of Salvarsan was determined by treating 10 c.c. of the solution contained in a Kjeldahl flask with 25 c.c. of strong sulphuric acid and digesting this mixture until colorless. The colorless solution so obtained was diluted, neutralized with sodium hydroxide, an excess of sodium bicarbonate added, and the arsenic content determined by titration with tenth-normal iodine, a method substantially the same as that used in the examination of atoxyl by W. A. Puckner and A. H. Clark (*The Journal, A. M. A.*, Sept. 21, 1907, p. 1041).

Ten c.c. of Salvarsan solution containing 0.0651 gm. substance required (a) 5.67 c.c., (b) 5.71 c.c. or an average of 5.69 c.c. tenth-normal iodine solution, equivalent to 0.0211 gm. arsenic; calculating this on the basis of the weighed contents of the tube, it indicates that the product contains 32.41 per cent. of arsenic. As the contents of the tube weighed 0.6510 gm. although the label claimed a content of 0.6 gm., it seemed probable that the excess weight was due to hygroscopic water, or possibly to vapors of the substance used to replace the air in the tube.

Calculating the arsenic content on the assumption that the tube contained 0.6 gm. real Salvarsan, 35.16 per cent. of arsenic was indicated. As but a single tube of the material was at our disposal, no extended experiments regarding the arsenic content could be undertaken at this time. In view of this and in view of the difficulty of putting up an exact quantity of a material so unstable as this product, our examination must be taken as a confirmation of the chemical claims made for the product.

THE PRODUCT AND ITS BEHAVIOR.—In order that physicians who use this substance may handle it more intelligently the following condensed description of its behavior is given: Salvarsan is an arsenic compound, containing that metal in a low state of oxidation, and the product is, therefore, a powerful reducing agent, and is decomposed by bodies which are oxidizers, including air. The amine groups of the body give it the character of a weak base, enabling it to form salts such as the chloride, the salt that constitutes Salvarsan. Being a weak base, its hydrochloride, when dissolved in water, is largely decomposed by the latter (hydrolysed), and hence gives a solution having an acid reaction. A solution

of Salvarsan is, therefore, acid, and will remain so until for every molecule of Salvarsan there have been added two molecules of sodium hydroxid or a similar monovalent base.

Salvarsan also contains two phenol (hydroxyl) groups, and, in agreement with phenols in general, it forms compounds with strong bases (phenolates). When, therefore, the free base from Salvarsan has been precipitated by addition of an alkali and further alkali is added, a clear solution of the sodium salt will result when two further molecules of sodium hydroxid or a similar monovalent base have been added. It is the free insoluble base that is injected subcutaneously and intramuscularly in the form of a suspension, and it is the alkaline water-soluble sodium salt which is injected intravenously in the form of a solution.—*Jour. A. M. A.*, 31 Dec., 1910.

ARSENIC IN SYPHILIS.

A. J. Caffrey, Milwaukee (*Journal A. M. A.*, Dec. 24), reports a case of typical chancre of the lip, acquired by kissing a mouth previously. A small papular eruption was already appearing on the face, and the cervical and sublingual glands were swollen and nodular. There had been no treatment. The patient was treated by injections of sodium cacodylate into the pectoral muscles, one grain every twenty-four hours, which caused the secondary symptoms to disappear and the chancre to be more circumscribed. On the advice of Dr. J. B. Murphy, three-grain doses were used daily for seven days, with marvelous results, the chancre healing up. No disagreeable effects were noticeable except strong arsenical breath. At one time breathing on a fresh-blown rose killed it in five minutes.

A FURTHER REPORT ON THE TREATMENT OF NEURALGIA BY ALCOHOLIC INJECTIONS.

O. Kiliani, New York, gives a report of the treatment of a series of sixty-eight cases of facial neuralgia by injections of alcohol. In every case pain was relieved for a variable amount of time. The author thinks that he has become more skillful in exact diagnosis of true neuralgia, that his technique has been improved, and that he has acquired greater clinical experience. Most of the cases were very severe and of long standing. The average time of freedom of pain is about a year, when a

new injection is required. The interval of recurrences increases, and at last the nerve seems to have ceased to be able to carry painful sensations, and a definite cure is obtained. There have been no hæmorrhages or other undesirable secondary symptoms.—*Medical Record*, Dec. 10, 1910.

EXOPHTHALMIC GOITRE.

The surgical treatment of exophthalmic goitre was discussed at the Surgical Congress, but the conclusions of the papers read on the subject were not very affirmative.

The medical treatment, which has given some remarkable results, consists in symptomatic treatment, opotherapy (hæmato-ethyroidine) and electricity. If some advantage has been obtained with salicylate of soda and hæmato-ethyroidine, electricity in the form of the galvanic continued current has been proved particularly useful.

A large negative electrode enveloped in a layer of cotton wool steeped in warm water is applied to the back of the neck under the occiput. Over the goitre is placed another layer of wool covered with a plate of tin, reniform in shape, and connected with the positive pole of the battery. A current of from 30 to 50 milliamperes, regulated by the rheostat of Begonie, is turned on for 20 minutes each day. After seven or eight sittings the tumor diminishes in volume, while the pulse falls below 100. At the end of a month's treatment all trembling disappears, the tumor is manifestly diminished, and the general condition of the patient very satisfactory.—*Medical Press*, 21 Dec., 1910.

SURGICAL SUGGESTIONS.

Speed without hurry is the accomplishment of the skilled surgeon who knows what he wants to do, and knows how he wants to do it.

An hypertrophied prostate in which nodules can be felt per rectum in carcinomatous.

In "clean" surgical cases a rise of temperature to ev. no more than 99.5 degrees or 100 degrees, during convalescence after operation, always means something—it may be only serous retention.

A uniform enlargement of one buttock, developing spontaneously and not of subcutaneous origin, is probably due to a subgluteal lipoma. Here, too, however, a hydroma must be thought of.

A psoas abscess occasionally points in the outer part of the groin (i. e., close to the anterior spine of the ilium). When there is no evident spinal deformity to suggest the diagnosis, the swelling is apt to be mistaken for a growth.

Chronic ulcers of the face situated in the area between lines drawn from the outer end of the eyebrow and the upper border of the ear above, and the angle of the mouth and the lobe of the ear below, are usually epitheliomata of the basal-celled variety and they are comparatively non-malignant.

THE UNNECESSARY OPERATION.

To protect patients against unwise, incomplete and unskillfully performed operations is one of the many important obligations now resting upon the shoulders of the profession. Inability to interpret symptoms of diseased conditions correctly and faulty technic are to-day responsible for many unnecessary and unsuccessful operations.

THE TRAINED ASSISTANT.

A good assistant contributes largely to the success and reputation of the famous surgeon. An occasional assistant is occasionally responsible for the occasional stitch abscess and peritonitis that occasionally bobs up in the practice of a surgeon whose work could not otherwise be criticised, and which would rarely happen if he selected his team carefully compelling each member to become master of his position and to keep his place. The effect of the above is quick and thorough work.—F. D. SMYTHE, in *The Memphis Medical Journal*.

WASTING TIME AT OPERATIONS.

It is better to all concerned to demonstrate pathology in the laboratory or in the specimen basin after the patient has been put to bed, than to waste valuable time in the midst of the operation, sectionizing a tumor, or to discuss pathology, at the patient's expense, with onlookers. I am a firm believer in extending all courtesies to my visiting doctor friends, but my first duty is to my patient, which can be best subserved by observing strictly surgical principles and avoiding that which jeopardizes his or her safety.—A. H. CORDIER in *The Lancet-Clinic*.

No man ever rose in his profession by trying to pull everybody down. Don't ride the fence too long, it may delay your journey. Rather give half a loaf to your friend than go without bread. Gratitude is the most precious jewel.—*Don't lose it.*

OBSTETRICS AND DISEASES OF CHILDREN.

Under the charge of D. J. EVANS, M.D., C.M., Lecturer on Obstetrics, Medical Faculty
McGill University, Montreal.

CONGENITAL STENOSIS OF THE PYLORUS.

Charles L. Scudder, in the *Brit. Med. and Surg. Jour.*, 15 Sept., 1910, reports three successful cases following Gastrojejunostomy.

These three cases constitute 6th, 7th, and 8th consecutive successful cases of congenital stenosis following gastrojejunostomy. All these cases were boys; all breast fed.

The symptoms in all cases began a week or ten days after birth. In all three cases, changes in food were of temporary benefit, and in all three of them pyloric tumor could be felt.

The author states that the unexpected persistence of vomiting in a boy baby within three weeks of birth who has been nursed by his mother, associated with a continuous loss of weight, despite careful feeding, and the presence of a palpable pyloric tumor and feeble gastric peristalsis, indicate an obstruction at the pyloric orifice of the stomach.

The moment the diagnosis is made, surgical treatment should be instituted.

The author advises that in very doubtful cases of pyloric stenosis in infancy, an exploratory operation should be undertaken.

He insists upon the value of operation before wasting has taken place and the child's resistance has been impaired. In doubtful cases, when skilled medical treatment applied for two weeks' time has been found unavailing, operation should be undertaken.

He thinks the present surgical mortality of the operation is due to delay in submitting to this method of treatment.

He sums up by stating that early operation upon little babies who have a stenosis at the pylorus is the best and safest treatment.

A NEW SIGN FOR THE DIAGNOSIS OF MULTIPLE PREGNANCY.

C. J. Gauss (*in Zeit. f. Gyn.* No. 40, 1910) claims that the diagnosis of twin pregnancy is rarely made until after the first child is born.

The author describes what he takes to be a sign of twin pregnancy.

In cases of head presentation, the head of the first twin is usually situated low in the pelvis. By vaginal examination, usually the ear is easily felt and that sagittal suture usually lies well back of the trans-

verse middle line of the pelvis. This gives the impression of an extreme nagele obliquity or what the Germans describe as anterior parietal bone presentation with a head deep in the pelvis.

Three typical cases are described in detail and illustrated.

Between 1904 and the end of 1909, the records taken from Krönig's Klinik show 58 twin pregnancies, that is 1.44 per cent., and one triple pregnancy. Eight of these aborted so that there were 51 twin pregnancies, and of these the diagnosis was made before the birth of the first child 21 times with certainty, 11 times with probability, and 19 times the condition was undiagnosed.

In 43 cases in which the first twin presented by the vertex, the phenomena described by the author was observed 9 times. He thinks if this phenomena was searched for more carefully, it would be found more frequently.

In 22 births, the author further records the first child presented by the vertex in 15 of them. Four of these were unavailable for study for various reasons. He found the sign present in 6 out of 11 cases, that is 54.5 per cent. In five cases it was not present.

He then discusses generally the various phenomena indicative of twin pregnancy.

He concludes his paper by stating that the head of the first twin very frequently during pregnancy presents itself within the pelvic cavity, with the anterior parietal bone well down. This condition is brought about by combination of many factors. Through the smallness of the child's head, and through crowding by the upper twin, through the compression due to the two sacs of waters, through a certain amount of lateral bending of the first head against the posterior shoulder, and lastly as a result of what the author describes as "scolio capitis," a kind of flattening of the parietal bone which is in advance.

The phenomena does not present itself during pregnancy, but is only to be noted intrapartum. It is further only available in vertex presentation of the first twin, that is, from 68 to 87 per cent. of all twin pregnancies.

The sign cannot be recognized by external examination, and it is scarcely possible to recognize it per rectum, so that by vaginal examination alone does it become available.

THE INFLUENCE OF EXHAUSTION ON PUERPERAL MORBIDITY.

John T. Williams, in the *Bost. Med. and Surg. Jour.*, Sept. 22, 1910, gives the results of his study of 5,000 cases based upon the records of

the Boston Lying-in Hospital. The study is given in some detail, including charts and statistics.

The general conclusions are that a temperature of 100 degrees F. or above occurs at some time during the first twelve hours of delivery in 20.5 per cent. of all cases. The temperature curve during this period in the majority of cases corresponds with the diurnal variation.

This elevation of temperature does not necessarily correspond to the duration of labour, but probably does to its severity.

The pulse rate is a less reliable index of exhaustion than the temperature. It most commonly follows during the first twelve hours, a rise in the majority of cases accompanying a corresponding rise of temperature.

Puerperal morbidity, with the exception of mastitis, increases in direct proportion to the duration of labour. Cases in which there is an elevation of temperature during the first twelve hours after delivery are filled by a higher morbidity than those in which there is not; when this temperature reaches 101 or over, the subsequent morbidity is 38.09 per cent. An elevation of pulse at the end of labour is of comparatively slight prognostic importance from this standpoint, but is followed by a slightly increased morbidity. The morbidity is greatest after the high operations, but here as is also true of the low operations and spontaneous delivery, the morbidity increases in direct proportion to the duration of labour. The morbidity after low forceps is less than after the spontaneous delivery, presumably because labour is shortened and exhaustion lessened.

Thus, the author concludes, from every standpoint it is evident that exhaustion during labour has a distinct influence towards increasing puerperal morbidity.

THE HAEMOTOXIC NATURE OF ECLAMPSIA, WITH AN ACCOUNT OF FOETAL AND PLACENTAL HAEMOLYSINS AND AN EXPERIMENTAL INVESTIGATION INTO THE ANAPHYLACTIC THEORY OF ECLAMPSIA.

H. Leith Murray (*Jour. of Obs. and Gyn. B.E.*, October, 1910) endeavors in this paper to make it clear that all the lesions hitherto described by Williams and others as present in the toxæmias of pregnancy can be produced by one particular type of toxin acting under different circumstances. Thus it is apparent that the hitherto rather general view that eclampsia is merely a syndrome representing intoxication by a variety of poisons is no longer tenable. The toxin to which the author refers is a haemotoxin, containing mainly haemagglutinative and haemolytic elements.

Flexner, in 1902, drew attention to the fact that the minute thrombi so often found in the liver in cases of eclampsia were really haemagglutinine in origin. It is now admitted by both American and German pathologists that the eclamptic necrosis is produced by an agglutinating toxin.

The work of Pearce on the appearances produced in dogs after an inoculation by haemotoxic poison is then referred to at length. Changes of a degenerative necrotic kind were found in the liver, while the kidneys showed degeneration of the convoluted tubules, the spleen was enlarged and there was hyperplasia of the abdominal haemolymph glands.

Dudgeon, Pantan and Ross have confirmed the work of Pearce. A moderate dose of the toxin failed to produce focal necrosis, nor does this lesion follow the injection of a serum with high haemolytic and low power. The agglutinative agent produces necrosis, while the haemolytic brings about degenerate changes without necrosis, thus in experimental work proves these two lesions are almost independent of each other.

A comparison is then made of the pathological results in these experimental cases with those found in cases of eclampsia.

The author points out that in the case of eclampsia, the clinical severity bears no definite relation to the amount of necrosis discovered post mortem. The liver lesions in eclampsia resemble the experimental lesions produced by a poison whereof the agglutinative element is sufficiently strong to resist the lytic element in certain peripheral vessels; but the liver changes in fatal vomiting conform more to a type where haemolysis predominates.

He points out that kidneys tend to be affected first in both conditions.

Three cases of eclampsia are then recorded in great detail.

The author then states that the microscopical appearances in these three cases are strongly in favor of a toxin comparable to the immune serum of Pearce and others. These observations tend to confirm the idea that the polymorphism of lesion in the toxæmias of pregnancy as a whole is due merely to dosage, or to variations in the proportion of the two elements, the agglutinative and the haemolytic.

The multiple haemorrhages found in eclampsia are due probably to the presence of a third element in the toxic material, and endothelial toxin or haemorrhagin.

The changes in the retroperitoneal glands sometimes seen in cases of eclampsia probably represent haemorrhages into these glands as a result of the endotheliolytic toxin.

The fact that experimental work demonstrates that a period of one to two days is necessary for the production of a maximum lesion after

the infliction of a single injury on the liver by a dose of serum, may be tendered as an explanation of post partum cases of eclampsia.

It is the opinion of the author that an appreciation of the two processes at work in the liver as a result of the type of toxin present will explain many of the anomalies of what is termed "the chemistry of toxæmic pregnancy."

The type of urinary change in toxæmic vomiting is an alteration in the ammonia urea ration. While the urinary changes in eclampsia and the pre-eclamptic state consist in a reduction in the urea in proportion to the clinical severity, and a high undetermined nitrogen.

Reference is made to the work of Jackson and Pearce in an examination of the urine of dogs in which had been induced those lesions so strongly resembling eclampsia. "In cases where post mortem examination showed diffuse degeneration without necrosis, (i.e., inoculation with weak serum) they found the total N. and the undetermined N. almost unaltered or at most slightly increased, and a rearrangement of the ammonia-urea proportion, whereby the former was increased and the latter diminished. This rearrangement may reasonably be put down to the altered functioning of living cells."

On the other hand when focal or diffusive necrosis was present in the tissues, the total N. was increased, the ammonia percentage was slightly diminished at first, then slightly increased, the production of urea remained relatively unchanged, while the undetermined N. was increased.

The work of Ewing, Wolf and William is then critically examined in view of the results obtained by Pearce and Jackson.

He thinks that now it may be possible to give some pathological foundation for the empiric view of Whitridge Williams that, generally speaking, a low ammonia value is a good sign in toxæmic vomiting and a bad sign in eclampsia. A low ammonia value pathologically interpreted means less degeneration in a case of persistent vomiting; whereas in eclampsia a low ammonia value would suggest that necrosis is very widespread, and a high one that a considerable proportion of the liver cells was still alive and functioning albeit imperfectly.

Discussing the nature of the toxin, reference is made to the fact that the whole group of haemolysins and associated bodies is probably lipoidal in character, or at least that haemolytic action is represented by lypolytic.

Interesting comparisons, the author thinks, may be drawn between the eclamptic toxin and the various venoms. The similarity of lesion is indeed almost startling. Venom toxins are lipoidal in nature. The pathological changes found in venom poisoning are almost exactly similar to those of toxæmia of pregnancy, and there is a common feature in both conditions in the extreme rapidity and completeness in

recovery¹ which may occur. It is suggested that as venoms are enzymal in origin, one may suspect that in toxæmia of pregnancy a definite body of this nature is at work, and research should be directed along this line.

With regard to foetal haemolysins, the author undertook a series of experiments to determine, 1st, the nature and haemolytic power of serum on animal corpuscles; 2nd, the presence or absence of iso-agglutinin in normal foetal serum; 3rd, the presence or absence of haemolysin in the foetal serum of diseased pregnancies.

The author's results proved that the haemolytic action of foetal serum varies in power as does adult serum, though in general, the rate is very much slower in the former.

Foetal serum is wanting in iso-agglutinins, and it does not develop iso-haemolysins in diseased pregnancies. It cannot, therefore, in any way cause the haemotoxic lesions found in pregnancy.

An investigation was then made of the haemolytic bodies from the placenta. There was found to be a definite larger amount of ether-extractible lypoid in eclamptic placentae. Not only did the eclamptic placentae show more lypoid per given weight, but these lymlypoids were markedly more haemolytic.

There is no evidence of any prolicithide elements in these lypoids, that is, they were not found to differ from the ordinary lypoids of degenerating tissue.

The paper concludes with a discussion of the anaphylactic theory of eclampsia. This theory was that eclampsia might be of this nature was first suggested by Anderson and Rosenau. They were enabled to produce anaphylaxis readily by inoculating placentae that had been allowed to atolyze some time before being injected.

A few experiments carried out by the author conclusively proved that it was the autolytic rather than the purely placental elements which produced this anaphylaxis. As a result of the author's experiments, he concludes that there is little satisfactory evidence that eclampsia is anaphylactic in nature. Clinically the two conditions are dissimilar. The pre-eclamptic state has no counterpart in the anaphylactic condition, and, finally in doubted anaphylaxis is seen in the human subject is very dissimilar to the laboratory pictures.

SEVERE VOMITING OF PREGNANCY, TREATED WITH THYROIDIN.

A. Siegmund (*Zent. f. Gyn.* No. 42, 1910), gives five cases of severe vomiting in the course of pregnancy which he has treated successfully by the administration of thyreoidin. In four of the cases which he

treated himself, the fortunate result was quickly obtained and proved durable.

As one must give quinine a few hours before chills are due in a case of malaria, so must the thyreoidin be also given a few hours before the worst period of vomiting, as it acts best when the stomach is quite empty. He recommends that the thyroidin be given at half past four or five o'clock in the morning while the patient is in bed, and must be waked for the purpose. At nine o'clock another dose is given, and also half an hour before the mid-day and evening meals, and again before going to bed.

The author gives from 5 to 8 grains at a dose, or even 10 grains.

The daily dose should be under the control of the physician, and should be modified as occasion may demand.

The author prefers to use powder, or, better still, the glycerine extract of the thyroid gland.

He speaks highly of Merck's preparation for hypodermic use.

He is careful about the diet of the patient, and advises that meat in any form should be withdrawn as well as fat.

Again, in a later publication, (*Zent. f. Gyn.* No. 43, 1910), the author speaks of the employment of thyroidin in failure of milk secretion on the part of nursing mothers.

He has employed the treatment in some five cases altogether, claiming good results in all. Five grains of thyroidin are given, once, twice or thrice daily, beginning in the third month of pregnancy in cases that have failed in nursing the child in previous pregnancies.

The author makes a strong point of insisting that the thyroidin shall be obtained from female animals.

He thinks that the treatment should be tried more frequently, and thinks that there are many cases that would be benefited both during pregnancy and the nursing period by it.

THE TREATMENT OF PNEUMONIA IN CHILDREN.

Walter D. Ludlum, M.D., *Long Island Medical Journal*, October, 1910, in the treatment of pneumonia in children insists upon the importance of fresh air. The windows of the room in which the patient is lying should be kept open. The child should have sufficient covering to keep him warm, but no more. The position of the patient should be changed from time to time. The diet should be curtailed, and only easily digestible food should be given.

The author favors the use of mustard paste as an outward application over the chest wall, one part mustered, and two or three parts flour

should be employed to make the paste, and it should be applied every four hours for about ten to fifteen minutes.

Poultices and clay pastes are positively harmful in young children, and of doubtful value in older children.

When cyanosis is marked and respirations shallow, nothing clears the cyanosis as well as a cold chest compress. The water employed should be from 75 to 80 degrees F. Compresses are covered with flannel and are changed hourly. At all times the limbs should be kept warm.

Cold sponging and the employment of the cold pack are recommended for the reduction of high temperature. Antipyretics should never be used. Stimulants are usually not necessary. If heart failure should be threatened, tincture of *Strophanthus*, one drop for a child of 6 months to a year, and two drops for a child of from 3 to 5 years is recommended. Strychnine and nitroglycerine may also be employed.

The treatment of broncho-pneumonia differs somewhat from the treatment of the lobar form. Rest in bed, fresh air, and a dietetic regimen pretty much the same as in lobar pneumonia is indicated.

Counter irritation in the form of mustard paste is extremely valuable, and the cold chest compress is useful, but care must be taken not to cause shock. Inhalation of moist air under a tent is of extreme value, particularly in cases where the secretion is scanty. Syrup of ipecac in small doses, combined with ammonium chloride is very useful in loosening up expectoration. 1-30 of a gram of codeine is useful in checking cough in a child of about one year old. Aromatic spirits of ammonia in 3 to 5 drop doses for a child of 1 year is of value in aiding expulsion of the secretion. Stimulants are much more often needed than in cases of the lobar type, and faith can be placed in the employment of strychnia and *strophanthus*.

When cyanosis is marked, glononin in doses of 1-200 of a grain to a one year old child is of value.

Oxygen occasionally may save life.

THE TREATMENT OF CERVICAL RIGIDITY IN OBSTETRICS.

R. N. Mason, *Boston Med. Jour.*, April 21, 1910, claims that rigid cervix most commonly occurs in elderly primiperae, in cases of eclampsia, and after trachelorrhapy.

The author deals with three classes of cases of cervical rigidity. First, where the indication is delivery, when the patient is not in labour, there being no particular urgency, as in heart disease and impending pregnancy of toxæmia. Second, those patients who are in labour and

who ought to be delivered though there is no great haste in so doing. In these cases the pains are irregular as a rule and the cervix does not seem to give away. Thirdly, urgent cases where immediate delivery is necessary as in eclampsia, accidental haemorrhage, etc.

In the first class of cases the author precedes treatment by ordering the patient to remain for some time in a hot bath, after which a copious vaginal douch follows. Occasionally such treatment brings on uterine contractions as well as inducing cervical relaxation.

He recommends packing the lower uterine segment with gauze in order to bring on labour as being much more efficacious than the ordinary methods employed for this purpose. Primary dilatation must ordinarily in these cases be employed. This is done under ether with a Doodell or other similar dilator. If the uterus has been packed in this way, a vaginal pack must be inserted so as to completely surround the cervix.

The author admits that it is often necessary to change these packs several times and that occasionally no result at all is produced.

By far the most satisfactory means of bringing on labour is by employing the elastic dilating bag. This is the most certain, cleanest and safest method. He considers that Voorhees bag is the best in every respect for this purpose.

Details then follow as to the method of its employment.

In the treatment of the second class of cases, that is, rigidity of the cervix in the course of labour, hydrate of chloral is spoken of as being particularly useful in cases where the patients are neurotic and hyperesthetic. It should be given in 20 gr. doses per rectum at intervals of 20 minutes, if a second dose is necessary.

Mention is made of the value of ether administration in case of rigid cervix complicating labour.

Favourable comment is made on the use of Scopolamine-morphine anaesthesia which has been employed successfully by Dr. Green in the Boston Lying-In Hospital.

The conclusions of his observations are that with sufficient solution of these salts, properly administered, the great majority of patients react well, the pain was absolutely abolished in several instances. Labour seems to have been definitely shortened as well as made easier and that the operative interference has been less called for in a series of cases so treated.

The author is inclined to think that failure to obtain results in the use of this drug treatment is due to deterioration of the scopolamine which is very instable when in solution. He insists upon the hydrobromide of scopolamine being employed, for while the drug is identical

with hydro bromide of hyoscine, the clinical action is quite different. Their administration should only be carried out under expert supervision.

The employment of a dilating bag while it may not actually bring about dilation always produces marked softening of the cervix so that rapid artificial dilation can be more easily accomplished.

In partial manual or instrumental dilation of the cervix under ether, and then allowing the patient to come out of the anaesthetic is condemned.

With regard to class three, the author speaks of the hand as the best and safest dilator. He suggests that to bring about complete dilation of the cervix that as soon as the hand can be introduced, an ordinary china nest egg, previously sterilized, may be pushed up into the uterus and as soon as the hand is able to pass the cervix the egg is grasped in the fist. The closed fist about the egg forms a larger dilating wedge than the fist alone.

Vaginal Caesarean section is mentioned somewhat disparagingly and the author speaks of the multiple deep incisions as recommended by Duhrssen as being by far the best method.

He states that when properly performed there is no tearing beyond the ends of the four incisions.

Two trained assistants and a nurse are required, and a large armamentarium is necessary as well as good illumination.

The incision should be sutured after delivery.

The shock following this method of delivery is stated as being practically nil.

VAGINAL, CESAREAN SECTION FOR ECLAMPSIA.

R. Peterson, Ann Arbor, Mich. (*Journal A. M. A.*, January 7), says that vaginal Cesarean section is indicated in eclampsia when, in the presence of a rigid cervix, the uterus has to be rapidly emptied. His position on the subject has been misunderstood; but he holds to his original contention that, under certain conditions, the operation should be performed by the general practitioner. It would be a more ideal condition of things, he says, especially for the surgeon, if all surgical work was given to those who by special training have acquired the needed skill, but, in the country particularly, the general practitioner still persists in performing his obstetric surgery, including some operations like the use of the high forceps, etc., which call for far more judgment and skill than vaginal Cesarean section. With the city practitioner the case is different, as he has skilled surgeons always within call. The

technique is described rather fully, including the drawing down of the cervix, without which the operation is contraindicated, since the anterior and posterior incisions must be aided by sight. A transverse incision long enough to take in nearly one-half the circumference of the cervix is made through the vaginal mucosa at the vaginal juncture, and the bladder and vaginal walls are pushed upward by a few strokes of the sponge while pressure is made downward towards the uterus. On account of the vascularity of the tissues no difficulty is experienced in separating the bladder, which is pulled sharply upward by a retractor and kept out of harm's way. The cervix and lower uterine segment are then split upward in the median line by stout scissors. Care should be taken not to distort the cervix so that the cut can be made exactly in a median line to avoid hæmorrhage, and, if the point of the scissors is guided by the finger, the membranes need not be opened. If the operation is performed in the ninth month it is best to incise the posterior cervical lip also on account of the size of the child's head. This is done by a transverse incision about 6 or 7 cm. in length through the mucosa of the posterior vaginal juncture, and the rectum and peritoneum pushed away by a sponge. The split cervix is then exposed, and the extraction may be by forceps or version, usually the latter is preferable, but the forceps should be always on hand in case of delay in extracting the after-coming head. The volsella forceps, which were used in making the incisions, should, of course, be removed from the cervix as soon as the incisions are made. The placenta may be removed manually or expressed by the Credé method. Tamponade of the uterus is rarely necessary. The incision should be sutured with catgut, care being taken not to suture the vaginal flap too tightly. The after-treatment varies in no way from that of the ordinary operative obstetric case. The article is fully illustrated.

TREATMENT OF ECLAMPSIA.

E. B. Cragin and E. T. Hull, New York (*Journal A. M. A.*, January 7), summarize the treatment of eclampsia in the prevention of the products of metabolism causing the morbid process and their elimination when produced, the reduction of blood-pressure, and, if these measures do not prevent the toxemia, emptying of the uterus. In all the methods used whatever will reduce the resistance of the patient or seriously damage her must be avoided. The first consideration must be met by dietetic measures, reduction of proteids, etc., while for the elimination the three avenues, the skin, the urinary tract, and the intestinal tract,

should receive careful attention. In the reduction of blood-pressure the authors advise the use of veratrum viride, nitroglycerin, and chloral, instead of blood-letting. Veratrum is used by them in 5 minim doses of Squibb's fluid extract hypodermically, the effects being watched, and a second dose of from 1 to 3 minims given, if needed, an hour or two later, and the tension kept low by similar doses every four hours. In emptying the uterus, when the necessity occurs, the avoidance of anything reducing resistance or damaging the organs must be kept in mind. With a soft dilatable cervix, manual dilatation and version is their preference. But with long and rigid cervix, vaginal Cesarean section has a valuable field of usefulness. The question of the anesthetic is discussed at some length. The pathology of chloroform poisoning is described, both the direct and the delayed effects. The authors report experiments made on dogs with ether which seem to show that the pathologic consequences from this agent are markedly less or absent as compared with chloroform. They have had, since these were made, 20 cases of true eclampsia in which only 1 case was fatal, as compared with the last 20 per cent. The mortality in all the previous cases reached 28 per cent. While 20 cases is a small number from which to draw positive conclusions, the marked effect of chloroform on the organs usually involved in eclampsia, and the slight effect of ether on these same organs makes the use of chloroform in this condition, they say, irrational, and the use of ether rational. The article is illustrated.

THE ETIOLOGY OF ECLAMPSIA.

The conception of eclampsia, that it is a culmination of toxemia of various origins, is criticized by E. P. Davis and C. Foulkrod, Philadelphia (*Journal A. M. A.*, January 7). They hold that it is a distinct disease, with a definite pathologic picture; that at times convulsion proves a constant feature, but not invariably so. When convulsions are absent the eclamptic seizure is manifested (1) by headache of agonizing, blinding type, in which the patient may become unconscious from the pain; or (2) perhaps as a burning substernal pain which, in their experience, is an almost constant feature of the pre-eclamptic stage, and may also accompany the convulsive type; (3) of a form of blood disintegration, in which the poison may produce an anæmia similar to pernicious anæmia, but more rapid in its course; (4) as an irritant poison to the blood-vessels as well as the blood, a condition in which the blood contains various unformed principles, or such an excess of normal principles as to produce

irritation and even disease and disintegration of vessel walls, causing sharp hæmorrhage from the mucous membranes, from the placental site either before or especially after delivery, and into the retina or brain substance; and (5) as a type of acute degeneration of liver substance stimulating acute yellow atrophy; other organs may also show changes, but not so marked. A certain percentage of patients, he thinks, die under these conditions before convulsions appear. He discusses the nitrogen excretion, and concludes that somewhere in the organism in this disease there is a deficient changing of ammonia and amino-acids into urea. A study of the progressive nitrogen disturbance may prove a guide as to the point beyond which the liver involvement cannot go and allow recovery. No placental theory has been proved, but the most plausible theory is that some ferment from the placenta may prove responsible as a primary cause of the condition. Any pre-existing pathologic condition may prove an exciting cause and still, perhaps, act by disturbing placental function. The authors think that eclampsia should be a rare condition in the hands of a skillful, thorough investigator.

GYNÆCOLOGY AND ABDOMINAL SURGERY.

Under the charge of S. M. HAY, M.D., C.M., Gynæcologist to the Toronto Western Hospital, and Consulting Surgeon, Toronto Orthopedic Hospital.

TOTAL ABDOMINAL HYSTERECTOMY IN DOUBLE ADNEXITIS.

Leon de LaCombe (*Gaz. de gyn.*, July 1, 1910) believes that we are justified in making use of a total abdominal hysterectomy in all complicated cases of bilateral disease of the appendages, as their removal leaves the uterus a useless organ, which may perpetuate pain and leukorrhœa. It is a mistake to await the benefits of a curettage or the atrophy of the menopause to remove all the bad symptoms. The removal of all the genital organs at one time is no more serious than the removal of the adnexa alone. The best operations are those of Kelly, Terrier, and Faure. That of Faure, with its hemisection of the uterus makes it easy to reach the adnexa of each side. An important question is whether we should leave the cervix in place or open the vagina. It is more elegant and more satisfactory to the woman to have a cervix than a cicatrix at the end of the vagina. The fear of infection from the vagina is exaggerated. On the other hand, removal of the cervix gives better drainage than that through the abdomen.—*Journal of Obstetrics and Diseases of Women and Children*, December, 1910.

CONSERVATISM IN OPERATIONS ON THE UTERINE APPENDAGES.

A concise article appears on this subject in the December *Journal of Obstetrics and Diseases of Women and Children*. It is written by Dr. Lewis C. Morris, of Birmingham, Ala.

Conservatism, he says, is indicated in all women within the child-bearing age requiring surgical interference for diseased adnexa due to causes other than tuberculosis or malequancy.

True conservatism has for its objects:

1. The removal of pathological tissues, or the institution of such treatment as will permit these tissues to so far return to normal as to perform their physiological functions.

2. The relief of the various disturbances and symptoms resulting from the presence of disease.

3. The maintenance of the integrity and potency of the Fallopian tubes on one or both sides, in order that their function as oviducts may be retained.

4. The conservation of all of both ovaries, or as much of both or of either as is consistent with the correction of the pathological condition present. This is necessary in order that the three important physiological functions of the ovary may be retained: First, ovulation, thus rendering conception possible; second, the preservation of the menstrual function, thus avoiding the nervous disturbances and atrophic changes incident to the artificial menopause and, third, the maintenance of the internal secretion or trophic influences over which the ovaries are believed to preside.

5. The maintenance as nearly as possible of the normal anatomical relationship of the ovaries and tubes to each other and to the other pelvic viscera.

6. The covering over as nearly as possible of all raw surfaces, resulting from the breaking up of inflammatory processes, thus minimizing the dangers of post-operative adhesions.

The writer, after going fully into the subject, comes to the following conclusions:

First.—No woman under 40 years old should have all of both ovaries removed except in the presence of tuberculosis or cancer.

Second.—Resection or amputation of diseased parts and plastic work on the tubes will occasionally be followed by conception.

Third.—Even in the presence of infection and more or less involvement of both tubes and ovaries plastic work, followed by pelvic drainage and the Fowler position, may be followed by regeneration.

Fourth.—Radical or sacrificial surgery and conservative or conservation surgery have about the same mortality, but a vastly different morbidity.

Fifth.—A very occasional secondary operation may become necessary, which might have been avoided by doing radical work.

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STEELING RYERSON, M.D., L.R.C.S., Edin., Professor of Ophthalmology and Otolaryngology Medical Faculty, University of Toronto, and F. C. TREBILCOCK, M.D., C.M., Ophthalmologist, Toronto Western Hospital.

EXTRACTION OF CATARACT IN ITS CAPSULE.

The discussion of the Indian method for removal of cataract in its capsule continues everywhere. The enthusiasm appears to be more marked among our American brethren than among their British confreres; perhaps here, again, "A prophet is not without honor," etc. We all recognize the conservatism of the British—perhaps glory in it—but even the most radical must see that the published statistics do not always prove the safety of this operation. Indeed, they are most contradictory, and often one does not know what conclusion to draw.

Generally we are given to understand that the successes reach to about 95 per cent. in the hands of Lieut.-Col. Smith, but once in a while the other side of the picture appears. In the September number of the *Ophthalmoscope* is a list of results obtained by Smith himself in 23 intra-capsular operations done in Bombay in February, 1909. Major Kilkelly, government ophthalmic surgeon, reports.

We cannot go into details here, but he ends his list of visual results by saying: "This corresponds with the observations of others, who have found the early visual results not superior to those of ordinary extraction."

In the 23 cases there were two vitreous escapes and five cases of rupture of the capsule. Vitreous opacities of varying degree occurred in nine cases and iritis in seven. From this list Major Kilkelly draws the following conclusion: "It is clearly shown by these cases that accidents occur and a high percentage of bad results follow intra-capsular extractions, even when the operation is performed by Lieut.-Col. Smith himself, and, for my part, I now feel that the average patient is exposed to an altogether unnecessary danger by the operation."

The original communication should be read in its entirety by everyone interested in the subject.

ON INFLAMMATIONS OF THE IRIS.

The importance of a proper differential diagnosis between inflammations of the conjunctiva and those of the anterior portion of the uvea (the iris and ciliary body) can never be over-emphasized. The gluing together of the iris and the anterior capsule of the lens takes place so rapidly that permanent injury to vision may accrue even while the physician is busy making himself sure of the case. It is not an uncommon thing to see a patient suffering intense pain in the eye, temporal or brow regions, and instilling argyrol or other astringent drops into the conjunctival sac, quite without relief; meanwhile the posterior layers of the iris are becoming so fastened to the lens-capsule that when mydriasis be induced, if possible, either a posterior synechia is formed or the pigment, torn from the iris, is seen over the lens surface, to remain a permanent sign of an iritic inflammation. Moreover, as the tumefaction of the iris encroaches upon the pupillary area far beyond the normal, these pigment spots may be so placed as to be in the normal pupil under ordinary light.

To spot an eye-inflammation is the work of a moment only, but one should never rest satisfied until he knows exactly what part of the eye is the primary seat of trouble, and what is the likelihood of injury to vision.

Having diagnosed the iritis, or irido-cyclitis, the question of treatment arises. Mydriasis, of course, and hot bathing; conjunctival lavage with hot Boric lotions; possibly leeching; but the search for the origin of the toxins which cause the iritis is equally important and its eradication equally necessary.

The vast majority of iris inflammations are charged to syphilis gonorrhœa, or rheumatism of the gouty type. Of these three probably gonorrhœa is the commonest cause. But there are many cases wherein no such remote causes can be found, and of such I desire to speak.

Every examination for eye-inflammation should include a careful look at the teeth. Those men who were privileged in hearing Dr. John Hunter, of London, Eng., at the Academy not long ago, must have been impressed with his enthusiasm over oral sepsis as a factor in systemic or remote local disease. Though many may not go all the way with him in this, the eye-surgeon must support him in part, for many cases of uveitis only clear up when the jaws are freed of decayed teeth and pyorrhœa alveolaris made impossible. We must all plead to some carelessness here, and I say, though we may not take all Dr. Hunter says, we ought to take this leaf out of his book and make it our own.

These remarks are suggested by several recent cases of this variety, by one especially which had been under treatment for six weeks, and still carried three badly decayed molars from the necks of which it was easy, by slight pressure upon the gums, to express pus.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., C.M., Fellow of the Laryngological and Rhinological Society of Britain; Assistant Laryngologist and Rhinologist, Toronto General Hospital.

A FURTHER STUDY OF THE BACTERIOLOGY OF SUPPURATION IN THE ACCESSORY SINUSES OF THE NOSE.

A. Logan Turner and C. F. Lewis, in the *Edinburgh Med. Journal* for April, 1910, discusses this subject. This is the second paper dealing with Bacteriology of excessory sinus disease. The conclusions of the authors are as follows:—

(1) That sinus suppuration is not caused by any one particular micro-organism.

(2) That while bacilli may cause suppuration, we think that pyogenic cocci of various kinds are more often responsible.

(3) That four main types of cocci are commonly met with in sinus suppuration, viz., pneumococci, streptococci, staphylococci, and diplococci of the type of micrococcus catarrhalis.

(4) That the following groups of bacilli are frequently met with in sinus suppuration: (a) *Bacillus coli* and its allies; (b) putrefactive bacteria, such as proteus and its allies; (c) dental organisms, such as *bacillus gangrenae pulpae* and *bacillus necrodentalis*; (d) an obligate anaerobic group, of which prominent members are *bacillus perfringens* and *bacillus ramosus*; (e) diphtheroid group, and (f) *bacillus influenzae*.

(5) That pus in a considerable number of chronic uncomplicated antral cases contains organisms of dental and buccal habitat, and that in some of these cases it is possible to isolate identical organisms from the pus and from diseased teeth extracted at the time of operation upon the sinus.

(6) That clinical and bacteriological investigations agree in showing that nasal infection of the antrum is more common than dental infection, and that probably about one-third of the cases of antral suppuration are due to dental infection.

(7) That while in bilateral antral suppuration the pus from the two antra may contain the same bacteria, this is not invariably the case; we

have isolated from one antrum a virulent bacillus diphtheria which was absent from the other

(8) That in recent cases of antrum suppuration the streptococci were found virulent in 50 per cent., and in chronic cases only 30 per cent. have been proved virulent.

(9) That foetor is the result of growth of certain organisms, sometimes of those responsible for the suppuration, and sometimes of those concerned in the decomposition of the products of inflammation. That both aerobic and anaerobic organisms are capable "of causing foetor."

(10) That foetor may be present in antral suppuration of very recent origin, as well as in chronic cases, and that antral cases of nasal infection as well as those of dental infection may be foetor.

(11) That recent cases of maxillary sinus suppuration (duration in these series two days to three weeks) readily cure by lavage.

(12) That when lavage is practised, whether in recent or chronic cases, it should be carried out through the nasal cavity; the alveolar opening should be abandoned.

(13) That a certain proportion of chronic cases of antral suppuration are cured by lavage, but we cannot determine from the history of the case, the duration of the discharge, or the path of infection which cases may be so healed successfully.

(14) That some assistance in the choice of lavage may be obtained by a preliminary microscopical examination of the cell elements in the discharge and from a bacteriological investigation of the pus.

(15) That the value of cytological examination, however, is minimised by the fact that the inflammatory process causes more advanced changes in one part of the lining mucous membrane of the antrum than in another.

(16) That in those cases in which the discharge shows a relatively small number of lymphocytes the prospect of cure by lavage is greater than when an excess of lymphocytes occurs. (J. M. Darling.)

(17) That chronic cases in which no streptococcus pyogenes is found in the pus respond more readily to lavage than those in which the same organism is present.

(18) That when in chronic cases there is an excess of lymphocytes in association with the streptococcus pyogenes, treatment by lavage should not be attempted.

(19) That neither inoculation experiments nor histological examination of the lining membrane of the antrum explains the apparently greater resistance of the streptococcus pyogenes to treatment by lavage.

(20) The failure in treatment by lavage may possibly be due to a deficiency in the patient's protective substances to deal with the strepto-

coccus, and that a specially prepared streptococic vaccine might be appropriately tried in these cases.

(21) That we have no evidence that any special combination of organisms is responsible for the failure of treatment by lavage.

PERSONAL AND NEWS ITEMS.

ONTARIO.

Dr. E. E. King's friends will regret to learn of the death of his daughter Aileen Louise, at the age of 17.

Scarlet fever has been very prevalent in Toronto, and necessitated the securing of temporary accommodation.

The sterilizing apparatus for the bacteriological section of the Toronto Health Department arrived at the City Hall recently.

The medical inspection of the public school children of Toronto has shown that there was urgent need for the same. This would likely be the same in all cities.

Dr. Bell found at least a score of cases of smallpox in Lucan. A few cases are reported from Orillia. Otherwise there is not many cases throughout Ontario.

It appears that Kingston, Ont., has suffered a good deal from polluted water. As usual, many cases of typhoid fever have been traced to this cause.

A short time ago there was given a very successful entertainment at the Hospital for Incurables, Toronto. Mrs. R. B. Hamilton took an active part in making the arrangements. The expenses were borne out of a bequest from the late Mr. Henry Pellatt.

The trustees of the National Sanitarium Association have been notified of a handsome gift from the late Mr. H. Johnston, of the Village of Hastings, of \$3,000 towards the funds of the Muskoka Free Hospital for Consumptives.

Mayor Geary, of Toronto, will see Hon. W. J. Hanna, Provincial Secretary, with reference to the proposal that the province and the city co-operate in the establishment of a psychiatric hospital. He believes this to be a very necessary thing. This was decided by the Board of Control in considering Alderman McCarthy's motion to this effect.

Sir Glenholme Falconbridge decided that the bequest of \$48,000 of Miss Jane Shields should go to the Emergency branch of the new General Hospital on College Street. The will stated that the emergency

hospital should be near the centre of the city, and the site should be one approved by Dr. U. A. Powell.

Dr. J. N. E. Brown, Superintendent of the Toronto General Hospital, and the staff are a happy group, and so are a good many other people connected with the institution. One of the honorary governors of the hospital has sent a check for \$1,000 with which to buy an X-ray machine. The donor requested that his name be withheld from publication.

It is understood that the Ontario Government is planning the removal of the Toronto Asylum to a locality where the cottage system may be adopted. When ready to place the 35 acres of the present site on the market the Massey-Harris Company will be likely to be keen bidders. An intimation is said to have been given Hon. W. J. Hanna that the company would pay in the neighborhood of a million dollars for the land.

On 6th January there occurred a very serious fire in the Homewood Retreat, at Guelph. The loss is estimated at about \$70,000, fairly well covered by insurance. All the patients were safely removed from the burning building and located in temporary quarters. Mrs. Thomas Goldie gave accommodation for 20 patients in her large residence. The other 25 patients were placed in the nurses' rooms. There were no mental cases in the burned building with the exception of three epileptics.

Lindsay, Jan. 13.—A very representative gathering of townspeople assembled in the Academy of Music yesterday to witness the opening of the Nurses' Home of the Ross Memorial Hospital. The board of governors met Mr. and Mrs. James Ross, and the visitors accompanying them, at the hospital, when control of the Nurses' Home was vested in the board by Mr. Ross. Mr. John D. Flavelle, chairman, presented Mrs. Ross with a gold key, and Mr. Ross formally unlocked the Nurses' Home of the Ross Memorial Hospital.

QUEBEC.

Dr. J. L. Rhea, of Boston, has been appointed to the position of assistant in the pathological department of McGill.

Dr. R. Monahan and J. A. Rousseau, both of Montreal, and Dr. D. A. Kearns, of Ottawa, have been appointed surgeons to the Canadian Navy.

Lieut.-Col. Kenneth Cameron, M.D., who has had charge of Field Ambulance of Montreal, has been promoted to be administrative medical officer for Montreal.

At the annual meeting of the Royal Victoria Hospital it was announced that Mr. James Ross had agreed to pay off a deficit of \$14,791 on the year's work. Mr. Ross has been a generous contributor to the work of the hospital.

The question as to whether intoxicants should be served at the McGill arts undergraduates' dinner on February 15 or not has been settled. The "drys" defeated the "wets" when the matter was put to the vote at McGill University at lunch hour. The result of the polling was: Against, 138; for, 38.

WESTERN PROVINCES.

The provincial asylum for Saskatchewan is to be located at North Battleford.

In and around Edmonton there have been reported fourteen cases of poliomyelitis. Two cases were fatal.

Dr. W. J. McKay, of Saskatoon, lost his wife from the effects of severe burns.

The medical staff of the hospital at Regina is asking for efficient equipment. Drs. Stevens and Morell were appointed to confer with the hospital commissioner upon the matter.

The proceeds of the sale of Christmas Red Cross stamps this year in Saskatchewan was sent to the sanatorium for that province, and not to the one in Muskoka as formerly.

The Prince Albert Board of Health has done good work. There has been a marked reduction in the number of contagious diseases due to its efforts, typhoid fever showing a special decline.

Dr. J. B. Chambers, for several years the assistant medical superintendent of the asylum at Brandon, has been appointed to the position of medical superintendent to the hospital at Selkirk. Dr. Hicks, of Griswold, has taken his place in the Brandon institution.

FROM ABROAD.

Prof. Henri Huchard, of Paris, a noted authority on heart diseases, died recently. He was born in 1844. He did much original and valuable work on arterial tension.

Mr. William H. Harrocks, senior honorary surgeon to the Bradford Royal Infirmary, died recently in his fifty-fourth year. He was the author of a life of Sir Astley Cooper and many articles on surgical subjects.

Dr. F. W. Chapin, who for 30 years was a member of the staff of Springfield Hospital, Mass., died 15th December, 1910, of angina pectoris. He was a typical physician of the thoroughly scientific kind.

If the British Government carries out the plan of paying for medical attendance on the 15,000,000 who are unable to afford to pay for their own attendance, the estimated outlay is somewhere about £25,000,000.

Dr. James Edward Pollock, consulting physician to Brompton Hospital for Consumption, died, at the age of 93, on 18th December, 1910. He was a well-known authority on consumption.

Mrs. John Cartwright, of Sebring's Mills, N.J., is reported to have given birth to quadruplets—three boys and a girl—on 25th December, 1910. The children were reported to be doing well.

In Dothan, Ala., 70 per cent. of the school children and 75 per cent. of the rural population of Houston County, are infected with mucin-ariasis, or hookworm disease.

The University of Dôle, Jura, has just voted to buy and preserve the house where Pasteur, on December 27, 1822, was born. It has decided to ask the aid of all the admirers of the great benefactor of humanity.

The Supreme Court of Minnesota holds in a recent opinion that the City of Mankato was liable for its negligence in allowing the water supply to become contaminated with typhoid fever infection.

New York City has now completed its subscription of \$500,000 to the American Red Cross Society. There is to be raised in all \$2,000,000 as an endowment fund.

In France there is being organized a thorough system of public rural disinfection after contagious diseases. It is estimated that the money saved in sickness will more than pay for the service.

Prof. Franz König, formerly at the head of the Surgical Hospital of the Charité, in Berlin, died a few weeks ago, at the age of 76. He was a distinguished surgeon, having succeeded Laugenbeck and Bardeleben in the chair of surgery.

The Health Department in Chicago has been laying great stress on fresh air. As a result buildings have been much better ventilated, and the incidence of diseases of the respiratory organs, especially pneumonia, has markedly decreased.

The Irish branch of the National Health Association has been doing excellent work along the line of the prevention of tuberculosis. The Countess of Aberdeen presided over the annual meeting, when the reports were very satisfactory.

In 1880 the death rate in Massachusetts from tuberculosis was double what it is to-day. This means that the state is now saving annually \$13,000,000 in the value of human life from this disease alone, due to better conditions, better sanitary laws, and the work of sanatoria.

Professor Gaucher, of Paris, concludes, after a very careful study of the Ehrlich-Hata treatment for syphilis, that it does not cure the diseases and does not prevent relapses. There are some cases where mercury has failed and where "606" will do much good. He does not think this treatment is satisfactory when there are visceral lesions.

Quite recently many articles have appeared in the German medical journals on "606." It is claimed by these writers that this treatment is very potent, but that there must still be a good deal of reserve in regard to it being a definite cure. Though great credit is given Ehrlich, there is a note of caution to be found in many of these recent articles.

One of the new subsections of the healing art are the "optrometrists." These people have been very busy of late applying to the various state legislatures in the United States for special bills. When these people claim to treat all diseases of the eye, they should be made to take a course in medicine.

The total number of medical practitioners in Germany is 32,449. The population is given as 64,775,000. This is practically one practitioner to every 2,000 persons. The number of women studying medicine has considerably increased. There were 371 women students in the winter, and 512 in the summer session.

On Sunday, 11th December, 1910, in the fine new hall of the University of Berlin, there was held a well-attended meeting in honor of the memory of the late Professor Robert Koch. It took the form of a speech and music. Very many of his pupils were present, some from far-off countries.

Pulmonary tuberculosis has become very prevalent throughout many districts in the Highlands of Scotland. The reason advanced is that the Highlanders suffered little from the disease until about 60 years ago, when communications with other countries became common, and the bacillus was introduced into virgin soil.

In England and Wales there are 986 medical inspectors, of whom 73 are women. Of 6,000,000 children in the public elementary schools about 30 per cent. have bad teeth, 10 per cent. have defects of vision, 8 per cent. have enlarged tonsils or adenoids, 2 per cent. have otitis media, 1 per cent. have tuberculosis, and 1 per cent. have ringworm.

The Northwestern University Medical School (Chicago Medical College) has adopted two important changes: The first is to increase the requirements for admission, and the second to establish a combined curriculae whereby a student may secure his bachelor of science and doctor of medicine.

Mr. Alton, director of the English Radium Institute, has bought from the Austrian Ministry one gramme of radium for \$75,000. This purchase was made on behalf of Sir Ernest Cassels, who will present it to the institute. This is said by Sir William Ramsay to be one-fifth of all the radium in the world.

In the United States the deaths from six leading causes were as follows: 1, tuberculosis, 163,000; 2, heart disease, 132,000; 3, diarrhoea and enteritis, 105,000; 4, pneumonia, 98,000; 5, nephritis, 97,000; 6, cancer, 75,000. One person in every 1,200 dies annually of cancer. There are in the United States about 225,000 always ill with the disease. The duration of the cancer victims is three years.

The King Edward Hospital fund last year distributed £150,000, as against £148,000 for the year 1909. There is some complaint that this fund and the Metropolitan Hospital Sunday fund should be managed on more democratic lines, so that there would be representation from the smaller hospitals, the medical profession, and the classes from which patients are mainly drawn. The days of autocratic management are passing.

In the German Reichstag the bill to control fake medical healers and the vendors of medical nostrums is making headway, and bids fair to become law. It sets forth that no one shall treat by letter, nor shall he use any mystic methods. He shall not treat infectious diseases nor cancer. He shall not set forth in his advertisements or literature any untruthful statement, and shall keep books, from which information must be furnished when called upon. He shall also state his education and all his former occupations.

Things are not very smooth in Australia over the medical journals. The Victoria branch of the British Medical Association has decided to have its own local journal. This means that the *Australasian Medical Gazette* will not be the organ of that branch. The hospital news from Australia is interesting. Queen Victoria Hospital, at Launceston, admitted 247 patients, and there were 247 births. The cost to the hospital was an average of \$20. The Morelton Hospital, South Australia, made marked improvements during the year, among these a new operating room. The Royal Prince Albert Hospital, Sydney, made good progress during the year. The Government had placed \$20,000 in the estimates for new buildings. St. Margaret's Convalescent Home, South Australia, also had a good year. There were 248 males and 282 females admitted during the year. The income for the year was almost \$6,000. The Launceston General Hospital, Tasmania, admitted during the year 146 patients. The income was \$15,000. The Government made a grant of

\$5,000 towards the erection of an out-patient department. The Hobart Hospital, Tasmania, and the Blyth Hospital, S.A., did well, and received some good donations. The Adelaide Children's Hospital, S.A., admitted 964 patients. The Sydney Hospital will spend \$20,000 on a radium department.

OBITUARY.

JAMES INGERSOL, M.D.

Dr. Ingersol died in Regina, 12th November, 1910. He graduated from Queen's University in 1867. He was a surgeon in the United States Army, with headquarters in Kansas City. He travelled in Europe for a considerable time. During the early years of Regina he took an active interest in all social and public movements, and was one of its best-known citizens and highly esteemed. As a writer he was well known, and often contributed papers on medical topics of interest. By all his patients, he was loved, for he had a fund of humor for their happy hours and deep sympathy for them in times of sorrow. With him *vita sine literis mors est*.

HAROLD BERTRAM MARCHANT, M.D.

Dr. Marchant died in Vancouver, B.C., on 17th November, 1910. He graduated from McGill in the spring of 1910, and went to British Columbia. While riding on the tramway to the Britannia Mines he met with an accident, and had his skull fractured. He was taken to the hospital in Vancouver and died the day following. He was a clever student and popular with his classmates. Shortly before his fatal accident he had passed the medical examinations of British Columbia. He was unmarried, and 28 years of age.

ARVIN STODDART LEAVITT, M.D.

Dr. Leavitt died at Bancroft, Ont., in the latter part of November last. He was born in Leeds County in 1833. After graduating from Queen's University he followed the practice of his profession for many years in L'Amable, Hastings County. Seven years ago he settled in Bancroft. He was known to a wide circle of friends and acquaintances.

H. S. FORD, M.D.

Dr. Ford, of Vancouver, while on a hunting trip, strayed from his party, and was found dead some days later. He had perished from exposure and exhaustion.

H. D. AYRE, M.D.

Dr. Ayre died at Regina on 1st December, 1910. He was for twenty years a member of the Mounted Police. He met with an accident, by which he had a leg severely injured. He never fully recovered from the effects.

JOHN GUNN, M.D.

Dr. Gunn had practised in Ailsa Craig, Ont., for 35 years. He was a brother of Dr. William Gunn, of Clinton, Ont., and his son, Dr. John Gunn, is located at Port Dover, Ont.

 BOOK REVIEWS.

 THE PRACTICE OF SURGERY.

By James G. Mumford, M.D., Instructor in Surgery in the Harvard Medical School. Octavo of 1015 pages, with 682 illustrations. Philadelphia and London: W. S. Saunders Company, 1910. Cloth \$7.00 net; half morocco \$8.50 net. Canadian agents, the J. F. Hartz Co., Limited, Toronto.

This new work on surgery is an octavo volume of 1,015 pages. The first section is devoted to the abdomen, the second to the female organs of generation, the third to the genito-urinary organs, the fourth to the chest, the fifth to the face and neck, the sixth to the head and spine, and the seventh to minor surgery and diseases of structure. The work is specially a practical work, and, the author states, might have been called "Clinical Surgery." The general principles of surgery are omitted. These, the author thinks, should be learned in special works and from special teachers. It will thus appear this volume is a working guide to every-day surgical treatment and operations. It is a work on surgery as seen "at the bedside, in the accident ward, and in the operating room." The more one examines this work the more its many excellent features grow upon the attention. There is scarcely a superfluous word. The descriptions are particularly clear and concise. The main attention is given throughout to the important diseases and those that occur most frequently. The illustrations are deserving of special mention. They

are well selected, and reflect great credit upon Miss Huestis, the artist. The volume is designed for the surgeon in action. The publishers have also done their part well. The make-up of the book should please the most exacting. No one would ever regret the purchase of this work.

HYDROTHERAPY.

A Treatise on Hydrotherapy in general; its application to special affections; the Technic or General Processes Employed, and use of Waters Internally. By Guy Hinsdale, A.M., M.D., Lecturer on Climatology, Medico-Chirurgical College of Philadelphia. Octavo of 466 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Cloth \$3.50 net. Canadian agents: the J. F. Hartz Co., Limited, Toronto.

This work deals with general hydrotherapy, special hydrotherapy, technic of hydrotherapy, ground therapy, the use of mineral waters internally, prescriptions of hydrotherapy, etc. The author points out the diseases that are amenable to this sort of treatment and the sort of bath for each. The text is clear and well written, and the illustrations are plentiful and good; the paper and binding are of a high class. The book is a good one, and will no doubt command a wide reading.

DAWN OF THE FOURTH ERA IN SURGERY.

Dawn of the Fourth Era in Surgery and Other Short Articles. By Robert T. Morris, M.D., Professor of Surgery, New York Post Graduate Medical School and Hospital. 12mo of 145 pages. Philadelphia and London: W. B. Saunders Company, 1910. Artistically bound. \$1.25 net. Canadian agents: the J. F. Hartz Co., Limited, Toronto.

Anything from the pen of Dr. Robert T. Morris is sure to attract attention. The articles in this little volume have already appeared in journals. It is a pleasure to have them collected together in such a readable form. In this book are articles on the appendix, the gall bladder, the kidney, managing the fat layer, the oedema, McBurney's point, etc. Dr. Morris' views are well known, and to have so many of them at hand in a tidy volume will add much to the library of everyone who may possess a copy of this book.

A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR.

By E. Baldwin Gleason, M.D., Professor of Otology at the Medico-Chirurgical College, Philadelphia. Second revised edition. 12mo of 503 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Flexible leather \$2.50 net. Canadian agents: The J. F. Hartz Co., Limited, Toronto.

The author is no stranger to the medical profession. He is well known as a writer upon diseases of the nose, throat and ear. This second,

edition shows that it has been kept thoroughly up to date. The book is intended for students and general practitioners, and covers the essentials of the specialties included in it. (There is a very valuable formulary at the end of the book, which everyone will prize very highly. The book presents a very attractive appearance—excellent paper, binding, typography, illustrations, and text matter are all found here.

MISCELLANEOUS.

BUBONIC PLAGUE.

Bubonic plague is making serious ravages in Manchuria. In the one city of Harbin 600 deaths occurred within fifteen days, and at the date of the report new cases were appearing at the rate of about 100 daily. Out of every hundred patients forty died from the disease.

CARNEGIE GIVES TEN MILLIONS MORE.

Andrew Carnegie announced a gift of \$10,000,000 to the endowment fund of the Carnegie Institute of Research of Washington. This brings his endowment of the institution up to a total of \$25,000,000.

EDDY WILL NULL.

That the residuary clause of the will of Mrs. Mary Baker G. Eddy, founder of the Christian Science Church, is null and void, is the opinion of Former United States Senator William E. Chandler, Hannis Taylor, etc. The residuary clause provides for a gift of about \$2,000,000 to the First Church of Christ Scientist of Boston, known as the "Mother Church."

A statute of New Hampshire prohibiting a bequest to a church of over \$5,000 annually is the basis of the opinion, which was written by Prof. Taylor.

LITTLE ADULTERATION.

An analysis by the Inland Revenue Department of 211 samples of butter shows 195 to have been genuine and four partly adulterated. The rest were below the Government standard.

KAISER A DOCTOR.

Kaiser Wilhelm is about to add to his numerous distinctions that of doctor of medicine. The German University at Prague offered him the degree, and his Majesty accepted it. It will be conferred on him with great ceremony at Berlin.

 TENTATIVE PROGRAM OF THE CANADIAN HOSPITAL ASSOCIATION.

The next meeting of the Canadian Hospital Association will be held at the Clifton House, Niagara Falls, on the 23rd and 24th of May. During the same week it is expected that the Association of Superintendents of Training Schools for Nurses and the Ontario Graduate Nurses' Association will also meet.

The following is the preliminary program:

Dr. Charles Hastings, Medical Health Officer, Toronto, to read a paper on "The Relation of the Medical Health Officer to Hospitals."

Dr. N. H. Beemer, Superintendent of the Hospital for Insane, Mimico, on, "The Care of Alcoholics."

Dr. Gibson, of Belleville, "The Organization of the Medical Staff in the Smaller Hospitals."

Mr. Clarence Williams, Boston, on "The Heating and Ventilation of Smaller Hospitals."

Dr. Bruce Smith on "A Word to Trustees of Hospitals."

Miss Lillian Uren, St. Catharines, an exhibit of useful devices for hospital work.

Mr. H. E. Webster, Royal Victoria Hospital, Montreal, on "Important Points in the Construction of Smaller Hospitals."

Miss McLennan, of Barrie (title to come).

Miss B. Miller, St. Thomas (title to come).

Dr. J. S. Hart, Toronto, "What the Average Medical Man Expects from the Hospital."

Miss Conroy, Superintendent St. Joseph Hospital, Glace Bay, N.S., "The Duty of the Hospital to the Pupil Nurse."

Miss Dela Mater, Superintendent Nicholl's Hospital, Peterboro, "Some Impressions of New York Hospitals."

Dr. Kendall, Physician-in-Chief Muskoka Sanitarium, Gravenhurst, "Some Observations on Sanitoria of the Old Country."

Dr. Wayne Smith, Superintendent of the Washington University Hospital, St. Louis, Mo. (title to come).

Dr. Frederick Washburn, Superintendent Massachusetts General Hospital (title to come).

Dr. Young, Kingston, Assistant at Rockwood Hospital for Insane, Kingston (title to come).

DR. OSLER'S CHALLENGE TO ANTI-VACCINATIONISTS.

In an article in the *American Magazine* on the service to the community of the control and abatement of disease and pain by medical science Dr. William Osler says, in consideration of the value of vaccination: "A great deal of literature has been distributed casting discredit upon the value of vaccination in the prevention of smallpox. I do not see how anyone who has gone through epidemics as I have, or who is familiar with the history of the subject, and who has any capacity left for clear judgment, can doubt its value. Some months ago I was twitted by the editor of the *Journal of the Anti-Vaccination League* for a 'curious silence' on this subject. I would like to issue a Mount Carmel-like challenge to any ten unvaccinated priests of Baal. I will go into the next severe epidemic with ten selected vaccinated persons and ten selected unvaccinated persons. I should prefer to choose the latter—three members of parliament, three anti-vaccination doctors, if they could be found, and four anti-vaccination propagandists. And I will make this promise: Neither to jeer nor to jibe when they catch the disease, but to look after them as brothers, and for the four or five who are certain to die I will try to arrange the funerals with all the pomp and ceremony of an anti-vaccination demonstration."—*Boston Med. and Surg. Jour.*, 22 Dec., 1910.

ONTARIO MEDICAL COUNCIL, VOTING.

The following letter has been received from a well-known practitioner in one of the districts in which there was a contest. The letter raises a very important question, and we give it to our readers and for the benefit of the members of the Medical Council. We recommend its contents to their careful consideration.—Ed. *Canada Lancet*.

Dr. John Ferguson, Editor Lancet:

Dear Dr.,—I have noted with interest your efforts to bring about some improvements in our Ontario Medical Council. I wish to call your attention a most glaring defect in the same Council that I am very much surprised to find has not recently, at least, been pointed out, though it is one that puts it about three hundred years behind the times, and

almost qualifies it for a place in the Chamber of Antiquities. What I refer to is their antiquated system of open voting. The evils of that system are too well known for it to be tolerated in any other place, but it seems to be considered good enough for the medical profession. There is no question that it gives the sitting member a most unfair advantage over his opponent. Under the present system the sitting member presents his nomination paper to all, or nearly all, the members of the profession in his district, and if another member takes the field he finds even his own friends are already pledged against him, and if they vote for one or the other, or do not vote at all, hard feelings are sure to arise in some quarters. I know that in our district there are some clouds in the air that would not be there were it not for this antediluvian system of voting. I claim it as a right that I vote for whom I please, and I say that nobody has any right to know how I vote; and I say that any council or other body that does not grant me that right does me an injustice. It is, of course, necessary to vote by mail, but it is not necessary to have the ballot open. The machinery should be easy to arrange. The ballot proper might be placed in a separate envelope and sealed, nothing on it but the name of the candidate; enclosed with this, in the outer envelope, is the voucher, signed by the voter. The ballots, in their envelopes, are laid aside, and, when all are in, are opened and counted. Surely that part of it should offer no difficulty.

You may publish this or not, as you think best, but please try to so use your influence that this glaring defect in our Council may be remedied.

Sincerely,

THE CANADIAN MEDICAL EXCHANGE.

The Canadian Medical Exchange, in charge of Dr. W. Hamill, wishes us to announce that intending purchasers of medical practices should watch every month for advertisements of medical practices for sale in the advertising columns of this journal, but in the intervals they should watch the offers of medical practices under Business Chances in the Toronto *Saturday Globe and Mail and Empire*, as many practices are sold before the medical publications go to press. He always has from ten to twenty practices for sale in all parts of Canada, and by writing him buyers will secure a short cut to what they want.

Details of any offer are furnished buyers free, the aim of the office being to bring those who wish to buy in touch with those who wish to sell.

A letter addressed to him, Janes Building, Toronto, will bring you full particulars as to his methods of how medical practices are bought and sold.

AMERICAN PROCTOLOGIC SOCIETY.

OFFICE OF THE SECRETARY-TREASURER, 1610 ARCH STREET,
PHILADELPHIA, PA.

(Thirteenth Annual Session will be held at Los Angeles, Cal., June 26 and 27, 1911, at the Hotel Alexandria.

The American Proctologic Society's prize for the best original essay on any disease of the colon by a graduate of (not a fellow of the society) or a senior student in any medical college of the United States or Canada will be awarded as follows:

The society announces through its committee that the cash sum of \$100 will be awarded, as soon as possible in 1911, to the author of the best original essay on any disease of the colon in competition for the above prize.

Essays must be submitted to the secretary of the committee on or before May 10, 1911. The address of the secretary is given below, to whom all communications should be addressed.

Each essay must be typewritten, *designated by a motto or device, and without signature or any other indication of its authorship, and be accompanied by a separate sealed envelope, having on its outside only the motto or device contained on the essay, and, within, the name, the motto or device used on the essay, and the address of the author.* No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays, if reclaimed by their writers within six months, provided return postage accompanies the application.

The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

The competition is open to graduates of medicine (not fellows of the society) and to members of the senior classes of all colleges in the United States or Canada.

The object of the prize and competition is to stimulate an increased interest in and knowledge of proctology.

The committee shall have full control of awarding the prize and the publication of the prize essay, and it shall be the property of the American Proctologic Society. It may be published in the Transactions

of the Society, and also as a separate issue if deemed expedient. The committee may increase its membership if deemed advisable.

DR. DWIGHT H. MURRAY, Chairman.

DR. SAMUEL T. EARLE.

DR. JEROME M. LYNCH.

DR. ALOIS B. GRAHAM.

DR. LEWIS H. ADLER, JR., Secretary,
1610 Arch St., Philadelphia, Pa.

MEDICAL PREPARATIONS, ETC.

A TRIUMPH IN PILL-MAKING.

Parke, Davis & Co. confess that their soft-mass pill, which is now receiving so much favorable attention from the medical world, was for a long time a "hard nut" to crack. They had set out to produce by the soft-mass process a pill that should be a credit to their house and to manufacturing pharmacy. The task at first seemed simple enough. Here, as elsewhere, theory and practices were at variance. As a matter of fact, a good deal of experimentation had to be done. Time was consumed. Money was expended. In the end, of course, ingenuity triumphed.

In structure the soft-mass pill, as manufactured by Parke, Davis & Co., consists of a plastic mass encompassed by a thin, soluble chocolate coating. It may be flattened between the thumb and finger like a piece of putty. An important advantage of the soft-mass pill is the readiness with which it dissolves or disintegrates in the digestive tract. Another commendable feature is that, no heat being applied in the process, such volatile substance as camphor, the valerianates, the essential oils, etc., are not dissipated, so that any pill embodying one or more of these substances may be depended upon to contain just what the label says it contains.

Parke, Davis & Co. are putting out close to twenty formulas by the soft-mass process—all of them listed, we believe, in advertisements now appearing quite generally in the medical press.

WINTER WEATHER SUGGESTIONS.

The great prevalence of coughs at present, especially those of grippal origin, makes it not amiss to present a suggestion and a remedy. In place of remedies which always dry up expectoration, disturb digestion, cause constipation, and render the patient uncomfortable and drowsy, it

is desirable to employ the extremely efficient and popular cough sedative, Antikamnia and Codeine Tablets. This remedy relieves cough by its soothing effect upon the air passages, but does not interfere with expectoration, and, in fact, renders it easier, by stimulating the respiratory muscles. Only a very small dose—one tablet every one, two, or three hours for adults—is required to produce a satisfactory result. One on the tongue when retiring will greatly relieve night coughs.

A NEW LINE OF PARKE, DAVIS & CO.

"Everything under the sun for physicians" might be suggested as a motto not inappropriate for Parke, Davis & Co. The thought is prompted by the recent incursion of the company into the field of surgical dressings. It was something like a year ago, if we mistake not, that Chloretone Gauze and Formidine Gauze were launched in modest fashion, the purpose evidently being to let them find their way into the medical aramentarium in the natural order of events rather than by artificial fostering. Their reception by the profession must have been gratifying, for the line soon began to expand. Now it numbers six gauzes and tapes, and we note a disposition on the part of the company to bring them more prominently to the attention of physicians. For this reason a word or two in explanation of them may not be out of place.

The line includes Chloretone Gauze, Formidine Gauze, Formidine Tape, Adrenalin Tape, Plain Tape, and Anesthone Tape. What has been said of the therapeutic properties of Chloretone, Formidine, Adrenalin and Anesthone (and most physicians are well acquainted with these products) is applicable to the surgical dressings. Chloretone Gauze applied to raw surfaces exerts an anesthetic and antiseptic action, promoting the comfort of the patient. It is markedly useful in extensive burns. Formidine Gauze takes the place of iodoform gauze. It is more actively antiseptic, does not stain the clothing, is non-toxic, and is practically odorless. Formidine Tape, which comes in two widths ($\frac{1}{4}$ inch and $1\frac{1}{2}$ inches) is used for packing cavities, antiseptically. Adrenalin Tape, supplied in $\frac{1}{2}$ and $1\frac{1}{2}$ inch widths, is serviceable in tamponing cavities to check hæmorrhage. Plain Tape, which also comes in the two widths above mentioned, is used for packing and draining small wounds and cavities. Anesthone Tape is serviceable in the various forms of nasal hyperesthesia. All of the tapes are double selvaged, and when removed from wounds do not leave short threads to cause irritation.

Parke Davis & Co. issue a small pamphlet descriptive of their medicated gauzes and tapes. Physicians who have not received a copy are advised to write for one. The dressings are pretty generally carried in well-stocked pharmacies.