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ON THE DIRECT TRANSFUSION OF BLOOD—AN EXPERIMENTAL AND CLINICAL RESEARCH.*

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IN the early period of its evolution surgery was wholly empiric and was for the most part employed in the tragedies of life; this period of heroic surgery which was practised by the daring or the reckless was followed by the anatomic, in which the living functioning being was treated like the cadaver or the manakin. With the rise of pathology, surgical conception embraced new fields and its practice conquered many diseases and infirmities. But the anatomic mechanics of surgery long since have reached their height and it is doubtful whether the mechanical skill and anatomic conception of Potts, the Coopers, Dupuytren, Velpeau or Langenbeck are equalled by a single contemporary surgeon. In the past the empiric surgeon added anatomy, the anatomic added pathology, and now the pathologic surgeon is adding physiology.

The transference of whole or of modified blood by various methods for numerous purposes from an individual of the same or of an alien species, to another, has been practised in many parts of the world for at least four centuries. A critical historical review of this work with reference to the results accomplished may be summarized as follows:

The greater part of it was done before the development of chemistry, physiology, pathology, and bacteriology, *i.e.*, before the period of good hospitals and surgical instruments, and before the establishment of a scientific basis of medicine. There were many accidents arising from infection, clotting, the use of alien blood and from unfortunate selection of cases, so that with the advent of normal saline solution as a substitute for blood, transfusion of blood was no longer practised.

In 1898 this research was begun, using the method of Mosso. It proved impractical and the research lapsed until the work of Payr, Carrel and Guthrie gave us better methods.

The major part of the work was done in the Laboratory of Surgical Physiology, Western Reserve University, and was undertaken in conjunction with Profs. Macleod and Haskins and Drs. Dolley, Hitchings, Cole, Lenhart and Eisenbrey. More than two hundred animals, mainly dogs, were required. The clinical research was in conjunction with Dr. U. E. Lower. This paper consists of abstracts and summaries of the

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several topics embraced in the research. At some future time I hope to publish *in extenso* the data accumulated.

Technique.—Experimental research into the technique consisted of an investigation into the choice of vessels by which blood could be transferred from one individual to another with the greatest certainty under the best control. Transference of blood from vein to vein, though easy of technique, was uncertain in the rate of flow, and had little power of overcoming resistance. By using an artery of the donor the blood was driven across under a certain amount of pressure, with a uniform rate of flow, readily overcoming a considerable resistance and supplying fresh oxygenated blood.

In using the peripheral artery of the recipient, it was found that the back pressure and peripheral resistance interfered with the free flow, and the valves of the peripheral veins interfered with the flow from the artery of the donor. The proximal vein of the recipient, therefore, being the direct channel to the right heart, seemed the natural and most available route. The only possible objection was that of the possibility of forcing a clot direct to the right heart.

The question of clotting at the site of anastomosis was eliminated by the use of a mechanical device instead of the Carrel suture. Dr. S. J. Mixer presented the writer an ingenious device in principle, not unlike the Murphy button. From this and from the original cuff method of Payr was developed our present instrument, which is now made by Messrs. J. C. Ulmer & Co., of Cleveland. By means of this tube anastomosis may be made so that intima is in contact with intima alone, without damage to this structure and without the possibility of any foreign body coming in contact with the blood stream. The tube has proved as successful in the clinic as in the laboratory.

In the clinical transfusions we have utilized the radial artery of the donor and any superficial vein of the recipient. The radial artery was chosen because it is easily isolated and may be readily adjusted in position to the vein of the recipient. Unless contraindicated, the donor and the recipient are each given a hypodermic injection of morphin twenty minutes before the transfusion. Before they enter the operating room, after their arms are prepared, a nurse places over their eyes a wet towel with the explanation that the eyes must be protected from the bright light to prevent headache. The donor is placed upon an operating table of the Trendelenburg type so that should he faint he can be readily lowered. The recipient is also placed upon an operating table with his head in an opposite direction from the donor. By the use of an infiltration anaesthesia of 1-10 per cent. solution of cocain, about 3 c.m. of the radial artery is exposed and the smaller branches tied with pieces of very fine

silk; a "Crile" clamp is applied to the proximal end of the artery and the distal end is ligated; the artery is then divided; the adventitia is pulled over the free end as far as possible and snipped off close; a moist saline sponge now covers this field. Three or four c.m. of the superficial vein of the recipient is then likewise freed; the distal part ligated, the proximal closed with the "Crile" clamp; the distal part then is divided with the scissors, the adventitia drawn out as far as possible and snipped off close; the vessels are then inspected and a cannula whose bore is larger than the actual tissue thickness of either vein or artery is selected. The vein may then be pushed through this tube, after which the free end is turned back like a cuff and snugly tied in the second groove. During this time the handle of the cannula is steadied and manipulated by means of forceps. If the artery is atheromatous and, therefore, firmly contracted, or if for any other reason contracted or quite small, its lumen may be dilated by means of a mosquito hæmostat, pushed into the lumen, then opened gradually. The artery is then drawn over the vein and is snugly tied with a small linen ligature in the first groove. This completes the anastomosis. The clamp is then removed from the vein, afterward gradually from the artery, when the blood stream will be seen to pass from the artery across to the vein, dilating the latter. However, the exposure and manipulation of the vessels cause them to retract, particularly so in case of the artery. This vessel may contract so firmly as to obliterate its lumen. The constant application of warm saline solution and protecting it from the air will help materially in bringing about relaxation, and, hence, a free stream of blood. The pulse wave may be palpated in the vein. It is best to introduce the blood very slowly, watching carefully the result.

In some instances when the stream passed over under too great a head and when the cardiac muscle of the recipient was weak, symptoms of acute dilatation occurred. There was precordial distress, pain extending through to the back, and almost incessant coughing, rapid pulse and considerable cyanosis. These symptoms in each instance passed off after a time, though when once they developed they seriously hampered the transfusion and diminished the quantity of blood that might with safety be transferred.

In the majority of instances we have been able to transfer the blood without the patient's knowing that it was done, thereby entirely avoiding the psychological factor.

In cases transfused for profound shock or hæmorrhage, the transformation of the face is a most striking phenomenon, consisting of a gradual obliteration of the pale, haggard facies and a substitution of a fuller, more rounded, pink coloration of glowing health. Not only is

there transformation in the facies, but also in the psychical state, and in the general well being of the patient.

In the donor, after from twenty to forty-five minutes of continuous flow from the radial artery in a good anastomosis, a gradual pallor of the extreme points, viz., the nose, ears, etc., may be noted. The lines of expression become gradually deepened, the orbital spaces shrunken, and darkened, and if the transfusion unhappily is extended too far, the patient's countenance will finally collapse and reproduce the tragic picture that he was intended to relieve. This occurred in three of my earlier cases. However, since learning to interpret with greater accuracy the first signs and symptoms of too great a loss of blood, we have not witnessed any unfavorable results in the donors. As soon as the donor shows irregular respiration or sighs, is a bit uneasy, or presents a characteristic facies, the transfusion is terminated. The earliest and most constant change noted in the recipient is the almost instant and continuous rise in the blood pressure, continuing up to a certain point, the total rise depending upon the physical state and the quantity of blood transfused. There is also a rise in hæmoglobin and the red count. The most constant phenomenon during the transfusion, on the part of the donor, is the rise in the leucocytes. Careful observations made in all the donors showed that if a careful transfusion is given there may be little or no change in the blood pressure, the hæmoglobin, the red blood count, the respirations, or in the pulse rate. In exceptional instances, the variations were considerable. However, in all cases there was a marked fall in the hæmoglobin, in the red count, and somewhat in the blood pressure, reaching the maximum in from 6 to 12 hours. This is readily accounted for by the fact that as the blood leaves the vessels compensation takes place so that the circulatory system contracts upon the amount of blood left, maintaining thereby the blood pressure, and the pulse rate approximately the same. The hæmoglobin and the red count do not change materially because there has not been a sufficient time for the transference of fluids from the tissues into the circulation, but if the transfusion is continued until the amount of blood lost is greater than can be compensated for, the vasomotor centre, after performing its maximum effort, gives away and a faint results. The gradual rise in the leucocytes during a progressive hæmorrhage was in every instance noted. Of one thing we are certain, that during a progressive hæmorrhage extending over a period of four hours or less, blood counts are of little value in diagnosis; that hæmoglobin estimations and red blood counts give only relative estimations as to the quantity of blood in the circulation; that this quantity can be more accurately estimated by observation of the facies and other superficial parts of the body. Leaving now the technique of transfusion

we turn to a summary of the experimental and clinical investigation of transfusion, and will first consider the experimental.

Experimental.—We first investigated the effect upon the blood transferred and the blood and tissue of the recipient in a transfusion from a normal individual of a species to another. One normal animal was bled to the limits of safety and an equal amount of blood transfused from another. After two weeks the experiment was reversed, the blood from the recipient being transferred to the first donor. A third animal was then used as a donor and the same experiment performed. After two weeks this was reversed. In repeating the bleeding and transfusion, re-transfusion and a second transfusion, then introducing the blood of a third animal, no ill effect was noted. The dogs remained in normal health. The transfusion of a number of animals without previous bleeding proved likewise harmless. Complete metabolism observations made by Prof. Haskins of Western Reserve, and Prof. Folin of Yale, did not show any changes of consequence. Likewise a complete metabolism determination in a clinical case was negative. Many microscopical observations of the blood picture of the recipient were negative as to any abnormal changes. No hæmoglobin was found in the urine. We, therefore, reached the conclusion that the blood of one normal animal is physiologically interchangeable with that of another of the same species.

We next investigated the effect of an over-transfusion, utilizing a very large dog as the donor and a very small one as the recipient. As a result of these experiments we found that if transferred rapidly, a full head stream from the carotid artery of the donor into the jugular vein of the recipient, an œdema of the lungs in some instances soon followed. In one experiment within four minutes after opening the flood gate of blood from the large dog, froth and serum rapidly poured out of the nose and mouth of the recipient. On the other hand, when the over-transfusion was done more slowly so as not to embarrass the right heart and the pulmonary circulation, utilizing a huge donor and diminutive recipient, the blood was successfully transferred from the pulmonary to the systemic circulation, the abdomen in time became enlarged and gradually increased until it became so tense that the diaphragm and the movable ribs were immobilized and the animal died of asphyxia.

After studying various grades of over-transfusion of this class, it was found that first there was a filling up of the tissue of the liver, the spleen, and other abdominal viscera. This was soon followed by the transudation of an amber-colored fluid, later tinged with blood, finally bloody. This bloody fluid and the hard, swollen liver and spleen, and the engorged and thickened stomach and intestines, finally so distended

the abdomen as to fix the ribs and the diaphragm and cause death by asphyxia. The autopsy findings proved that both the liver and spleen may be ruptured by excessive transfusion.

In these experiments, too, there were instances of a certain amount of œdema of the lungs.

Transfusion in the normal animal caused an immediate rise in the blood pressure. This rise continued until from 15 to 110 m.m. mercury had been gained. After the maximum was reached there was usually a decline though the pressure as a rule remained higher than normal. This was in direct contrast with the effect of the intravenous infusion of normal saline solution, which we found to be capable of raising the pressure of a normal animal, but a few m.m. of mercury, even when the solution was infused from a high column with a large tube under a strong head of pressure. The salt solution rapidly traversed the vessel walls of the part of the body which normally absorbs water, viz., the gastro-intestinal tract and to a lesser degree the pulmonary tract. In this manner the abdominal viscera were rapidly water-logged, the abdomen over-filled with free fluid, and the enlarged viscera soon became so rigid as to arrest the respiration by fixing the diaphragm and movable ribs. Whereas normal salt solution could not sustain the blood pressure at a higher level than normal, the direct transfusion of blood may do so. It was found that at death an over-transfused animal showed a residual pressure of from 15 to 30 m.m. mercury. It was also found that an animal recently killed and then subjected to a transfusion, may exhibit a rise in carotid pressure as high as 60 m.m. mercury. This contrasts with the rise, under parallel conditions, of 10 or 15 m.m. mercury by saline infusion. Blood transfusion exerts a far greater influence upon the blood pressure than saline infusion, because blood is not only thicker, but better than water.

After having found that the blood of normal animals of the same species is physiologically interchangeable; that the blood pressure may in the normal animal be raised and sustained; that if the transfusion be given with too great rapidity the pulmonary circulation may be so embarrassed as to precipitate an acute and fatal œdema of the lungs; that if the transfusion is given more slowly the blood may be transferred from the pulmonary to the systemic circulation in safety; that an excessive transfusion thus given may cause serious damage to the abdominal viscera and immediate death; and after having established a safe technique and the limits of safety, we then turned to some of the problems that might have a clinical bearing. The first was hæmorrhage.

Every degree of hæmorrhage, even after the cessation of the respiration, the circulation and the heart beat, was treated. A separate group of experiments, in which the hæmorrhage was so profound that the ani-

mal was un. accessfully treated by means of stimulants, of posture and of saline infusion, then finally by direct transfusion, was planned as a means of comparing the value of direct transfusion with other methods. In every instance after the complete failure of current methods, including maximum saline infusion, so long as there was an auricular beat the animals were still resuscitated by direct transfusion. In every degree of hæmorrhage so long as there remained feeble contractions of the heart, although the respirations and arterial flow had ceased, the animals might still be resuscitated. We were, however, unable to resuscitate any animal after the cessation of the auricular beat. It is axiomatic to state that if after hæmorrhage an equal amount of blood of equal physiological value be replaced, the animal has lost no blood.

On investigating the effect of excessive bleeding followed by transfusion in the treatment of strychnine poisoning, it was found that the strychnine probably formed a loose chemical combination with the fixed tissues of the body and did not, therefore, yield.

In order to test the value of bleeding in certain toxæmiæ, a number of observations were made with diphtheria toxins. It was found that the animals bled then transfused at the onset of the symptoms about twenty hours after the injection of the diphtheria toxins were no more likely to recover than the controls. Then gradually reducing the time to 16, 12, 8, 4 and 2 hours, it was found that the animals even in these periods before any symptoms of toxæmia appeared were not favorably affected, although an animal bled and transfused within one-half hour after a fatal dose showed some benefit. It was evident that here, too, a loose chemical combination with the fixed tissues of the body occurred and that this fixation when once made was not affected by bleeding and transfusion.

Another series of experiments was made, consisting of producing uræmia by double nephrectomy, then testing the value of repeated bleeding and transfusion. It was found in a series of twenty such experiments that the control animals did quite as well as the animals so treated.

Accepting the current theory that an illuminating gas poisoning death is produced because CO has a greater chemical affinity for hæmoglobin than oxygen, therefore when a sufficient amount of CO gas comes in contact with the inspired air, the hæmoglobin is saturated with the carbonic oxide and oxygen cannot be carried by the red corpuscles. The tissues are then reduced to depend upon the supply of oxygen in solution in the blood plasma. This under partial pressure of oxygen in atmospheric air is insufficient to sustain life. We were able to verify the opinion of previous observers as to the probable virtue of transfusion after bleeding animals suffocated by illuminating gas, thereby getting rid of the red corpuscles having the vicious saturation with CO and transfusing

normal blood. So long as there was any circulation the animal could be readily resuscitated. No later ill effects were noted. This method was contrasted with inhalation of oxygen under pressure with forced respiration with the administration of saline infusion and was found to yield the best results.

Surgical Shock. Surgical shock is a term designed to cover a group of phenomena due to certain altered physiological functions. The essential characteristics from the viewpoint of the practical surgeon is the state of lowered blood pressure. So long as the pulse is satisfactory the surgeon entertains no fears for the safety of the patient. In the fatal cases no pathological lesion is found. In those that recover no loss of function is apparent. So far as we now know, death from shock is due to failure of the circulation—a failure to sufficiently supply the brain with blood—an intravascular hæmorrhage. So far as our present evidence goes, the chief cause of the failure of the circulation is the breakdown of the vasomotor centres. Once the pressure is low the disabled centres suffer still more from want of circulation. In a restricted sense there arises a species of vicious circle, viz., the blood pressure is low because of the failure of the vasomotor centres and because of the consequent anæmia these centres are not able to do as much work as they could under a normal blood supply. To overcome the anæmia of this and other centers is our therapeutic objective. We then experimentally enquired whether or not by the transfusion of blood the volume may be sufficiently increased to fill up the relaxed vascular system—the by-ways, nooks and eddies—to cause more blood to reach the heart, and so to increase the outflowing stream, hence, help to overcome the cerebral anæmia, which in turn would be followed by an increased activity of the vital centres, thus supplanting the vicious circle of anæmia by the beneficent circle of hyperæmia.

It was shown in the experiments that the influence of transfusion upon the blood pressure in every grade of shock was sufficient to raise it very materially, frequently to the normal, occasionally even above it, and to so sustain it for a number of hours. It was found that the influence of transfusion upon the blood pressure in shock was almost as marked as in hæmorrhage.

After the striking effects of transfusion in the treatment of shock were fully established, we undertook another series of experiments to determine what, if any, effect a careful over-transfusion in a normal animal might have upon the prevention of shock. It was found that animals carefully over-transfused so as not to embarrass the pulmonary circulation on the one hand or overcharge the abdominal viscera on the other, then subjected to shock producing procedures, could not be killed by

shock alone. The blood pressure could be reduced to a certain degree, lower than which by trauma alone it was not possible to reduce it.

Extending our experiments, we found that manipulating the spinal cord and injecting cocaine into the subarachnoid space, which ordinarily causes a marked fall in blood pressure, produced either a rise or no material effect.

Still further pushing our observations, we destroyed the upper cervical cord and finally the medulla, after which by maintaining artificial respiration the circulation still went on. We then made the supreme test of decapitating such over-transfused animal and found that the blood pressure was still evenly sustained with no aid beyond artificial respiration. Even when respirations were not given the height of the pressure was not changed. One animal lived for over three hours by merely keeping up artificial respiration. This circulatory state is readily understood by considering for a moment the physiology of the heart beat. The heart may be removed and kept on ice for a day or two, then if oxygenated defibrinated blood under a pressure of from 80 to 100 m.m. mercury be made to circulate through the coronary vessels it will beat again and continue beating for a number of hours. Even a coronary pressure raised to that height by metallic mercury will for a moment cause the inauguration of the heart-beat. In the overtransfused animal the vascular system is so filled with blood that its elasticity is utilized to create a resistance against which the heart may beat, resulting in a pressure of from 80 to 140 mm. mercury in the aorta, hence in the coronary. There is no reason, then, why the heart should stop beating so long as this coronary pressure is maintained, and this may be maintained so long as the elasticity of the vessels gives this resistance, the casual loss of the head to the contrary notwithstanding.

Only summaries of the groups of clinical cases will be given.

Clinical. 1. Pernicious Anæmia. In two cases of extreme pernicious anæmia, transfusion was followed by a temporary improvement, but almost immediately subsequent to the transfusion there was a rapid hæmolytic of the blood transferred. This, it has seemed to me, might be of special interest to the internist as bearing upon the etiology of the disease. In these cases there was no evidence that the course of the disease was modified.

2. Leukæmia. A case of spleno-myelogenous leukæmia that had resisted a carefully planned and well executed medical course, including the x-ray, was first bled, then transfused. Though there was temporarily a marked gain in vitality as manifested by an improved well-being, and increased appetite and strength, the blood picture showed no change. There was no evidence that the natural course of the disease was modified.

3. Chronic Suppuration. For the double purpose of lessening the secondary anæmia and possibly of supplying better fighting leucocytes in extreme cases of prolonged intractable suppuration, transfusion was done. There was distinct improvement in the venality and general well-being. The improved blood picture did not continue. Neither was there any noticeable improvement in the local suppurative field. Some of the patients, however, gained markedly in weight and in strength and in every case it was demonstrated that the patient could be raised to a higher state of vitality for better enduring surgical measures.

4. Tuberculosis. In a case of intractable tubercular pleuritis and peritonitis transfusion was made. Although the patient gained considerably in weight and strength, the last observation showed that while the disease is not progressing and the general nutrition is still improving, the disease has certainly not yet been cured.

5. The Transference of Immune or Protective Bodies. The recent advances in the investigation of immunity seem to warrant the hope that in certain self-limited diseases immune bodies might be transferred. With this in view as well as the protection of the donor, in a case of grave typhoid hæmorrhage I selected a subject who had had typhoid. The donor was young, florid, muscular and weighed 225 pounds—a splendid subject. The recipient was literally flooded with blood and was brought out of clammy unconsciousness into a state of glowing jocoseness. The hæmorrhage, however, recurred on the second day, and the patient died without offering the opportunity of noting the role of the hypothetically transferred immune bodies. In another such case I would advise immediate laparotomy after transfusion, to try to secure by a cobbler's stitch the bleeding ulcers.

6. Malignant Tumors. Based on the original observations of Gaylord and Clowes, that certain animals have a natural immunity to carcinoma and others may acquire such immunity, as well as the further observation that hæmorrhage is followed by a more rapid growth of either carcinoma or sarcoma, I have transfused a series of carcinomata that were inoperable. I was further encouraged by the result of transfusion in collaboration with Dr. Beebe of New York, who has found an inoculable sarcoma which has been planted in a very large series of animals for various experimental purposes. Among these animals certain ones acquired an immunity and certain ones showed a natural immunity. We have seen large sarcomata in several dogs regress, and in at least one instance entirely disappear after bleeding followed by transfusion from immune dogs. Though all these various considerations leave us far from a practical method of treating malignant diseases, yet I have felt that when confronted with an apparently incurable carcinoma or sarcoma I

was amply justified in making observations to determine whether or not there is anything at present to hope for by this method. All of these cases have been markedly improved in their physical well-being, but not sufficient time has yet elapsed to determine the ultimate effect.

7. Chronic Hæmorrhage from the Bowels. In five cases of chronic hæmorrhage from the bowels, extending over a period of from one to five years, and having resisted the best available medical advice, transfusion was done. Four of these cases were relieved by transfusion alone, extending over a period of time from four to nine months. In one instance there was only temporary improvement. In the first case of this kind the patient was reduced to 1,200,000 reds, hæmoglobin 15 per cent. The patient was œdematous and in an extremely low state of vitality. During the preceding six months every stool was attended by a large hæmorrhage, and there were a number of stools daily. Following the transfusion the hæmorrhage entirely disappeared and there was but a single instance of bloody stool since the operation, now nine months ago, and she has been in normal health.

8. Pathologic Hæmorrhage Accompanying Jaundice. In a case of petechial and subcutaneous hæmorrhage, as well as hæmorrhage from the nose, the uterus and the bowels, incident to a deep jaundice of complete carcinomatous obstruction of the ducts, the patient was reduced so low that she had reached the stage of collapse when transfusion as an emergency measure was made. The hæmorrhages were all immediately controlled. The nose bleeding was severe during the transfusion, but in the midst of it it ceased. An exploration was made the day following the transfusion, and the inoperable status verified, but no unusual hæmorrhage followed. The patient lived about three months, and although the bile was accumulating during this time there was no hæmorrhage of any kind observed. Should this observation be confirmed, it would once more bring into the surgical field the group of bleeding chronic jaundice cases now universally discarded.

9. Hæmophilia. In one case of fairly well marked hæmophilia an intractable nasal hæmorrhage was immediately arrested by direct transfusion.

10. Prevention of Shock. An elderly patient who for five years had been losing blood on account of essential hæmorrhage of the kidney had become so anæmic and reduced as to render him unsafe for anæsthesia, and was transfused prior to operation. His vitality was by this means so much raised that he became a good surgical risk and on the following day he easily endured nephrectomy.

In another case, a ten-year-old boy who had an infected hydronephrosis with long drainage and suppuration until he had

become a mere shadow, was transfused and during the month following gained 16 pounds in weight, when he became a good surgical risk and was then subjected to a most trying operation, necessitating the separation of the adherent remains of a large cystic kidney from the under surface of the diaphragm, etc. The operation was well endured.

In a case of cancer of the uterus with such profuse hæmorrhage that the patient was sent to the Hospital for the purpose of regaining her vitality under rest and careful treatment that she might endure operation, she was seized with a sudden hæmorrhage the night following her entrance, and in the morning she was in collapse in spite of vigorous measures such as saline infusions, stimulants, etc. Her brother served as donor and the lost blood was replaced. She was brought up to a good surgical risk and then endured splendidly a complete hysterectomy. Her recovery following that was uneventful.

11. Treatment of Shock. In the cases of shock thus far treated, the results have been, with a single exception, most striking. The symptoms as we know them gradually disappeared, the pulse and respiration fell, the blood pressure rose, the face filled, lips became red and consciousness was regained. In one instance, though there was temporary improvement, it was not sustained, though in this there was a progressive internal hæmorrhage.

BRAIN EXHAUSTION.*

By CAMPBELL MEYERS, M.D., Toronto.

MR. PRESIDENT and Gentlemen,—The study of the so-called functional neuroses has in the past few years received such an impetus from the elaborate observations of noted men both in Europe and the United States that the importance of this group in the field of medicine is rapidly obtaining the position it has long merited.

When a student with Prof. Dejerine, in Paris, not very many years ago, organic nervous diseases occupied practically the entire field of neurology. To-day the visitor to Prof. Dejerine's Clinic is at once shown the Pinal ward, which is devoted to functional nervous diseases as the most interesting and advanced section of this noted neurologist's work. Why has this change been effected? Endowed as he is with a splendid physique, and being an indefatigable worker, Prof. Dejerine has given us many of our most valued contributions both in the anatomy of the nervous system and in the pathology of its organic diseases. This change has, I believe, been due to the fact that clinical medicine is now claiming a greater share of the attention, which has hitherto been devoted largely

* Read at the meeting of the Ontario Medical Association, 27, 28, 29 May.

to the study of the causation of disease, in other words, the immediate attention is given to alleviating the effect, hoping meanwhile that the cause may be further elucidated. It has, I believe, also been due to the tardy recognition of the immense practical importance of these diseases.

While the existence of these affections has been known since the days of Hippocrates, and while they have been treated from time immemorial by religious teachers and others, medicine has given little heed to them. Since the time of Paracelsus, we have had magnetic healers. Modern medicine has, however, been so fully occupied with the anatomical and pathological results of disease that the clinical study of these affections, which have as yet no precise pathology, has been deferred and as a result their treatment has too often been accomplished by quacks and charlatans. Had these diseases been adequately treated by the profession, Christian Science and the long list of allied healers would never have come into existence, and much suffering would have been spared to humanity.

The marked interest in these diseases which is now being evinced by their careful clinical study, must lead to results, the benefits of which can scarcely be estimated and which will form one of the brightest chapters in the history of the medicine of to-day. Chief among these benefits I would place (at least in a large proportion of the cases) the prevention of acute insanity, a benefit of greater magnitude to mankind than that of the prevention of tuberculosis.

I would now like to say a few words in regard to the classification of some of the functional neuroses. While I well know that this is a most difficult subject to discuss, and one which will probably not be settled for many years to come, it is nevertheless necessary to attempt at least to convey some more definite idea of these affections than we at present possess, in order that they may be better studied. Of the various functional neuroses I would desire to direct your attention only to those types, to-day recognized conventionally as neurasthenia and psychasthenia. Inasmuch, however, as the word neurasthenia, or nerve exhaustion, is evidently a misnomer, both from an anatomical and physiological point of view, would it not be better to term this disease brain exhaustion? It is manifestly a disease, primarily of the higher centres in the brain, hence by this classification we would have both an anatomical and physiological basis to support it. It would, moreover, then include *all* the forms of what is now known as neurasthenia and give them a definite ground work. A further study of brain exhaustion thus classified demonstrates that the entire list of symptoms may be divided into two sub-divisions, the somatic and the psychic. These are gradually becoming more clearly differentiated, the former indicating that the symptoms are chiefly physi-

cal, including nervous diseases of the thoracic and abdominal viscera, for which I would suggest the term somatasthenia as a suitable designation. In the latter the psychical symptoms predominate, corresponding to the condition described to-day as psychasthenia. If, therefore, the term, nerve exhaustion, were replaced by brain exhaustion, we would, I think, have from every point of view a much more correct designation for this syndrome. Whether we should describe brain exhaustion as cerebras-thenia, after the original classification of Beard, which has been followed chiefly by the French authors, or as encephalasthenia, time alone will decide. The chief merit of the former is its conciseness and euphony, but on the other hand it is not etymologically correct, nor does it comprise all the brain centres which are affected in this disease, hence I would consider encephalasthenia as a better term. A consideration of brain exhaustion along these lines would, I believe, tend to clear up much that has heretofore been in a very confused condition on account of the lax application of the term, neurasthenia, and thus tend to simplify the study of this branch of the functional neuroses.

As some doubt would seem to exist as to the relation between certain nervous diseases and insanity, I would here mention that the boundary line of insanity, forms at present the line of demarcation between the two. For example, I was recently asked to receive into the nervous wards of the General Hospital a case described by her physician as one of melancholia with delusions, and I regretted being obliged to tell him that the boundary line was passed and the only alternative at present was treatment in an asylum. A few weeks earlier the patient would have been gladly received and possibly the insanity averted. Hence I should like to point out that insanity does not enter into the scope of this paper. While I regard any of the acute insanities only as advanced stages of certain forms of brain exhaustion, the study of these conditions belongs to the alienist, and I am only indirectly interested in them. There is, however, in nearly all these, a pre-insane stage when the condition of the patient is described as nervous, the symptoms of which, if untreated, gradually become intensified until the boundary line of insanity is passed and the patient is pronounced insane. It is this pre-insane stage which, on the other hand, is of the deepest interest since by treatment at this period of the disease insanity may be prevented and the brain restored to its normal condition.

As the nervous wards of the Toronto General Hospital were established on the representations of the members of this Association, I thought some remarks in regard to this work might be of special interest to this meeting. The wards have not yet been in operation a sufficient time to offer you a year's report of their progress, but sufficient has

already been accomplished to clearly demonstrate the benefits which was predicted would be derived from them, as expressed in a previous paper on the subject, which I had the honor of reading before this Association two years ago. As a result of the deliberation of this Association at that time, I am able to state with great pleasure that the impetus then given to the study of acute nervous and mental diseases in general hospitals has been such that, when the present plans for the new Hospital are completed, Canada will possess the most complete and most scientific means of treating these diseases which is known in the world to-day. Provision has already been made for the pre-insane stage in the General Hospital—a Psychiatric Hospital for the treatment of the acute insanities is to be built on the same grounds and in intimate relationship to the new Hospital, and finally, for any who do not recover in the Psychiatric Hospital, a hospital for the chronic insane will be established at a convenient distance from the city. Thus provision has been made in a General Hospital for the treatment of the functional neuroses in a separate department, limited exclusively to this class of cases so that patients who are not insane will be treated separately, and where the danger of the development of insanity, where such exists, may by proper treatment be often averted; and also provision is being made by which all persons in whom insanity has developed may, without formality, be treated in accordance with the most improved scientific methods. From both of these departments incalculable good will result, not only to the patients themselves, but also in the promotion of the knowledge of these diseases of the general practitioner, the medical student and the nurse.

In this way, all nervous and insane patients will be separately treated in a General Hospital from the earliest manifestation of their disease to *their recovery or death in all acute cases*. Hence the principles laid down in the paper referred to, are in the short space of two years being fully realized, a most creditable result, not only to this Association, to whom the credit of this work is primarily due, but also to the wisdom of the present Government of this Province, among the members of which the Honorable the Provincial Secretary stands in a foremost position in regard to what has been accomplished.

While unable to offer you at present any extensive report of the nervous wards of the Toronto General Hospital, I would like to lay before you the anamneses of two of the patients treated in these wards as examples of the two subdivisions of brain exhaustion as outlined above:

A. T., æt. 43. Male. English. Occupation, accountant. Admitted to the nervous wards of the Toronto General Hospital, February 20th, 1907.

Complaint. Sleeplessness, inability to attend to his ordinary occupation; nervousness, with at times a feeling of confusion in the head.

Loss of interest in his surroundings with marked introspection and depression.

Duration. Since about December 1st, 1906. In the family history there is nothing of special note.

Personal History. Was educated in a Church School in Birmingham, England, which he left at the age of 12. He then went into a merchant's office and did work of a clerical character, which he followed until he came to Canada in 1904. During this time he had an occasional nervous breakdown and his nervous system has never been robust. On first coming to Canada, he worked for a time on a farm, but later occupied a clerical position, and in the beginning of December, 1906, he began to feel that he could not do his work satisfactorily. He was unable to concentrate his mind and felt that he was not doing his duty, although his employers had no complaint against him. This feeling has been becoming more pronounced since that time, and the patient gave up his position about the third week in January, 1907.

Habits. Has been a temperate man all his life. He has taken beer and tobacco in moderate quantities, but never to excess. No specific disease or excesses of any kind. Thinks he may have had the ordinary diseases of childhood, but cannot remember definitely. Was always a nervous child and even in childhood can remember not being able to sleep well. Except for an occasional nervous breakdown, he has been fairly well.

Present illness and condition. Since December 1st patient has not been able to sleep well and has felt unable to concentrate his mind on his work. He feels that he cannot do his work properly and this worries him. For a few weeks previous to giving up the work he has felt that he was not doing right to accept his salary. The fact that he cannot properly support his family weighs heavily on his mind, and he feels very despondent and cannot see any hope ahead. He does not think he can get better. There is constantly a "feeling of confusion" in his head—so that he cannot settle down and plan out any proper line of action. He always feels that he is not doing what he should do and regrets that he has not done better in the past. His memory he does not think is as good as it was—thinks it has gradually been failing in the past few years. His appetite has been poor lately—at times he cannot eat at all—but he has never suffered from any marked digestive disturbance that he knows of. He says that although very despondent at times, he has not thought seriously of suicide.

Physical Examination. Patient is a man apparently about 45 years of age. Height, 5 feet 9 inches. Weight, 125 pounds. Complexion, facial expression, decidedly dull and apathetic.

His manner was quiet and he discussed his condition quietly and rationally, and seemed to thoroughly comprehend what he was doing and to carefully consider the step he was taking. He talked in a slow, deliberate way and without any apparent effort.

Alimentary system, circulatory system, respiratory system, and genito-urinary system were normal.

Nervous System. Mental condition: patient despondent and apprehensive; feeling that he will not get better.

Special senses were normal.

Reflexes and sensation were normal.

Note.—February 21st, 1907. Patient slept during the fore part of the night, but awakened early in the morning. About 10 o'clock became very nervous, would not remain in bed, walked up and down the room, at times; at other times would stand in one position for five or ten minutes. His facial expression showed great despondency. He was regretting having entered the hospital, feeling that he had not done right, worried greatly that he was not fulfilling his responsibilities towards his wife and family. The feeling of confusion was especially marked and the patient talked in a very hesitating manner with great effort. On being asked a question he would hesitate long before answering, but his speech was not slurring. Restlessness continued all day.

March 3rd. Patient had a very restless night, troubled with dreams. His restlessness is no doubt due to the fact that he was told yesterday that he would have to remain in the hospital at least five weeks longer. He saw his wife for a few moments to-day and since then has been rather upset.

March 7th. Patient is gradually improving, is gaining weight, and says he feels much better and stronger.

March 10th. Says he is taking a greater interest in what is going on and feeling better.

March 15th. Continued improvement. Patient says he no longer has the idea that he will not get better.

March 25th. Patient looks very well, says he feels well, and is quite bright.

April 3rd. Patient discharged, cured.

Second History.

F. S., male, *æ*t. 37. Occupation, laborer. Born in England. Was admitted to the nervous wards of the Hospital on December 19th, 1906.

Complaint. Fast and strong beating of the heart, especially after meals or exertion. Constipation and a constant dull pain in the region

of the stomach, which becomes more acute after meals, and is then accompanied by vomiting and severe frontal headache. Spells of shivering.

Family History. Presents nothing of importance.

Personal History. No diseases of childhood. Had malaria in India in 1896 and was laid up in the hospital for fifteen weeks, but made a good recovery. In 1898 contracted syphilis and took treatment for five months. Had no other disease until the present illness began two and a half years ago.

Present Illness. Patient refers beginning of present illness to September, 1903, when he noticed being troubled with constant constipation. About November, 1903, constipation had been continuing, and while in bed one night, lying on his back, had an attack of palpitation of the heart which lasted about half a minute, and was relieved by the patient turning on right side. After this the patient was troubled with palpitation after every meal and was often compelled to vomit the meal, after which he experienced a great deal of relief. He continued to be troubled intermittently in this way until August, 1906. On the 9th of that month, while walking on one of the streets of the city, he was seized with a fainting spell. He felt a choking, smothering sensation and feeling of weakness. He fell on the street, and though conscious of all that was passing, was unable to help himself. On recovering a little he noticed that his extremities were cyanotic, cold and covered with sweat. He felt very cold and shivered violently for twenty minutes after the attack. His headache began after the attack, and took the form of a very severe frontal headache, lasting all the following night. He was taken to a hospital, where he remained for nine weeks, during which time he had three more attacks. After remaining out for a time he came to the General Hospital and was admitted to the nervous wards as above mentioned.

Present condition. Patient weighs 165 pounds, and appears well nourished. Appetite very poor. Does not sleep well. Intermittent frontal headache and constant dull pain in the region of the stomach. Extremities very cold. Color good. No anæmia. Breath very offensive.

Physical Examination. Cardio-vascular system, radial artery very slightly sclerotic. Pulse very weak. Examination of the heart shows nothing abnormal except that there was some irregularity. No sound of murmur anywhere.

Alimentary System. Tongue badly coated. Breath foul. Throat, normal. Abdomen slightly distended and markedly tympanitic note especially over stomach area. Bowels, decidedly constipated. Stomach enlarged, a great deal of flatus. Nausea marked. No vomiting.

Respiratory System. Normal.

Genito-Urinary System. Normal.

Nervous System. Reflexes and general sensibility show nothing abnormal. The same may be said in regard to the special senses.

Note. January 7th. Heart very troublesome today. He says his heart is always worse after making even the slightest effort and he has to lie down to steady it. The heart is irregular, but there is no murmur and it is not enlarged. His general condition is splendid.

January 14th. Heart still very irregular and causing trouble. He is sleepless as a result of irregularity. The general health is good.

February 16th. For the past week he has been very much better.

March 10th. Continued improvement. Patient feels much better to-day.

March 22nd. Patient discharged, apparently perfectly cured. He has since been acting as an orderly in the hospital, and states that his health is splendid.

In both these cases the examination of the blood and of the urine showed nothing abnormal. Of these two patients, the former was suffering from psychasthenia, and his disease, if untreated, would, I believe, have terminated in insanity. The latter I think may be regarded as an example of somatasthenia.

The differential diagnosis of brain exhaustion, while at times easy to make, is at other times one of the most difficult problems in medicine. This latter is especially true in the somatic form of the disease, when the diagnosis between an organic and functional lesion becomes at times extremely difficult. An organic lesion may of course be found in brain exhaustion and an incipient tuberculosis or a general paralysis, in an early stage, a neoplasm in the abdominal cavity, and a tumor of the brain are a few of the many instances in which a mistake may easily occur. On the other hand, the reverse mistake is far from uncommon, especially in regard to the pelvic organs. Here some menstrual irregularity or pain over the ovaries is at once taken to mean only local disease, and local treatment, either medical or surgical, is advised. Again disorders of digestion are diagnosed as lesions of the stomach and lavage, etc., used for months. Or a pain over the appendix has led to an appendectomy, a case of which has recently been under my observation. In this case soon after the appendix had been removed a localized pain developed on the opposite side of the abdomen. As no physical lesion could be found x-rays were employed without result and finally the abdomen was again opened, but no cause for the pain could be discovered. An intensification of the symptoms finally led to the belief that the trouble might be of nervous origin, and the patient was referred to me, entering my hospital at Deer Park. Medical treatment for three months completely restored her to health. I merely mention this case in order to emphasize the error

which is too often made of doing an operation or pursuing local treatment on an abdominal or pelvic organ when the seat of the trouble is in the brain. Again in those cases in which the physical appearance is good the physician is often deceived and is liable to make light of the subjective sensations of which the patient complains. This is especially true in the *psychic form of this disease*, and was forcibly impressed on my mind by a consultation within the past few days. The patient, a highly intelligent lady of middle life, appeared to be in perfect physical health, so much so that she told me she hesitated to consult a doctor. Yet an examination into her physical condition showed beyond all doubt that she was suffering from pronounced psychasthenia and would, if untreated, rapidly become insane.

In regard to treatment, the first step is to determine exactly the proper course to pursue to promote the patient's recovery and adhere to it. Too often a patient is simply told, "You are tired out and need a rest," or "Have a rest treatment for a time and you will be well." Except in the mildest cases of this disease, such advice often leads to disaster. The same may be said in regard to advising travel to these patients. I have repeatedly been told by patients that on the advice of their physicians they had gone to Europe or elsewhere, only to return worse than when they started. In some cases where such advice has been followed, the onward progress of their disease has, while on the trip, terminated in insanity, which was followed by suicide. It is at times a most difficult question to decide whether a patient should be advised to travel or go to the woods or whether he should be sent to bed. The answer depends altogether on the stage of the disease, but if any doubt exists the wiser plan is to give the patient active treatment for a time and later have him travel when he can enjoy it. If the profession would only realize how important the treatment of many of these cases is, the value of skilled nursing in their care, the many therapeutic agents (apart from drugs) which are most useful, the proper medical management of these cases, which will often tax the ability of the best physician to its utmost limit, a consideration of these facts would, I am convinced, lead to a different view of the serious nature of many of these cases being taken and the greatest care would be exercised to obtain the best medical treatment for them.

The attention of many of the best men in the largest centres of medical learning of the world is to-day being directed to the functional neuroses and this branch of neurology is rapidly assuming a prominent position.

As mentioned above, drugs play an unimportant part in the treatment of this disease, and I know of none which alone will cure it. On the other hand, physiologic therapeutics are most useful. Among the chief of these may be mentioned rest, massage, electricity, diet, hydro-

therapy, isolation and psychotherapy. Of the value of rest, massage, electricity and diet it is so familiar to you all that I will not detain you with its discussion. Hydrotherapy when properly applied is a most useful adjuvant to the rest treatment after the patient is permitted to leave his bed. It is a tonic of the greatest value to the entire nervous system. On the value of isolation, I cannot lay too much stress, and I would like to add that it is entirely satisfactory only when complete—except, of course, in a mild form of the disease, when occasional communication with friends may be permitted. The necessity of isolation is often so little understood by the patient's friends that it is frequently a most troublesome detail both to the physician and nurse. The result, however, is as a rule so gratifying that all concerned are very pleased with it. The proper use of psychotherapy is most important. In this part of the treatment the personality of the physician is the chief factor. Further, if he, himself, is not fully in sympathy with the patient or does not feel that the patient is a real sufferer and worthy of his best efforts, then he is foredoomed to failure. Such advice as "believe you are well and you will soon find there is nothing the matter with you," or "divert your mind by going to work," must meet with the failure it deserves. On the other hand, if we go carefully into every detail of the case and by exclusion eliminate any doubt we may have and fully satisfy ourselves of the correctness of our diagnosis, then we can say honestly to our patient, "I believe, as the result of my examination, that you are suffering from functional nervous disease, and that with suitable treatment you will recover," and by this means lay a foundation for much future good.

The patient's hope is at once revived, he appreciates the interest taken in his case, and he resolves to make another effort to get well. Thus far all has been right—let us suppose the patient leaves the doctor buoyed up with hope and the assurance of recovery, but returns to his own surroundings, what happens? For a short time he improves, but one day, when he is feeling down, some kind friend calls to see him, and with the most sincere desire to help him, tells him that his doctor evidently does not understand his case, that his treatment is not doing him any good, and advises him to try and get help from someone else. As a result of this kindly intended advice, the patient loses confidence, the efforts of the physician are wasted, and the patient, more discouraged and worse than ever, because he has consulted another doctor without deriving any benefit. Such in short is a frequent history, and how can this result be avoided?

The only means I am aware of is isolation, and without this psychotherapy loses at least one-half its value.

Granted, then, that isolation has been accepted, the next step is to procure a skilful nurse and on the importance of this part of the treat-

ment too much cannot be said. No branch of nursing calls for greater ability on the part of the nurse nor in any does the physician rely more upon her services. He sees the patient only periodically, while the nurse is in constant attendance, and by her tact, her judgment and her skill in nursing these patients, she constantly supports and carries out all the suggestions or directions of the physician and thus keeps constantly before the patient the assurance of their recovery. Time forbids a more lengthy discussion of psychotherapy, much as I should like to do so. I would like to add, however, that I fully agree with Dr. Lewellys F. Barker in his excellent paper "On the Psychic Treatment of Some of the Functional Neuroses," wherein he states that persuasion is better than suggestion. Before reading this paper I believed that suggestion only had been the basis of my own psychic treatment, but since reading it I have recognized that it was persuasion instead, and am satisfied that the best results of psychic treatment are obtained by appealing to the highest centres of the patient rather than to the lower centres, in which blind obedience without reason is sought.

REPORT OF THREE NEPHRECTOMIES—TWO FOR CALCULOUS PYONEPHROSIS, ONE FOR SARCOMA IN AN INFANT.*

By HERBERT A. BRUCE, M.D., F.R.C.S., (Eng.)

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CASE I. Mrs. P., aged 50 years, admitted under my care into the General Hospital on March 12th, 1907. She gave a history of having first noticed a lump in her right side about three months ago, since which time it has increased considerably in size. She has had colicky pain: across front of her abdomen for about a year, relieved by eructations of gas from the stomach. Has had to pass urine two or three times during the night. The patient is quite anæmic and complains of weakness.

On examination a large tumor was to be felt in the right lumbar region, extending forward into the right hypogastrium. It was nearly twice as large as the normal kidney, but having the shape of the kidney. It was freely movable, and could be pushed back into the right lumbar region. It was dull on percussion.

The urine was taken by segregator, examined, and the following condition found: The urine from the right kidney contained a large amount of albumin, many epithelial cells, and very many pus cells, no casts, and a few red blood cells. The left showed a trace of albumin, some epithelial and pus cells.

* Read at the Meeting of the Ontario Medical Association, 27, 28, 29 May.

The diagnosis was pyonephrosis, either of tubercular or calculous origin.

Nephrectomy was done on the morning of March 25th, 1907. The patient was etherized, and an incision about four inches in length made in the right lumbar region, extending from the last rib, downward and forward, passing an inch to the inner side of the anterior superior spine of the ilium, in the direction of the middle of Poupart's ligament. The kidney was brought up into the wound and the colon pushed inward from the front of it.

In removing the kidney the ureter was first isolated and tied low down with silk, clamped above this and cut between. This facilitated the isolation and ligation of the renal artery and vein—the artery being first tied and lastly the vein. The kidney was then removed, consisting simply of a large sac containing pus and debris, with a large stone filling the pelvis.

The transversalis fascia and the muscles were then brought together with chromic gut, and a tube left in at the posterior end of the wound for drainage. The skin was closed with three or four interrupted S.W.G. sutures, and the balance with horse hair. The operation took half an hour.

On March 26th, twenty-four hours after operation, the amount of urine passed was $14\frac{1}{2}$ ounces, containing 1.6 per cent. of urea and a trace of albumin.

On March 27th, the urine passed during the last twenty-four hours was 37 ounces, urea 1.4 per cent., no albumin.

On March 28th the amount of urine passed during the previous twenty-four hours was 70 ounces, urea 1.6 per cent., trace albumin.

On April 5th the patient was doing well. Urine passed per day averaged about 50 ounces. Percentage of urea on the above date was .9, but ran about 1.2 to 1.3 per cent. for a few days previously.

On April 20th the amount of urine passed daily averaged about 60 ounces, with 1 per cent. of urea.

On May 4th the patient had gained considerably in strength, and as the wound was almost healed she was allowed to go home.

CASE II. Mrs. M., aged 60 years, first seen on the 26th of February, 1907. She gave a history of having had very poor health for a number of years. For the last two years she had been dieting. During the last year she had been much troubled with nervousness and sleeplessness, for which she took whiffs of chloroform. She always had a feeling of discomfort when anything tight was put around her waist. She was not able to walk at times on account of the pain and discomfort in the right side.

On February 27th urinalysis showed: React., sharply acid; S.G., 10.10; albumin, very faint trace; sugar, none; micro., many epithelial and very many pus and white blood cells, few red blood cells, no casts.

On February 28th the segregator was used, and the urine found to contain: From the right kidney, albumin, many deg. rd. ep., very many pus cells, very many red blood cells, no casts; from the left kidney, albumin, a trace, few red blood cells, few pus cells, few rd. ep., single hyaline cast.

A tumor was felt in the right hypogastrium, kidney-shaped, but twice the size of a normal kidney. This could be pushed back into the right lumbar region.

On the 2nd of March the segregator was again used. The urine from the right kidney contained a few epithelial, very many pus cells, and some albumin, but no casts. The urine from the left kidney contained a few epithelial cells, a few pus cells, hyaline casts, and a trace of albumin. The urine dropping into the tubes had an entirely different appearance, the left tube being clear, while the right was quite cloudy. The right tube filled up more quickly than the left. Urea, 1.8 per cent.

On the 4th of March the blood count was as follows: Red blood corpuscles, 4,270,000; white blood corpuscles, 7,600; Hb., 80 per cent.

A diagnosis of tubercular or calculous pyonephrosis was made. Details of operation were the same as in Case I. In separating the upper part of the kidney a small tear, about an inch long, was made in the peritoneum, which was sewn with cat-gut. The operation took thirty-five minutes.

On March 9th, twenty-four hours after the operation, she had passed 30 ounces of urine.

On March 10th, forty-eight hours after the operation, the urine passed in twenty-four hours measured 31 ounces, and urinalysis showed many epithelial and pus cells, but no casts and only a trace of albumin.

On the morning of March 11th the urine passed during the previous twenty-four hours measured 46 ounces. The percentage of urea was 2.2.

On March 12th an examination of the urine showed no albumin and no casts, but a great many pus and white blood cells. It contained 2.2 per cent. of urea.

On the 13th of March, the total amount of urine passed during the previous twenty-four hours was 32 ounces. Percentage of urea was 2.4.

On the 14th of March the urine passed in twenty-four hours measured 28 ounces. It contained 2.3 per cent. of urea.

March 15th, examination showed a little albumin, some pus cells, no casts, and urea 2.2 per cent. The amount of urine passed during twenty-four hours was 31 ounces.

March 21st, there had been practically no change in the urinalysis, which was made daily. Urea remained at about 2 per cent. to 2.2 per cent. Pus cells had greatly diminished. The amount of urine passed during twenty-four hours varied from 27 ounces to 39 ounces. On the above date the stitches were removed.

On the 22nd and 23rd of March the urine measured 35 ounces. It contained 2 per cent. of urea.

On the 25th of March the urine still contained some pus. On the 31st, the patient was sitting up and the wound had closed, and on April 5th she was discharged, feeling quite well.

CASE III. Baby C., aged 8 months. Saw the patient on February 5th, 1907, in consultation with Dr. Rowan. Found a large tumor occupying the right half of the abdomen, extending from the ribs to within one-half an inch of Poupart's ligament, and from the right loin to within half an inch of the middle line. It formed a very large prominence, and the abdominal wall was stretched and tense over it. A diagnosis of sarcoma was made and operation advised.

The operation was performed on February 12th at St. Michael's Hospital and took forty minutes. The anæsthetic was chloroform and ether, one in four.

The incision was made through the right linea semilunaris, and extended from margin of ribs to within one inch of Poupart's ligament. The abdominal wall being stretched so tightly over the tumor, some difficulty was experienced in getting into the abdomen. The peritoneum was divided to the outer side of the colon and pushed upward from the surface of the kidney, and the latter isolated. When the kidney was lifted forward, the vessels were found running into the upper end of the mass. A ligature was thrown around the vessels here, a clamp applied just above the kidney, and the vessels cut between. A little further down the ureter was divided after throwing a ligature around it. The tumor was then separated from the colon on the inner side and removed. There was practically no hæmorrhage.

The abdominal wall was closed with S.W.G. sutures without drainage. The baby was somewhat shocked after the operation, but rallied nicely in two hours. She made a splendid recovery and left the hospital in three weeks, apparently quite well. Is still living, with no evidence of recurrence.

Just a few words about sarcomata of the kidney. These are common up to five years of age, and again from thirty to fifty. Tumors in the infant and adult periods of life not only differ remarkably in structure, but arise in different regions of the kidney. Renal sarcomata of infant life are lodged in the pelvis of the kidney, and those of adult life originate

usually in its capsule. Sarcomata of infants originate in the connective tissue of the renal sinus and gradually distend the cortex until the tumor is surrounded by a thin capsule, formed by the expanded secreting tissue of the kidney. On this account these tumors are described as encapsuled, but it is a spurious encapsulation, formed partly by renal tissue and partly by the true capsule of the kidney.

Cavities are due to secondary changes. The base is of connective tissue, some round or oat-shaped cells and others spindle-celled. Renal sarcomata of infants are extrinsic in origin and strictly non-renal. The ureter is rarely obstructed. This freedom of the ureter explains the rarity of hæmorrhage and the painlessness, because there is no pressure from accumulated urine.

The tumor tissue will extend into the renal vein and often into the vena cava. Portions become detached and get into the pulmonary circulation and start secondary deposits. The disease may be bi-lateral.

In 1903, twenty-one cases of nephrectomies of infants were reported. Of these twelve died as the result of the operation, and in the remainder there was recurrence within the year. Since this date a large number of cases have been reported. In six years, the mortality from nephrectomy is fifty per cent. Out of the fifty, forty-five died of recurrence in from two months to one year. Of the five remaining, one died in a year and a half, one was alive and well at five years, one was alive three years after, and one lived ten years after.

A method of determining the excretory efficiency of the kidney substance has been recently described by Wright and Ross. The principle concerned is that of hæmolysis, or the solution of the red blood corpuscles by a fluid medium possessing a certain minimum of salt concentration. The normal or physiological ratio of salts in the urine as compared with the salts in the blood serum is as 2 is to 1.

That ratio is disturbed in conditions where the renal substance is so seriously affected as to prevent the secretion of a urine of such concentration in salts. So it is that in Bright's disease and other similar conditions the ratio of salts in the urine and serum becomes 1 to 1, or less.

This reaction, therefore, would appear to furnish a ready, rapid and easy means of determining whether or not, in a condition of kidney involvement, one is justified in proceeding to nephrectomy. For, if the combined efforts of the remaining secreting substance of both kidneys be not effectual in carrying out the work demanded by the organism, one is not justified in proceeding to remove one kidney, representing, as it almost always does, a certain modicum of healthy renal tissue.

ACTIVITY WITHOUT ADVANCEMENT.

JOHN HUNTER, M.B., Toronto.

A QUESTION of perennial interest, at least to those of us who are on the distal side of the half century line, is, why do our patients become less numerous and our professional prestige wane, years before our mental and physical vigor shows any evidence of decadence? Ask the students of any of our medical colleges who are the most popular members of the staff, and the answer will almost invariably be the men in mid-life. Of course there are exceptions—a Pasteur, a Virchow, or a Lister, never grows old because the character of his work makes him immortal. Ten years ago A and B were greeted with crowded rooms of enthusiastic students; to-day the few who attend their lectures do so from compulsion. The reason the students assign for this falling off is, that A and B are “back numbers.” But the medical staff of a university is not the only field so severely blighted through the oncome of age. The general practitioner is as sternly dealt with as the college professor. There are hundreds of men in our ranks who, although they have passed the half century line with unimpaired mental and physical vigor, find practice steadily falling off and their prestige waning. Why this premature decadence? In medical phraseology, the subject may be discussed under two heads, viz. :—

- I. Predisposing Causes.
- II. Prophylaxis.

PREDISPOSING CAUSES.

These are very numerous, but space will only permit the brief mention of a few of them. One of these, and a very potent one, is the overcrowded condition of our ranks. Even in the most sparsely populated districts there are often two or three physicians where one would be quite capable of doing the work. Every year our colleges turn out a new contingent. These young recruits are, almost invariably, dependent upon what they can earn in practice for a livelihood. They speedily cast about for any means that may aid them in getting patients, and, like moving bodies in the physical world, seek the paths of least resistance. The first and most readily available source for widening their circle of friends is the lodge room. The old doctor, in late years, has found the associations of the lodge room less congenial and has become somewhat tired of, and most likely thoroughly disgusted with, the character of lodge practice. Under these circumstances it is not very hard for the young doctor to supplant the old one. This change transfers from the latter to the former quite a large number of the younger families of the community. This

means a heavy loss to the old family doctor in obstetric and pediatric work. Social functions, clubs, sports, etc., have always a cordial welcome for young men, and last, but by no means least, mothers with marriageable daughters are quite desirous of making the young doctor's acquaintance. All these forces are at work in depleting the old doctor's practice, so that he is left ultimately, as a result of this overcrowding, with a few old friends and any poor relatives he may have. In law or business the same activity might have given an assured place in the firm or company, but in medicine it is only too often the activity of the treadmill—activity without advancement.

A second potent factor, one that bears especially on the loss of prestige, is the very poor literary foundation on which too many medical men have built their professional superstructure. The possession of a teacher's certificate and a few weeks' cramming of Latin enabled them to pass the lamentably low matriculation examination established by the College of Physicians and Surgeons three or four decades ago. After matriculation the student immediately entered upon his medical course, and in the great majority of cases no further efforts were ever made to acquire a broader literary culture, and so with the oncome of old age the physician of such meagre literary attainments finds himself bereft of that homage always paid to intellectual supremacy.

A third factor is the undue haste with which young medical men enter upon their work. It is no more true of the physical life than it is of the professional, that "the more rapid the growth the quicker the decay." It seems practically impossible to get a young doctor to comprehend the fact that it is never the quantity of work a physician does, but always the quality of it, that is the true test of supremacy. A case, by way of an object lesson. Some twenty years ago it was the writer's good fortune, during a visit to one of the large medical centres of Great Britain, to meet a physician there who, although in mid-life, had a very small practice, while his confreres were rushing around with their carriages and coachmen, doing all the practice of the city. My acquaintance was quietly walking to and fro between the hospitals. He was devoting a large amount of time to the more obscure morbid lesions of the brain. Within ten years he won world-wide fame and a title. During these same years his busy confreres were overtaken and many of them far surpassed by younger men. Why? Because theirs was activity without advancement. Unless it be vicious habits, there is scarcely any other factor in professional life that can do a young doctor more serious or lasting injury than the too rapid acquisition of a large practice. What must be the character of his work when he is obliged to spend the most of the day and a large part of the night on the roads or streets? A large num-

ber of cases, that would prove most instructive if worked up, pass through his hands practically unnoticed beyond the grosser symptoms on which he bases a hasty diagnosis. A few of these cases studied in minute detail, and published, or presented at a medical society, would give the physician higher rank in his profession and bring a more lucrative class of work. We are asked to look at the experience a large practice yields. How much of our boasted experience is as transitory as "writing in the sand"? Antitoxin revolutionized our treatment of diphtheria, the discovery of the tubercle bacillus our theories of the etiology of tuberculosis, and the opsonic theory may do likewise with our therapeutics. There are hundreds of men in our ranks to-day to whom advancing years have brought premature loss of prestige, and of practice as the direct result of the too sudden acquisition of a large practice. There was activity enough, but the character of the work was defective, and therefore no advancement. It is scarcely necessary to recite any more of these predisposing causes for every aged reader can multiply them out of his own experience.

PROPHYLAXIS.

Here again there are many factors that claim attention, but only one or two can be dealt with. In a physician's life there are two very important epochs that merit most careful consideration. These are the beginning of his student life, and the beginning of his professional life. The time he has to devote to his work, financial considerations, or the choice of a college, important as they are, are of secondary importance, as regarded with that of his outlook on student life. When the youth enters upon his literary course dominated by the idea that about all that is necessary for him to do is to pass the matriculation examination, he fails to recognize the real purport of an education, viz., to qualify a man for his life work. He is not seeking knowledge for its intrinsic worth, but is rather putting it on as a sort of literary "dress suit" for the examination parade. Once the examination is passed, books are laid aside and whatever has been acquired by "plugging" is soon forgotten. Under such circumstances, and they occur altogether too frequently, our medical students enter upon their technical education with a very inefficient and meagre literary equipment for life's work. If the narrow outlook already referred to culminates in illiteracy, what better results can be expected from the outlook that makes mere expediency his guiding principle in the medical course? The medical student who makes the acquiring of a degree, and a license to practise, the goal of his ambition, will use his mental faculties much as the merchant does his ware-room, simply for storing up enough knowledge of medicine to enable him to pass the required examinations. He gets his degree and license and

trusts largely to fortuitous circumstances, *e.g.*, social, political, ecclesiastical and lodge influences, or marriage with an heiress, to aid him in acquiring a practice. For a season, such tactics may enable him to hold a more or less prominent place in his profession. But he has no resources that cannot be readily duplicated. A young rival enters the field, and in his case the influences already mentioned may be even more potent ones. His father-in-law may have "struck it rich" in Cobalt mines or other stocks, and be able to give the young doctor the latest winner of the "King's Plate" or the most up-to-date automobile to exploit a practice. Under such circumstances, is it any wonder why the elder doctor's practice and prestige wane prematurely?

Reverse the picture and take the youth with the broad outlook on student life. He clearly realizes that on the character and extent of his work his future influence and supremacy depend. He disciplines his intellect into mastering such knowledge as will be of most use to him in his life's work. Out of the fulness of a well-stored mind he easily graduated from his university with high honors in his literary course. With clear, keen mental acumen, he enters into medicine, mastering, in the minutest details possible, its various branches. He acquires his degree and license, but the mental discipline and habits formed have molded his character. His influence is soon felt in his community, and his resourcefulness appreciated by his confreres at the medical society and in medical literature. In his case there are no fortuitous circumstances that can be easily duplicated. He who aspires to be his peer knows full well the titanic struggle that is before him, for the regal throne of culture, literary and scientific, is never usurped by an impostor. Titles may be unworthily inherited, riches acquired by chance or fraud, or society exploited by the adventurer, but there is only one straight, rugged, honest, honorable way by which culture can be acquired. If we wish to be Gamaliels in our old age with the younger men at our feet, we must, like Gamaliel of old, attract the attention and reverence of a Paul by our nobility of character and wealth of culture, literary and scientific. Reader, imagine if you can, the degree of idiocy a young doctor would display who looked to a "high stepper" and liveried coachman, to a five or six thousand dollar automobile, or any other tawdry tinsel of professional snobbery to enable him to vie with, or surpass, in professional eminence, a Pasteur, a Virchow, or a Lister. There are many other prophylactic measures which, if properly used, would help prevent the premature decadence under discussion, but space will not permit any reference to them.

One may be tempted on reading this article to conclude that it takes a rather pessimistic view of medicine, especially as a calling for those who have passed mid-life. No physician at all familiar with the history

of medicine, and with the lives of its great masters, can ever be a pessimist. No other field has a more honorable or a greater number of nestors to its credit than the science and art of medicine has. He who would challenge this statement, let him go and read the history of the great discoveries and achievements in medicine and see if these do not vie in number and beneficence with any others made in the interests of our race. However, as a profession, we must not rest satisfied with WHAT WE ARE, but with unflinching zeal be ever pressing onward and upward towards WHAT WE OUGHT TO BE.

In conclusion, let us become imbued with the spirit so tersely expressed in the following lines from an obituary of the late, dearly beloved and deeply lamented, cotemporary, "the Poet of the Habitant," Dr. Drummond:—

"But his captain's hand on his shoulder smote—
Play up! Play up! and play the game."

REPORT OF TETANUS.*

By T. W. H. YOUNG, M.D., L.R.C.S., L.R.C.P., Edin., Peterborough.

MR. PRESIDENT and Gentlemen,—During my college days it was forcibly impressed upon me that lectures were delivered at so much per hour; therefore it will be my endeavor to state the case I am about to report in as few and as short sentences as possible. The only apology offered is that "Time is money, now, as it used to be."

On November 20th, 1906, I was called in consultation with Dr. Marshall, of Peterborough, to Mr. J. H. Married, age 22, working in shovel factory. Patient complained of nothing more than that his jaws were so stiff that he could not open them. Upon inquiring, it was found that ten days previously patient had received a cut upon the index finger of left hand, by a nail, which suppurated and healed.

It was with some trouble he was persuaded to go to hospital, insisting that he would be all right in a few days.

There was no difficulty in giving fluid nourishment, as two molars on left side had been extracted some years previously.

Upon entering hospital at 6.30 p.m. on above date, pot. brom. was given in 30 grain doses every half hour for four doses and then 10 grains every hour for six doses; jaws very painful; $\frac{1}{4}$ gr. morph. hypo. Slept $3\frac{1}{2}$ hours.

On the following morning patient was given pot. brom., 1 drm., between 6 a.m. and 8 a.m. Severe pain in jaws, neck and top of head. From 8 a.m. to 1.30 p.m. received chlor. hydras., grs. 30; pot. brom., grs. 30; morph., $\frac{1}{4}$ gr., when jaws relaxed, but closed again almost di-

* Read at the meeting of the Ontario Medical Association, 27, 28, 29 May.

rectly. From now to 23rd November patient received pot. brom., grs. 10, chlor. hydras., grs. 5, every two hours, except whilst asleep, and he slept only a few hours at a time, suffering intense pain in neck, behind ears, chest and abdomen; jaws a little relaxed. During this time the finger was injected with 1.20 carbolic acid. The same treatment was continued and on the 25th he was able to open mouth wide. Temperature a little above normal. Pot. brom. and chloral were then given every four hours instead of every two. No pain; patient whistling.

On the 27th finger very painful. Temperature normal.

28th. No pain; temperature normal.

30th. Severe pain in finger.

On December 1st pain very severe in finger and jaws. Finger well lanced and bichloride dressing used. Improving on the 6th, when patient was up and dressed. Full diet.

On the 8th of December much pain in right side of body and severe spasms every two minutes. Opisthotonos; chloroform had to be administered. Spasms start in neck, jaws closed tightly. Bromide increased to 30 grains with chloral, grs. 5, every hour, and morph. $\frac{1}{4}$ hypc every two hours for three doses.

On the 9th of December difficulty in breathing, intense pain about heart and in spine. Temperature, 104; pulse, 124. Pot. brom., grs. 30, chloral, grs. 5, every two hours. Slept at intervals.

10th December. Temperature, 102. Opisthotonos.

11th. Temperature, 101; spasms at intervals; pot. brom., grs. 20, every hour.

12th. Temperature, 98; slight spasms; pot. brom., grs. 20, every two hours.

13th. Jaws relaxed; no pain; asked for nourishment; very weak. Had good night. Finger dressed during this time with carbolic. Bromide reduced to grs. 20 every four hours. Chloral discontinued.

On December 21st, opisthotonos, bromide increased to grs. 20 every two hours.

23rd. Jaws closed tightly. Temperature, normal.

24th. Bromide, grs. 30, every hour for three doses, when jaws again relaxed.

Pain in abdomen, neck, chest and legs very severe at intervals till 28th December, when hypodermic injections of carbolic acid were used as recommended by "Bacilli, Sajous, page 405, vol. 6," and bromide discontinued.

29th. Spasms of less frequency and pain not so severe.

30th. Very little pain, but very drowsy. Carbolic discontinued.

January 2nd, 1907. Pains returned, jaws again locked. Hypo. of carbolic renewed and on January 7th the patient was up and dressed.

Jaws relaxed; no pain; temperature, normal; was hungry. Carbolic injections discontinued.

On the 11th of January finger began to be again painful, and pains about body returned, chiefly in groin. Carbolic injections again used.

On the 14th, no pain; patient up and feeling well, better than any day during illness.

On 16th, went for walk; appetite good. Carbolic injections discontinued.

On the 18th pains returned and jaws again locked; great difficulty in breathing. Carbolic till 21st; jaws relaxed; no pain. Urine green. Carbolic discontinued. Temperature, normal.

On January 20th pain returned, spasms worse than ever. Finger was amputated at metacarpo-phalangeal joint and bleeding encouraged. The patient received after this, no more bromide, chloral or carbolic, but one or two hypodermics of morphia to relieve pain. Pains gradually decreased and on the 28th the patient was up and eating well, and had a good night.

On February 1st, slight pains returned and lasted till February 3rd, when they disappeared and did not return.

In twelve days patient gained eight pounds and was dismissed from hospital, cured, on February 15th, three months less five days from admission. At the present date, over three months after leaving hospital, patient is still in good health and working, not any the worse from his painful experience, except the loss of his finger.

You will see, gentlemen, by the foregoing report that trismus continued from November 20th to 25th, when the jaws relaxed. As soon as bromide was discontinued trismus returned, and after five days' treatment of bromide and chloral the jaws again relaxed.

Again, after reducing bromide and chloral, the jaws closely locked, but again opened upon these drugs being resumed.

This treatment was discarded on 30th December, and that of carbolic instituted. When this was discontinued on January 2nd, jaws locked, carbolic continued and jaws relaxed on January 7th. On 16th January carbolic was discontinued and trismus returned on the 18th. Carbolic again resorted to and jaws relaxed. On 21st January carbolic discontinued, and on January 23rd the spasms were worse than ever, but after amputation patient recovered.

The above shows that the bromide, chloral, morphia and carbolic treatment are only palliative. If possible, remove the cause, *i.e.*, the focus of primary infection.

Cheyne and Burgharl's Surgery, page 222: "Amputation is frequently performed in cases of wounds of extremities, but, as the disease

has established itself in the system, the operation is as a rule quite useless and may be hurtful by pain and disturbance it causes."

This case is certainly one exception to the opinion of the authors quoted.

Sajous' Annual, page 401, vol. 6. "The organism possesses exceptional powers of resistance, surviving many antiseptic solutions and exposure to heat, etc., which would prove quickly fatal to other pathogenic germs."

The specific powers which cause the symptoms of tetanus are generated by the bacteria in their processes of growth and nutrition and have been isolated by Brieger in the shape of two basic substances: Tetanin and tetanotoxin.

Same page and volume: "The tetanus bacillus remains localized in the part of the body to which it has been introduced, *and does not invade other parts*. In its development, however, certain extremely poisonous substances are produced known as the tetanic toxin. This toxin is absorbed into the blood, and this reaches all parts of the body, possessing a special affinity for the cells of the cerebro-spinal axis."

The fact that recovery took place after amputation shows that in this case the bacillus remained localized.

For the information of those who advocate the tetanus antitoxin, and those who may ask why it was not used, I may state that in the literature I have at my disposal the bromide, chloral and carbolic treatments are more strongly recommended.

That the serum is not a specific, even if used early in the disease.

It is more difficult to obtain, for many reasons, than the drugs which were within our reach.

KOCH'S EMULSION OF BACILLUS OF TUBERCULOSIS.

In the *Medical Record*, Feb. 23rd, Meyer has an article on the use of Koch's Emulsion for diagnostic purpose. He records the results of 28 cases in his private practice in the years 1905 and 1906. In all of these cases the signs were indefinite and the sputum examination negative in some cases after repeated trials, but there was something in the particular case either in history, appearance or chest signs that led to suspicion and the test was therefore made. Most of the cases gave a positive reaction, although in some the trial had to be made more than once. The time of the reaction varied up to 48 hours after injection, and the number of injections varied up to as high as six. In many of the cases after results proved the value of the diagnosis in a very striking manner.

CURRENT MEDICAL LITERATURE

MEDICINE.

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

RECENT INVESTIGATIONS INTO THE CAUSATION OF CANCER.

In the *Cleveland Medical Journal*, February, Gaylord calls attention to the observations made in the New York State Cancer Laboratory, in which a cage had become infected from rats affected with sarcoma, and in which in the course of two years three cases of sarcoma had developed in eight rats exposed. These cases developed a year apart, and the cage is known to have been infected for a period of three years, heredity playing no part in these cases. He further reported an infected cage which was purchased from a dealer and brought to the State Cancer Laboratory, out of which 60 or more tumor mice had been taken in the course of three years by the dealer, and in which five cases of cancer had developed after the cage was brought to the State Laboratory.

In view of facts so strongly indicating the infectiousness and contagiousness of cancer, he reported that in the State Laboratory since the beginning of 1905, a typical small spirochæta was to be found in all the transplanted tumors thus far examined. In the more virulent tumors the organisms were present in great numbers distributed in the connective tissue around the margins and in the connective tissue stroma, and occasionally in the epithelial cells. They seem to be constantly present in three strains of transplanted tumors, and in the ordinary staining there are no changes apparent that can be deliberately attributed to the presence of the spirochæta. The method used is the silver method of Levaditi.

Three primary mouse tumors were examined by this method; two were failures, the third was properly impregnated with the silver. Sections showed the organisms in large numbers scattered through the tumor, but most plentifully in the actively growing portions. Here they were found among the epithelial cells, usually surrounded by small vacuoles. They are invariably present in the large cysts of the tumor which is an adenocarcinoma. They are from 4 to 6 microns long, with very closely wound abrupt gyrations. Involution forms are not infrequent, and phagocytosis by the epithelial cells is seen. In the fresh state the organism is motile, moving rapidly backward and forward, though it is so small that flagella can not be seen. All attempts to stain it with ani-

lines have failed; in this it differed from similar organisms which have been described by others, *e.g.*, Loewenthal.

As to the possibility that these organisms bore a causal relation to tumor formation, Gaylord pointed out that as proliferation of the epithelium in the rabbit had been induced by injection, so the spirochæta might induce proliferation through the production of some toxic agent, and this got support from the fact that this organism was found in greatest numbers along the advancing edge of the tumor.

ON THE TEMPERATURE IN MALIGNANT DISEASE OF THE LIVER AND BILE PASSAGES.

In the *British Medical Journal*, Feb. 9th, there is an article by Russell in which there is analysed all the instances of biliary or hepatic malignant disease admitted into the wards of the Birmingham General Hospital during the last twenty years, with the exception of those where some condition existed which in itself would cause pyrexia. The cases of malignant disease are 52 in number, and in 13 the growths certainly arose from the gall-bladder or bile-ducts. Five cases were proved post-mortem to be sarcomatous, and 4 others were believed to be of the same nature, but there is nothing in the temperature charts to make it necessary to distinguish them from the cases of carcinoma. Twenty-one of the cases left the hospital before death took place, and the diagnosis is here mostly a matter of opinion; but three patients previously underwent operation by which the nature of the case was established.

Nearly two-thirds of the cases of malignant disease of the liver show some degree of pyrexia, at any rate in their later stages. The pyrexia is capable of attaining a considerable height, but rarely shows genuine intermissions, in the sense of the subsidence of the morning temperature below the normal level. It is not uncommon to observe successive periods of fever alternating with apyrexial interval, and sometimes these alternations may occur with great regularity. Rigors do not occur in uncomplicated cases of growth of the liver. Pyrexia seems to occur in a still larger proportion of cases of growth of the gall-bladder and bile-ducts, being recorded in more than three-quarters of the cases investigated. The condition is frequently complicated by the presence of gall-stones, and it may be due to this fact that the pyrexia often reaches a greater height, with larger excursion than is seen in the growths of the liver itself. Rigors apparently only occur when gall-stones are present. An isolated high rise of temperature may, however, be observed in growth of the bile ducts in absence of gall-stones, but as a rule such a rise is suggestive of their presence. In hepatic abscess the charts may present

little that is characteristic of suppuration, at any rate if observed only for a short time; but where high rises of temperature from a low level are noted these are likely to be repeated at frequent intervals, and thus to contrast with the isolated rises seen in cases of stones or growth. It is possible that the examination of a large number of cases, however, might not support this statement.

PSORIASIS.

In the *Journal of the American Medical Association*, Nov. 17th, there is an article on the cure of this skin disease, with a study of 500 cases observed in private practice. He emphasizes the following points:

1. Psoriasis is not a purely local disease of the skin, but has constitutional relations which are most important.

2. Psoriasis is not a parasitic disease of the skin, in the usual acceptance of the term; it is not contagious, nor has it a definite micro-organism. But probably the immediate lesions on the skin are caused by the growth of some of the ordinary micro-organisms usually found on the skin, which take on a pathogenetic action when the soil is suitable.

3. Psoriasis can not be cured permanently by local treatment alone, although when properly directed this is commonly capable of removing existing lesions, which are likely to return.

4. In some instances in which local treatment seems to be followed by success, the eruption may be seborrhœic dermatitis, which in some of its phases closely resembles psoriasis.

5. Hereditary influence is a relatively unimportant factor, not operative in more than one-quarter of all cases; even in many of these instances but one child may be affected among many healthy children.

6. Psoriasis is not a late manifestation of syphilis.

7. There is no one tangible internal cause of psoriasis, though faulty metabolic changes are probably at the bottom of every case, and these may be induced in many ways.

8. The repeated and thorough volumetric analysis of the urine is a most valuable aid in determining the line of proper treatment in different cases, and at different times.

9. There is no one internal remedy universally of value in psoriasis, although arsenic is the single agent of most service in the greater number of instances. Arsenic is safe, if properly used, and may be taken for a long time with only beneficial results; but it commonly requires to be employed in conjunction with other internal measures, or alternated with them. In acutely developing psoriasis it often acts badly, increasing the eruption.

10. In a large share of cases alkalis, if properly used, are of the greatest value in psoriasis.

11. The avoidance of meat, or an absolutely vegetarian diet, is a most valuable aid in treatment, and sometimes will be attended with freedom from eruption.

12. Psoriasis is an exceedingly chronic and rebellious disease and effective internal measures must be continued for a long time, generally for at least two years, to ensure a cure.

13. Local treatment is of the greatest value in the removal of the eruption present, but its temporary success should not interfere with the persistence in proper internal measures for a length of time, even when no eruption exists. The eruption can also disappear under the strictest proper internal treatment, without the aid of any local measures.

14. The x-ray is a most valuable adjunct to local therapeutics, and is sometimes capable of removing chronic lesions even by means of a single application.

In the writer's series of cases psoriasis occurred in 3.6 per cent. of all cases, a trifle larger than that observed in public practice. The largest number of cases presented themselves between the ages of 15 and 30, but inquiry shows that the skin lesions appear usually at an early age, the youngest at four months, and 16 per cent. before ten. Only five appeared after the age of fifty-five.

SURGERY.

Under the charge of H. A. BEATTY, M.B., M.R.C.S., Eng., Surgeon Toronto Western Hospital :
Consulting Surgeon Toronto Orthopedic Hospital ; and Chief Surgeon Ontario
Division, Canadian Pacific Railway.

TREATMENT OF PATIENTS AND METHODS OF STERILIZATION AT ST. MARY'S HOSPITAL, ROCHESTER, MINN.

In *North-West Medicine*, March, 1907, S. G. Guy describes the preparation of the patient and the methods of sterilization at St. Mary's Hospital, Rochester, Minn.

The patient enters hospital the day before operation and is given two ounces of castor oil. A light supper and a bath are given the evening before operation, but nothing in the way of food or drink is given the morning of operation. The diet for supper is modified in stomach cases, which receive eggnog or milk only and have their stomachs washed out if there is any obstruction.

Vaginal or panhysterectomy cases have on the evening before operation thorough and free scrubbing with soap and water, followed by bichloride of mercury douche 1-3000, or a hot boric acid douche followed by a sponging out with alcohol.

All cases are shaved in the preparation room on the morning of operation. Nothing is applied to the shaved surface. It is washed with ordinary soap and water, and sponged off again on the operating table, after which the operative field is washed off with Harrington's solution for thirty seconds, and then thoroughly with 70 per cent. alcohol.

Harrington's solution is expected to destroy germ life in thirty seconds. Formula for Harrington's solution is :

Hydr. bichloride	3-2
Acid hydrochloric, C. P.	240-0
Aqua dist.	1200-0
Alcohol grain	2560-0

In dirty emergency cases and those that are stuck up with plaster, etc., spirits of turpentine is used to clean surface. In cases suffering from shock, saline solution is given per rectum, about one quart being administered, and this may be repeated. Occasionally brandy is given with the saline solution.

Saline solution is seldom used subcutaneously. A hypodermic of strychnine is seldom used.

Stomach and goitre cases are given morphine sulphate 1-6 gr. one-half hour before operation, and goitre cases get also atropine sulphate gr. 1-120.

Hot water is commenced on the afternoon of the operation, about one ounce at a time, in ordinary cases. In suture operations of the stomach, hot water is commenced in twenty-four hours. Uncomplicated abdominal cases get one ounce of castor oil on the fourth day, while drainage cases are not usually given it until the seventh day. Soap enemas are given any time gas becomes troublesome.

In cancer or infected vagina, the vagina is packed with iodoform gauze wet with tr. iodine, which usually remains five days. This is followed by one or two vaginal douches daily of bichloride of mercury solution, 1-3000, or creoline.

In protracted vomiting, rectal feeding is resorted to and consists of beef, milk, gluten 2 ounces, hot water 1 ounce, repeated every six hours, endeavoring to use also two saline enemas of one quart each in twenty-four hours.

Chloroform is rarely used as an anæsthetic, except upon patients with lung complications, or when the cauterizer is to be used about the mouth.

The hands of operators are prepared by thoroughly and freely scrubbing with soap and water, then Harrington's solution, followed by alcohol. Solution in basin for hands during operation is 1-4000 bichloride.

Methods of sterilization are given thus:—

The suture materials used are catgut, silkworm gut, horse hair and celloiden linen.

Catgut is prepared by Bartlett's method:—

First, dry catgut in hot-air chamber; cover bottom of this chamber with asbestos paper, being careful not to permit the gut to come too near the side wall of the sterilizer on account of causing the gut to become hard and brittle. This is heated slowly, endeavoring to reach a temperature not exceeding 220 degrees F. At 180 degrees the thermometer should be carefully watched to prevent temperature rising too rapidly, holding at 220 degrees about 30 minutes.

Second, catgut is then transferred to an asbestos-lined kettle, where it remains in liquid albolene for twenty-four hours.

Third, it is then heated in a sand bath, carrying temperature gradually to 320 degrees F. in one and a half to two hours, holding at this degree one hour. The same precaution is used in regard to rise of temperature in oil as in hot air. After the temperature reaches 280 degrees it should be watched very closely and it is better that it be kept at 318 degrees, just short of 320 degrees, as any above this degree causes catgut to become brittle. These kettles are covered with cardboard with a small hole in the centre, through which the thermometer is passed and kept.

Fourth, the catgut is kept in sterilized glass jars, containing 1 per cent. crystal iodine, in best Columbian spirits, not using grain alcohol. It is well, after catgut has been boiled in oil, to hold it up, allowing the excess of oil to drip from it. The numbers used are 1, 2 and 4.

Silk worm is sterilized by boiling with instruments eight or ten minutes, or in steam sterilizer with dressing for one and a half or two hours. This is kept in alcohol grain 60 per cent., water 40 per cent., crystal iodine 1 per cent.

Horse hair is washed in soap and water for five or six days, changing water each day, then put in bichloride of mercury 1-1000 for twenty-four hours, boiled three minutes, not longer, and kept in same solution as silk worm.

Linen is boiled eight or ten minutes with instruments. Towels, dressing aprons, etc., are sterilized by steaming for one and a half or two hours, Scanlan-Morris sterilizer being used. Gloves are boiled in plain water, and repaired by using Goodrich cement No. 1, Akron, Ohio. Rubber tissue is washed with soap and cold water, rolled in gauze and kept in bichloride of mercury solution 1-1000. Iodoform gauze is purchased already prepared and is re-sterilized each day before using.

THE OPERATIVE TREATMENT OF FRACTURES.

In a late issue of the *Journal of the American Medical Association*, James A. Kelly states that various methods are applicable, not only in recent closed fractures, but also in open fractures, and in cases of non-union, mal-union, and pseudarthrosis.

The mechanical appliances for securing fixation may be divided into the following classes :—

1. Fixation by means of absorbable sutures. In this class are included sutures of plain catgut, chromicized catgut, kumol catgut, iodinated catgut and kangaroo tendon. Of these the only ones which will hold the fragments in place until union takes place are heavy (No. 4) chromicized catgut and kangaroo tendon.

2. Fixation by means of non-absorbable sutures. These consist of silk, silkworm gut, Pagenstecher's thread and iron and silver wire. When any of these sutures are used, they are generally retained permanently and become ensheathed.

3. Fixation by means of bone and metallic ferrules, ivory, bone and metallic plugs to be placed in the medullary cavity; and ivory, bone and metallic nails.

4. Fixation by means of absorbable or non-absorbable sutures combined with ligating by means of silver or iron passed circumferentially around the fragments.

5. Fixation by means of instruments which consist of specially designed plates and screws, and are used in different methods of resection. In this class are included the instruments of Keetley, the metallic double staple of Gussenbauer, the plates and screws of Agnew and those of Steinbach.

6. Fixation by means of Parkhill's clamps. This method consists in fixing the fragments by means of two screws driven into the ends of each fragment and held immovable by means of external plates.

Of the various methods given above, there is no one which can be used without some external retentive apparatus, as splints or plaster-of-paris dressings. While all the methods have their advantages, the writer considers that the use of an absorbable suture, preferably, heavy (No. 4) chromicized catgut, meets all the requirements of an ideal suture for retaining the approximated ends in position, and has a greater range of applicability than any of the other methods in use. Non-absorbable sutures very frequently prove an irritant to the tissues, lower their vitality, increase the chance of infection, and, very frequently, require subsequent removal. The same may be said of bone and metallic ferrules, intramedullary plugs and metallic nails and screws. A great danger in the use of silver wire is the tendency for the wire to break, either at the point

of twisting, or more frequently, it is cut by the sharp edge of the bone hole by slight strains, which so often occur before the external splint or plaster-of-paris dressing has been applied. The objections to the buried plates of Steinbach and of Agnew, and the method of Keetley, are that, the screws very frequently pull out; these methods require a second operation for the removal of the plates, and the methods of resection used necessitate too great sacrifice in the length of the bone. These methods and that of Parkhill do not prevent considerable lateral mobility, and the presence of external openings, along the site of the screws in the latter method, is a constant source of danger in the production of infection.

As all methods require some form of external retentive apparatus, it would seem that the ideal form of internal fixation is the heavy (No. 4) chromicized catgut. This is condemned by some authorities on account of the stretching of the sutures, which may occur while applying the external dressing. This danger, however, is very small, while, on the other hand, it is an absorbable suture where the risk of infection is small, the direct approximation is perfect by this means, a secondary operation is not required, and the parts are left in an anatomically perfect condition.

GYNÆCOLOGY.

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

INTERESTING GYNECOLOGICAL AND OBSTETRICAL CASES.

T. S. Cullen gives detailed reports of several cases of more than usual gynecological or obstetrical interest. The first is that of a patient from whom he removed a systic uterine myoma weighing eighty-nine pounds. The patient had been aware of its presence for twenty years, and notwithstanding its size was able to do her housework duties up to three weeks before the operation. Her principal inconvenience had been the danger of suffocation if she turned on her back in bed. Though considerably larger myomatous uterine tumors have been reported, this appears to be the largest successfully removed. Owing to the exigencies of the case no part of the abdominal wall was resected, but the tissues contracted remarkably well, and the patient rapidly regained her strength and suffered much less inconvenience than might have been expected. This tumor was nourished mainly from the omentum, some of the vessels being 7 or 8 mm. in diameter. Another case is reported of a pedunculated myoma weaned away, so to speak, from the uterus, presenting the rather unique feature of a rope of omental vessels to the tumor 6 cm. in diameter. In the hardened preparation after removal, some of

the individual blood-vessels are 1 cm. in diameter. A considerable series of such cases have been studied by Dr. Kelly and the author, and will be published at some future date. Other cases reported are one of death of fetus with suppuration and anterior perforation of the uterine wall, the pus being walled off by adhesions and the patient recovering after supravaginal hysterectomy; one of abdominal pregnancy in which a seven or eight months' fetus was carried for four years without causing serious symptoms, and one of chorioepithelioma with apparent recovery after hysterectomy. The article is illustrated.—*Medical Record*, May 11, 1907.

TOTAL PROLAPSE OF THE UTERUS AND VAGINAL HYSTERECTOMY.

Kirchgressner, Wuerzburg (*Zeits. f. Geb. u. Gyn.*, Bd. lviii., Hft. 2), says that in combination with plastic vaginal operations vaginal hysterectomy was performed on forty women in the Wuerzburg Frauenklinik for prolapse of the uterus in the years 1902-1905. Three of these women died, but only one owing to the operation. Thirty-two of the cases were kept under observation; twenty-six were permanently cured, in four there was more or less recurrence, and in two there was complete recurrence. Most of the patients were between 45 and 65 years of age, and some had been under observation eleven years.—*Brit. Gyn. Jour.*, Feb., '07.

INVERSION OF THE UTERUS.

Holzapfel, Kiel (*Zentralb. f. Gyn.*, 1905, No. 51), failed to reduce an inversion of the uterus in a primipara, aged 25, twenty-six hours after delivery, by dilating the funnel of the inversion from above while the uterus was supported by the other hand internally; as this was not successful, he attacked the constricting cervix from below and closed the wound in the wall of the reposed corpus uteri firmly. In spite of the reposition the woman died after five or six days.

Holzapfel does not think that inversion is more commonly due to force than spontaneous, but rather the reverse. The chief role in its aetiology is atony, which, if neglected, is very likely to lead to inversion. For its prophylaxis all three stages of labour must be carefully and intelligently supervised.—*British Gyn. Jour.*, Feby., '07.

OBSTETRICS AND DISEASES OF CHILDREN.

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

HERNIA IN CHILDHOOD.

Edred M. Corner, M.B., writes on "The Most Frequent Hernia in Childhood and its Significance," in *Am. Jour. Med. Sc.*, June, 1907.

The author, believing that the majority of herniæ in children are acquired and not congenital, has continued an investigation begun some years ago, and with the assistance of several gentlemen, has made a survey in the out-patient's department of the Great Ormond Street Hospital.

Seven hundred cases had been observed and recorded in the first series when a new system was found to be necessary. This first investigation showed that multiple herniæ are far more frequent in children than they are in adults. Single herniæ were found in 66 per cent., multiple herniæ in 34 per cent. In this first investigation they had failed to take into consideration hernial protrusions between the divaricated recti.

The demonstration of the latter form of herniæ in children requires some little skill and tact. The author suggests that if the child be held in its mother's lap in an extended position and that the head be supported with one hand, which at first raises it and then allows it to fall backward two or three inches. If a median ventral hernia is present a carinate projection will appear above the umbilicus. This hernia was found in the collective investigation of the author in 24.21 per cent. out of 2,600 cases. The more carefully the hernia is looked for the more frequently will it be found.

Median ventral hernia may be congenital or acquired. It is not unknown in the newly born, though very uncommon. The hernia appears as a direct result of increased intra-abdominal pressure; and as the result of the continuance of the raised pressure upon the growth of the tissues in the linea alba.

In 201 observations on children between birth and one year of age, a median ventral hernia between the divaricated recti was found in 18.5 per cent., being more frequent among the older infants. But one case was found in 122 infants varying from 1 to 39 days old examined at the Queen Charlotte's Hospital. At Great Ormond Street Hospital bulging between the divaricated recti was found in 34 per cent. infants under 6 months of age and in 58 per cent. between 6 months and one year of age.

Median ventral hernia seems to increase steadily in frequency from birth and attains its maximum in the second year of life; it is an acquired character which comes spontaneously cured as growth takes place. The author regards this form of ventral hernia as an indication of extreme importance on account of its presence showing a raised intra-abdominal pressure.

In the second series of 26,000 observations, median ventral hernia was found by itself in 63.1 per cent. of the cases of hernia, and when in combination as well, in 87.1 per cent. He thinks that this points to a composite, not simple, causation of herniæ. He especially accentuates the fact that every variety of hernia is more common when associated with another between the divaricated recti than when alone or associated with any other variety of hernia.

There are two main theories of hernia formation, first, the so-called saccular theory which infers that herniæ appear on account of the sac being formed during development. The second theory is that of increased intra-abdominal pressure, which results from gas production or intestinal fermentation. The latter theory permits that hernia can be produced in either of two ways or a combination of both; first, the intra-abdominal pressure may protrude the hernia by direct pressure; second, the more commonly, the pressure acts indirectly by moderating the growth of the tissues, particularly in the weaker regions, facilitating the development of a hernia by direct pressure later. The true proportion of acquired to congenital hernia is suggested to be about two to one. The author's argument seems to prove that acquired hernia are more common in children than those due to the presence of a congenital sac; and that treatment must depend largely upon the appreciation of this fact.

HERNIA, PARTICULARLY IN CHILDREN.

Edmund Owen, LL. D., F.R.C.S., writing in *Brit. Med. Jour.*, June, 1907, states that:—

The views of the illustrious Percivall Pott, who was John Hunter's teacher and professional rival, are appealed to and he is quoted as saying, "I will not say positively that all those ruptures which appear in the scrotum of very young children are 'congenital,' but all those which I have had the opportunity of examining, have proved so;" and the experience, says Mr. Owen, of every anatomist and operating surgeon confirms this view. He recommends that the best treatment is to suspend the child with its head and shoulders just resting upon the pillow and made as comfortable as possible. A firm pad is laid upon the empty

inguinal canal, and a 2-inch strapping is firmly drawn around the pelvic zone of the child over the pad.

Infants suffering from rupture should be kept lying down as much as possible, in any position that would keep the pelvis higher than the head. He lays great stress upon the importance of intra-abdominal tension in producing and increasing the rupture; and he considers that there is nothing better than the old-fashioned rhubarb and soda, to which a few drops of ginger and oil of peppermint may be added. This mixture he gives to the child even when it is in the suspended position. With regard to the dietary, he is very much against the use of all patent foods; but employs cow's milk and water; bread jelly; pounded, under-done meat; bread crumbs and gravy; fresh vegetables in pulp or puree; clear soup, or "something else from the kitchen fresh and nicely cooked, according to the age and needs."

He suggests the same position in cases of prolapse of the bowel and claims greatest success from its use. He is very much opposed to the pernicious habit of sucking from an Indian rubber teat, the so-called "Comforter."

Speaking of the radical operation he says that when once a piece of omentum or bowel has found a passage into the scrotum, it is difficult to prevent its constant descent. He thinks that a well-fitter truss, worn for about two years will in all likelihood finish off the developmental deficiency. He thinks that in right sided hernia the prolapse of the caecum and appendix form an overwhelming proportion of the cases which come to operation. His experience in effecting artificial descent of the testis has not been entirely satisfactory. He is rather disposed at present, in performing the operation for the radical cure, to remove the testis entirely, unless it can be placed in the bottom of the scrotum without dragging. He considers that no operator can guarantee that hernia will not afterwards come down again.

Details are then given of the method of operation. He thinks that the one essential is to tie the neck of the sac high up after making certain that it is empty. The inguinal canal must be tightened up by three or four strong stitches passing completely through all three muscles, on the inner and outer sides of the canal. For this purpose he prefers to use silk, which he also employs for the skin wound.

DIET AND FECUNDITY.

Malcolm Campbell, M.B., on the "Effects of Diet on the Development and Structure of the Uterus," in *The British Medical Journal*, May 25, 1907, states as follows:—

The uteri of 86 animals (rats) were examined both macroscopically and microscopically. Eight of these were examined under natural conditions, the remaining animals were divided into 5 series, each series being placed on a different diet for varying lengths of time. In the case of raw meats and rice diets, some animals were put on the diet as soon as weaned, others after they had reached various stages of development. From his observations, Campbell feels justified in stating:—(1) The use of the non-physiological diet, for example, exclusive flesh, rice, or porridge diet, induces in the great majority of cases a modification in the structure of the uterine mucous membrane. This modification consists in the diminution in the number of the larger connective tissue type of cells which appear to be important constituents in a physiologically active mucosa. (2) The structural change is most profound in animals fed from weaning on an exclusively ox-flesh diet. In such animals the development of the uterus is also most interfered with. (3) The structural change in (2) is associated with sterility. Chalmers Watson pointed out that a meat diet begun at weaning, almost invariably led to sterility. The present investigation has shown that sterility is probably due to the structural and developmental abnormalities in the uterus induced by the abnormal diet. The consumption of meat per head in Great Britain is to-day almost 17 times as great as it was in 1850. During the same period the fall in the birth-rate has been most marked.

INFANTILE SCURVY, ITS MANIFESTATION AND DIAGNOSIS.

Dr. La Fetre, in *Am. Jour. Med. Sc.*, June, 1907, reports seven cases of infantile scurvy in some detail, all having been seen in private practice. These cases show the more common as well as the unusual phases of the malady. They may be summarized as follows:—

Case 1.—Pain, tenderness, and swelling in the lower extremities, blueness of the gums; pseudoparalysis of the legs. Developed while taking sterilized milk.

Case 2.—Tenderness of the thighs and ankles, swelling of the gums and pseudoparalysis. Developed on pasteurized milk

Case 3.—Tenderness, blood-blebs over the gums, pseudoparalysis. Developed while taking a proprietary food with heated milk. heated when warmed for the bottle feeding.

Case 4.—Bloody urine, tenderness of the extremities, bleeding from the bowels. Developed on pasteurized peptonized milk.

Case 5.—Blood in the stools and swollen, bluish gums. Developed on a weak milk mixture made up with starchy food.

Case 6.—The spinal joints remaining tender after the usual symptoms disappeared. Developed while taking milk and oatmeal gruel, dextrinized by Cereo, a preparation of diastase.

Case 7.—Stiffness and swelling of one knee simulating arthritis. Developed while taking a proprietary food with heated milk.

These cases all recovered promptly on an anti-scorbutic diet of orange juice and raw beef juice.

He then considers the results of the collective investigation of infantile scurvy by the American Pediatric Society. The disease is met with in infants from seven to fourteen months old, and its main features are pain, tenderness and disability of the extremities, with swelling of the gums and a tendency to hæmorrhage. There is usually a history of the child having been fed for some time upon a sophisticated food or sterilized milk. The differential diagnosis is given in detail.

With regard to treatment, the author states that to discontinue the sophisticated food is often all that is necessary; but cure is more rapid when fruit juices are added. The diet should consist of fresh milk, fruit juice (orange, grape or pineapple), beef-juice, raw egg albumen, and puree of potato, according to the child's digestive capacity. He thinks that the pasteurization or sterilization of milk as carried out by milk companies in large cities like New York may account for some of the cases met with.

OPHTHALMOLOGY AND OTOTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., L.R.C.S., Edin., Professor of Ophthalmology and Otology Medical Faculty of the University of Toronto.

THE CONSERVATION OF HEARING IN OPERATIONS ON THE MASTOID REGION.

W. Sohler Bryant, A.M., M.D., New York, in an article in the *Boston Medical and Surgical Journal*, March 7, among other things, says:—

The amount of residual hearing following the various kinds of mastoid operations depends, (1) on the integrity of the sound-perceiving mechanism; (2) on the amount of the sound-conducting mechanism left by the disease; (3) upon the functional efficacy of this conducting mechanism; (4) upon the amount of the conducting mechanism remaining after the operation, and (5) upon the functional efficacy of the sound-conducting mechanism remaining after the operation.

The first three conditions require no discussion. The fourth condition is fundamentally a question of the amount of destruction which the disease has caused, while secondarily and practically it is a question of

how much of the mechanism the surgeon will be able to save. It is far easier for him to attack the tympanic contents indiscriminately, or make a clean sweep of everything in the tympanum, taking the healthy with the diseased structures, and to use the probe unrestrained by consideration of its effect upon the acoustic balance, than to save the parts of the conducting mechanism which the disease has not seriously injured and avoid touching or dislocating them.

When the simple mastoid operation is sufficient to fulfill the surgical requirement, the operator can conserve the ossicular chain intact if he is content to stay his hand at the *aditus ad antrum*, nor let his curiosity carry his probe as far as the incus. The surgeon who is about to perform a tympano-mastoid operation can serve the interests of the patient and preserve an important fraction of hearing if he will spend a few minutes previous to operation in examining the tympanum through the meatus in order to locate the structures which are not sufficiently diseased to require removal, such as the stapes and neighboring portions of the drum membrane, and in some cases the whole ossicular chain. In the cases where something more than a simple mastoid operation is required the middle ear may need to be encroached upon more or less and some unavoidable injury must necessarily befall the sound-conducting mechanism. There is a great difference in the effect on the residual hearing if the major ossicles and stapes are removed or dislocated in whole or in part, or if they are preserved in position.

The fifth condition on which the maximum of residual hearing depends, namely, the functional efficacy of the remaining portion of the sound-conducting mechanism, is capable of much amelioration if the ossicles are preserved in position without dislocation and if careful consideration is given to the action, deficiencies and needs of the conducting mechanism in the individual case. Just as in cutting off a leg there is a point of election, so, too, in the middle ear. In the middle ear certain portions of the structure should be saved together, and certain others removed together. It is important for the middle ear, as well as for a leg, to have a stump that can readily be fitted with a mechanical appliance. An artificial drum membrane is of great post-operative service when a suitable stump has been left.

There are five rules to guide us in disposal of the tympanic structures: (1) The tympanum should be restored to its normal condition with nothing taken away if the malleus is left. (2) The incus should be removed if the malleus is out, because the incus acts as a damper of the stapes. (3) The posterior attachments of the membrane should be preserved after loss of the malleus and incus, because this part of the mem-

brane can be trained on to the stapes and act as a sound transmitter for it. (4) The tympanum should be kept open when the malleus and incus are gone, in order that the sonorous oscillation may infringe on the fenestræ and promontory with the least loss of intensity. The anterior attachments of the membrana tympani should then be preserved and this part of the membrane trained across the ostium tympanicum tubæ to close it and prevent infection reaching the middle ear from the pharynx. (5) The tympanum should be kept open and the major ossicles removed if the stapes is out, to allow the freest access of sound waves to the labyrinth.

Careful examination of a large number of cases has shown us that the common hindrances to maximum transmission of sound are due either to unnecessary dislocation caused in the operation, to fixation of oscillating parts by cicatricial tissue, or to the dampening of the fenestræ. All these obstacles are usually combined. Cicatrices are the most easily demonstrated cause of reduced residual hearing. When the cicatrices are least in thickness or density, or, what is the same thing, when the tympanum approaches closest to normal in regard to the covering of the ossicles, ligamentous parts and fenestræ, the best hearing is obtained. The acuteness of hearing is also in proportion to the integrity of the ossicular chain. The more that is kept of this, the better the result. The preservation of all the finger tissue possible in the treatment of injured hands is of great importance to the later usefulness of the member. The same might be said of the ossicular chain—that all the ossicular tissue possible should be preserved; even a small stump of the malleus is valuable.

We found that the cases with the best hearing were those which had the shortest tympanic convalescence, other things being equal, while those with the poorest residual hearing were the cases which had gone through a lingering tympanic convalescence.

The rapid restoration of the tympanum together with its function can sometimes be facilitated by allowing the membrane to heal up quickly, while drainage is kept up in some other direction as long as it is required. The necessary drainage may be obtained through the Eustachian tube, the mastoid wound, or, best of all, because there is no disfigurement, through an opening in the posterior membranous wall of the canal just external to the annulus. This method of drainage requires extensive removal of the posterior osseous wall. After the complete radical operation the tympanic drainage through the meatus is perfect.

The use of skin grafts in the tympano-mastoid operations does not seem to lessen the amount of dense tissue covering the stapes.

The following cases are mentioned with the intention of showing the methods employed to secure the best conditions for the preservation of hearing :

Case I. A simple mastoid operation with epideral complications on a girl sixteen years old. Middle ear was not attacked at the operation except by a very extensive myringotomy. Middle ear dry on fourth day after operation, watch heard 20 inches; on the tenth day the membrana tympani was completely healed and the watch was heard 4 feet; six months later the watch was heard $8\frac{1}{2}$ feet.

Case II. A modified tympano-mastoid operation was performed for recurrent mastoiditis and otorrhœa on a lad of seventeen. The tympanum was invaded from behind, above and through the membrane as far as it was possible to go without dislocation of the ossicles. On the fifth day after the operation the middle ear was dry; on the tenth day the membrana tympani was completely healed; on the fifteenth day, watch was heard 13 inches; ten months after the operation, watch was heard $6\frac{1}{2}$ feet.

Case III. Tympano-mastoid operation for chronic middle ear suppuration and tympanic caries. Woman, age twenty-four. None of the ossicles present at time of operation. No skin graft used. On the twenty-second day after the operation the tympanum was dry and epidermized. Two years and three months after operation, watch heard 10 inches.

Case IV. A very slow mastoid convalescence with comparatively good hearing. Man, age seventy-seven. O. M. F. C., perforation of left membrane, mastoiditis, osteomyelitis and scattered pus foci; operation uncovered dura of middle fossa and knee of sinus. Posterior wall of canal extensively removed, membranous canal perforated posteriorly. Mastoid wound sutured around small drain, no packing. Fourth day, wound closed by first intention. Abundant serous discharge from the meatal opening. The wound within filled up very slowly, discharging serum through the fistula in canal. Did not suppurate. Thirty-ninth day, fistulæ in canal finally closed. Acumeter O. S. 7 inches, O. D. 4 inches. Sixty-first day, watch heard 10 inches from the left ear.

Conclusion. The maximum post-operative hearing is obtained by judicious preservation of the sound-conducting mechanism, and by the most rapid possible convalescence of the middle ear.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., C.M., Toronto, Fellow of the British Society of Laryngology, Otology and Rhinology.

ACUTE FRONTAL SINUSITIS.

C. M. Miller (*Virginia Medical Monthly*) discusses these cases before the Richmond Academy of Medicine and Surgery. Regarding treatment, he spoke as follows :

"The treatment of these cases must be both constitutional and local. The constitutional should consist of rest in the house, preferably in bed, a thorough emptying of the alimentary canal with a mercurial, followed by a saline; the diet must be light. Quinine, salol and aspirin have been of much service, the last having always seemed to me to be the most efficient; belladonna or atropine may be used with much benefit in some cases. All of these remedies should be used for their physiological effect rather than be bound by any hard and fast rules as laid down in text books. I do not favor the administration of morphine or opium unless absolutely necessary to control the pain, and the coal-tar group has not, in my hands, proved efficacious in stopping the suffering of these patients.

Hot applications to the forehead usually affords much relief, and are better borne than cold, though the latter sometimes prove of more service.

Our treatment of the interior of the nose should be directed toward the promoting of drainage from the sinus and thus relieving the pressure. The nose should be thoroughly cleansed by an alkaline spray or douche used warm, then the congested tissues contracted by a spray of adrenalin chlorid, 1-10,000, which may be given to the patient to use every two or three hours. If within 24 or 36 hours marked subsidence of pain and cessation of symptoms are not attained by this conservative treatment, the anterior end of the middle turbinate should be removed with forceps and cold wire snare. By this latter procedure we lose no time, for it should be done as preliminary to opening the sinus from the forehead and frequently renders this operation unnecessary.

Attacking the sinus through its anterior or inferior wall becomes imperative when the less radical methods mentioned prove insufficient for proper drainage. When this is done, enough of the wall must be removed to allow a thorough examination of the cavity and an enlargement of the naso-frontal duct to an extent sufficient for free drainage into the nose. This operation must not be delayed too long, for continued pressure may cause rupture through the floor into the orbit, or erosion of the posterior wall of the sinus against which the frontal lobe of the brain rests, with consequent purulent meningitis or brain abscess."

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EDITORIAL.

THE CANADIAN MEDICAL ASSOCIATION.

It is with much pleasure that we urge the claims of this Association upon our readers. It should be borne in mind that it is the National Association and ought to receive the support of the entire medical profession of Canada. It has three main functions to fill; and, in the past, it has filled these well.

In the first place it is the means of bringing the East and the West together and forming a bond of union with the Centre. This social side is worth more than pure gold many times refined. We should be one profession in this country. No narrow bounds should limit our movements. Ever remember the words of Goethe: "For to suit our wanderings is it that the world was made so wide." A duly qualified practitioner by the Atlantic seaboard should be permitted to follow his profession on the slopes of the Pacific. Parochialism, Provincialism, should give way to Nationalism.

In the second place, the Association can be, and, indeed, is a great educator. Papers are read and discussed, and much useful knowledge shed abroad. It is, in other words, a sort of post-graduate school founded upon co-operative, or democratic lines.

In the third place, the Canadian Medical Association possesses the elements within it of being a power in the land as an agent in moving the Federal and Provincial authorities in the direction of needed legislation, looking towards the bettering of the health of the people and the preservation of life. Throughout the ages the medical profession has ever been in the front of all reforms of this sort. It has ever been moved by the white wings of peace. Of all bodies of men, the members of the medical profession are the most altruistic.

We would therefore urge that there be a good attendance. Those who attended the meeting in Montreal four years ago will recall how well the Association was entertained. We look forward again to a similar reception. The meeting in Montreal four years ago was the banner meeting up to that date; and let the meeting of this year be again a banner one and surpass the one of four years ago. The material is lying around in profusion for this purpose; it only requires to be gathered together.

In our issue for December, 1906, we gave in full the text of the proposed new constitution of the Association. In the constitution as proposed among the objects of the Association are outlined the following: the holding of periodical meetings, the publication of a periodical journal, the publication of transactions or papers, and the granting of aid to medical and other allied sciences.

These are all excellent, but some of them are ambitious and may be far beyond the reach of the Association. On the membership of the Association, such as it has ever had, it will be quite impossible to make any grants in aid of medical research. There is no objection to the clause on paper, but it is quite out of the range of practical application. Anything the Association might be able to do in this way would be quite ineffective, and would fritter away its little means to no purpose.

We do not believe that the proceedings of such gatherings do much good to be gathered into book form. This can only be accomplished at heavy expense, and these volumes are rarely ever read by any one, and soon become antiquated. Once the meeting is over and the papers have appeared in the medical journals, the interest is by till the next year; though the influence for good remains from year to year.

Then another object is that of publishing an Association journal. We have already shown that on a paid circulation of 1,500 copies of a good monthly journal the cost will not be less than \$10,000 a year, covering printing, distribution, office rent, clerical help, traveller, commissions, editor, travelling expenses, etc. The income from 1,500 members at \$5 a year would be \$7,500. From this must be taken the expenses of the annual meeting. This would leave a large deficit to be secured by advertising patronage. In the meantime neither the circulation list nor the advertising patronage exists. This must be found, while the expenses of publication is going on. These are plain facts that are worth weighing; but some one may be able to offer a happy solution for them.

We would invite careful study of the Executive Council. In Article v. of the proposed constitution it is stated that the Executive Council elects all the officers of the Association, except the President. In Article viii., dealing with officers, it is stated that the President shall be nominated by the Council. This practically would mean his election, so that all the officers are really elected by the Executive Council. This may or may not be a good way to have it; but it is our opinion that it is putting too much power into the hands of the Council. We would recommend that a very careful study be given to that section of the constitution dealing with the Executive Council. Article iv. of this section explains how elections, nominations and installations are to be carried out. Five members of the Association may hand in the name of any one they wish to see

fill a given office, but it remains with the Executive Council whether or not any attention may be paid to such nominations. We think too much power is here given the Council.

We do not purpose going into all the details of the Council. It should receive the fullest consideration prior to the meeting. Better hasten slowly.

A HOSPITAL SUNDAY.

The time has come when one Sunday in each year should be named as the occasion on which the needs and the work of our charitable institutions could be made known to the people. Charity and the care of the sick is not limited to any denomination, and, therefore, all our churches could take this matter up.

There are many points that might with much profit be explained to the people from the pulpit. One of these is the claims of the sick poor to assistance. This must be expected to come mainly from those who have means at their disposal, though the givings of those of limited means are of much aid. Many small sums make a large one.

On such an occasion something could be said with advantage regarding the cost of maintaining patients in our hospitals. We fear the public do not realize that the proper management of a hospital is a costly affair.

Then, again, it might be pointed out that there is a great lack of hospital accommodation in Toronto, and other cities for their size. This can not be remedied without money.

The earnest work of the governors and trustees of the hospitals should come in for some attention. The financing of our hospitals is no easy task. The heavy outlays caused by the care of the poor can only be met by the margin of profit from the private ward patients, and such donations as may be made to these institutions. In many instances these donations are the result of the direct solicitation of the governors or trustees.

Then it might well be pointed out the physicians and surgeons on these hospitals do not receive any remuneration for their attendance on the poor. This is in itself an enormous gift to the public, and for which the public should be willing to make some ample return in the way of putting our hospitals in a more efficient condition, so that these physicians and surgeons might still better serve their poor patients.

These are only a few of the many topics that could to great advantage be brought before the notice of the people; and we hope that all over the country there will soon be a Hospital Sunday.

THE PROBLEM OF THE DEGENERATE.

Mens sana in corpore sano is not new to-day. It comes to us down the long centuries from the observations of the ancients. The brain is an organ of the body and cannot escape from its environments. We should ever remember the fable of the belly and the members.

Some conditions of life affect certain organs more than others. We know that in some occupations more consumptives are met with than in others. Drinking habits are more liable to affect the kidneys, the liver and the nervous system than other portions of the body. Once a bad strain has been acquired it has far-reaching effects.

It is a matter of sure knowledge that the children of drunkards do not come up to the average standard of the children of sober parents. We are not here discussing the intricate problems of heredity, nor whether acquired characteristics can be transmitted. We propose to keep on solid ground. During long years one or both parents have indulged to excess in alcoholic beverages. Every tissue in the body suffers, and the health of every cell is impaired. In this category come the sperm and germ cells.

These cells start out on the great work of producing, by their union, a new being; and they start on this important work in a state of lowered vitality. It matters not whether the disposition to drink, which was an acquired characteristic on the part of the parent, can be transmitted or not, there remains the fact that the offspring of such a sperm or germ cell is likely to be physically weak in some way. In these cells there is the potentiality of every part of the complete being. If that part of the germ or sperm cells be lowered in vitality or damaged, that is destined to initiate into being the brain and nerves, what may the result not be! Every being is the product of the union of a sperm and a germ cell, and the potentialities of these two will lay the foundation for the possibilities of the new being.

Every condition that tends to lower the vitality of the parents makes for the production of the degenerate. Among such causes may be mentioned overwork, poor food while developing, unhealthy homes, consanguinity of marriages, too young or too old parents, certain diseases in the family history, etc. The State may be called upon to control some of these causes by legislation. Wise restrictions may very properly be placed upon marriages. From one woman in London, Eng., can be traced over one hundred degenerate descendants. The feeble-minded should not be allowed to marry.

On more than one occasion we have spoken on the subject of Eugenics. We believe that in all our educational institutions some useful information might be judiciously imparted on the important subject of

matrimony and how necessary it is to avoid selecting a partner from a family which is tainted by any form of weakness of the nervous system.

But this affects the future. We have many degenerates with us now, and for these some provision must be made. They must be segregated in some way. It must be put beyond their power, either legitimately or illegitimately, to procreate their type. It is just as well now as at any other time in the future to put the axe to the root of the tree and fell this producer of such evil fruit. In this way we will do much for the future of the country. It is not too undignified a subject to talk of stock-raising in the human race.

On this subject we would direct the attention of our readers to the paper of Dr. Bruce Smith, in our July issue.

A NEW MOVE IN THE TREATMENT OF THE INSANE.

It is with much pleasure we notice that Dr. C. K. Clarke, of the Toronto Asylum for the Insane, and Dr. E. Ryan, of the Rockwood Asylum, Kingston, have been sent to Europe to study the latest and best methods of treating the insane.

Truth dawns slowly. It has taken long years of study and work to get even the medical profession to realize, in the fullest sense, the fact that the insane are physical wrecks in some way or other. They are ill people, and, as a result of this, their brains do not act properly.

It has now come to be a well recognized fact that the only way to deal with the insane is to find for them some place of safety; and couple with this every means of restoring them to health. With this purpose every asylum must be a sort of special hospital. The feeding, exercise, work, treatment of the inmates of these institutions must receive every attention. In one case it may be one organ that is at fault, in another case it may be another organ. But the cause of the insanity must be sought out in every case. Some may be cured, others only improved, while the fate of others is sealed.

In all this every principle of fresh air and sunshine, together with baths, massage, etc., etc., comes in to play an important role in the management of an asylum.

While on this subject once more we wish to call attention to the necessity of keeping politics out of these institutions. In the service of our asylums, the effort should be to secure the brightest of young men, and pay them well and promote according to merit. The service should be one leading step by step from the most junior positions to the responsible ones of heads of the institutions. This cannot be until politics is shut out.

We shall all look forward with much interest to the report upon the management of asylums which shall come from the pens of Drs. Clarke and Ryan. In the meantime we wish them every success in their search for useful information, and may say that the case of the asylums may be safely left in their hands. Those who know Drs. Clarke and Ryan will be disposed to approve of their selection for this work; and much good may come from what they may be able to do for a very unfortunate class of the community.

HOSPITALS AND THEIR MANAGEMENT.

What we say just now applies more particularly to the hospitals in Ontario.

For many years the Government grant in aid of the Ontario hospitals for the support of the poor was \$110,000 yearly. As the hospitals increased in numbers and there were a larger number of poor patients, the grant gradually became reduced per patient. For a number of years it has been about 16 or 17 cents per day.

This was distributed among the hospitals in support of patients from whom these institutions did not receive more than 50 cents a day. Thus it came to be the rule that hospitals charged for their public wards 50 cents a day in order to retain the 16 cents Government grant. This made 66 cents a day, or \$4.62 per week.

But the average cost of maintenance of patients in the hospitals of Ontario was over \$1 a day. It became apparent that the hospitals were losing large sums on their public ward patients.

This view was pressed upon the attention of the Government on several occasions. When Mr. Stratton was Provincial Secretary he made an advance of the rate on which the Government grant would be allowed from 40 cents a day to 50 cents a day.

During the past session of the Ontario Legislature two important changes were enacted. The first was that the Government grant in future shall be 20 cents per day. The second change was that this would be allowed on patients from whom the hospitals did not receive more than 70 cents per day. These two sums raise the public ward rates to a possible of 90 cents per day, or \$6.30 per week.

It is now within the power of any hospital in Ontario to exact from patients, municipalities, railways, societies, etc., 70 cents per day. In the year 1906 the collective days' stay in all the hospitals of Ontario of the class recognized by the Government was 656,982. The addition of 24 cents on these patients would be the substantial sum of \$157,675 a year, which would very materially relieve the finances of these institu-

tions. By adopting these prices for the public wards, and fair charge for their private wards, there is no reason why the Ontario hospitals should not prosper; and be able from time to time to add new equipments and additional buildings.

By a wise system of financing, the hospitals in Ontario should become the most efficient and comfortable in the world. This should be the aim of all. These changes will benefit the Toronto hospitals by about \$40,000 yearly.

THE TREATMENT OF THE INSANE.

At the meeting of the National Conference of Charities and Correction at Philadelphia last year, a special committee, consisting of Dr. Owen Copp, of Boston; Dr. W. P. Spratling, of New York, and Dr. Bruce Smith, of Toronto, was appointed to consider and report on the "Elements of an Adequate System of Public Care and Treatment of the Insane." The members of the committee have given special attention to the important duty entrusted to them. The result of their inquiries, which were extended to every country, was embodied in an elaborate report which was presented and favorably discussed at the annual meeting of the National Conference of Charities and Correction during the past week at Minneapolis.

The report shows that as the population in a country increases more specialized methods of caring for the insane must come into use. There should be a central control over all the institutions, and each institution should have a certain district set aside from which it would receive its patients.

Another feature of the report is that it urges a classification of the cases. These should be grouped in institutions according to their form of insanity. The acute should not be mixed up with the chronic forms, nor the dangerous with those who are not. Many might be removed to farm colonies and put at useful labor and re-educated to some extent. In this way they could be made to earn some of the cost of maintenance. Those who are acute or of recent type might be kept by themselves, as they yield a greater prospect of recovery.

The chronic, infirm, dangerous and untrustworthy should be segregated by themselves. In this way they would be furnished with safe custody and care. This class hold out no hope of recoveries and should be afforded a home with humane care while they live.

The report urges on the family physician the necessity for early recognition of mental derangements. It is in this stage that the chance of curing the sufferer is best.

The size of these institutions is discussed fully. Large asylums can be managed more economically than small ones. On the other hand, the results in the small ones is likely to be better. No institution should be allowed to become so large as to interfere with its efficient management.

Three classes are suggested for working purposes: 1, the acute and curable; 2, the chronic, infirm, dangerous and custodial; and 3, the chronic harmless and able bodied. The individuals would pass from one class to another according to the changes in their disposition. These classes should be separated.

A MEDICO-LEGAL SOCIETY.

It has been suggested on more than one occasion that there ought to be formed in Toronto a society with a composite membership of lawyers and doctors. Such a society would be of great service in bringing out the many points at which the two professions touch each other.

We would suggest the formation of such a society, or the creation of such a section in the Academy of Medicine. There are many topics all along the line of medical jurisprudence where such a union of the two professions would be of distinct value.

There are many Acts on our statute books that should receive careful consideration. Among these we might mention those affecting the insane, inebriates, homicides, suicides, inquests, and such like. In the discussion of such matters the experience and training of the legal mind would be of much service.

We hope that this matter may receive proper attention at an early date. Similar societies in Britain, the United States and other countries are doing good work.

WEST TORONTO TERRITORIAL MEETING.

A well attended meeting of the medical profession of the western division of Toronto was held on the afternoon of June 29th. Dr. J. S. Hart, the member for the Council, occupied the chair.

A number of very important subjects were raised and discussed at some length. Among these were the standard of entrance to the medical profession, the subject of lodge practice, and a scale of fees. It was agreed to leave these over for a future meeting to be called in September.

After a good deal of discussion, the motion of Dr. Machell was unanimously adopted to the effect that examinations for admission to fraternal societies would not be made for a lesser fee than \$2.

We have already urged that the medical profession in each territorial division form a business association. It will not do for the doctors to be too altruistic. They must look after their own interests. The profession is losing a very large amount annually through lodge practice, making examinations at too low fees, by careless collection of accounts, by bad pay patients, etc. All these evils are capable of amelioration or entire extinction.

The cost of living has increased at least 50 per cent. in the past twenty years, and the fees have not increased. This should receive attention. Patients who will not pay their accounts should be listed. Business men have found it to be to their interests to arrange for a means of protecting themselves against bad debts. The medical profession should do the same thing.

We hope to hear of other divisions taking up these matters. If the medical profession ever hopes to secure its rights on these matters it must look after its own interests. If it does not, it may rest assured no one else will.

OSLER'S MODERN MEDICINE.

In another portion of this issue will be found an extended review of the second volume of this work. The plan indicates that five more volumes are to follow. A work of this sort merits more than a mere passing notice. We invite our readers to peruse what is said of the work under the section of our book reviews. This work has so many excellent features to commend it that it is sure to become a favorite with the profession, and be, for many years to come, the standard authority on the practice of medicine. The work is published by Messrs. Lea Brothers, of Philadelphia, and the Canadian agents are Messrs. McAinsh & Co., of Toronto.

PERSONAL AND NEWS ITEMS.

ONTARIO.

Dr. T. W. Greer, of Peterborough, has been appointed an associate coroner.

Dr. and Mrs. William Gunn, of Clinton, Huron County, have been taking a European trip this summer.

Dr. J. F. Snell has been appointed assistant in chemistry in the Macdonald Agricultural College at Ste. Anne de Bellevue, Que.

Dr. W. J. Greenwood has entered into practice with his uncle, Dr. Greenwood, of St. Catharines.

Dr. J. L. Turnbull, formerly of Clinton, and lately of Listowel, is entering into a medical partnership in Calgary.

Dr. Wm. K. Colbeck, of Welland, has been appointed an associate coroner for the County of Welland.

Dr. and Mrs. Temple and Dr. and Mrs. Baines, of Toronto, have gone to Europe, where they will remain until September.

Dr. James Palmer Rankin, of Stratford, will be the liberal candidate for the House of Commons for North Perth in the next Federal elections.

Dr. R. D. Rudolf, of Toronto, has been made a member of the American Association of Physicians.

Dr. Ed. Bryans, formerly of Jamestown, County of Huron, is now in charge of a section of the Grand Trunk Pacific at Killaly, Sask.

Dr. W. T. Connell, the pathologist to Queen's Medical College, has been appointed to the post of pathologist to Rockwood Asylum. He will still continue his former duties.

Dr. H. S. Bingham, of Cannington, has sold his practice to Dr. Brown, formerly of Coboconk. Dr. Bingham may go to British Columbia, where his son is in practice.

The medical society of St. Catharines has decided that as soon as the present engagements cease there will be no more lodge practice in the city. The association is to be congratulated upon this move.

Mr. E. B. Osler has purchased property in the town of Dundas, where he will erect a home for aged women, as a memorial to his late mother. The town of Dundas was Mrs. Osler's former home.

Dr. J. P. McMurrich, Professor of Anatomy, Ann Arbor University, Michigan, has been appointed Professor of Anatomy, University of Toronto, in the stead of Dr. Primrose, who resigned a short time ago.

In the report of the medallists in medicine of the University of Toronto in the July issue, Dr. A. B. Schinkin should have been credited as receiving the second silver medal.

Drs. R. A. Reeve, I. H. Cameron, H. A. Bruce, A. W. Maybury, Helen MacMurchy, and Harry Anderson, all of Toronto, are in Britain and will attend the meeting of the B. M. A.

Dr. Arthur Small, formerly of Toronto, but now residing in Chicago, has been appointed one of the four medical legal experts for the city. He is a graduate of the University of Toronto. He is a lecturer in Rush Medical College.

Mr. Abraham McGill has been appointed Dominion analyst in succession to Mr. McFarlane, deceased. Mr. McGill has been in the service of the Dominion chemical department for many years, and is well known as an able chemist and learned scientist.

It is now announced that the site purchased by the Medical Council is part of the property of Mr. R. J. Score, on University avenue. The site is 110 feet by 130 feet, and the house is a fine brick building, but it is understood that the Association will erect a new building suitable in every way for the business of the Council.

An influential deputation from the Council of Women waited upon a number of the trustees of the Toronto General Hospital, and urged that there should be a certain number of women doctors on the staff of the new General. Mr. Flavelle promised for the Board to give the matter careful consideration. He pointed out that over four hundred applicants for positions were now in.

The Ontario Provincial Board of Health has made arrangements to instal septic tanks at some cheese factories for the disposal of their sewage and waste. This will be an important step in the direction of making many of these factories keep their surroundings in a more sanitary condition than has been the case in the past. In course of time the Board will be in a position to determine the best method for disposing of such factory sewage.

Doctors Harry James and J. S. Pritchard have been added to the medical staff of the National Sanitarium Association. The former will be assistant at the Muskoka Cottage Sanitarium, and the latter at the Muskoka Free Hospital for Consumptives. The resident medical staff of the Muskoka institutions now consists of C. D. Parfitt, M.D., M.R.C.S., L.R.C.P.; W. B. Kendall, M.D., C.M., L.R.C.S., L.R.C.P.; J. K. M. Gordon, M.D., and Doctors James and Pritchard.

A meeting of the committee of the graduates of old Trinity Medical College was held Tuesday evening, July 9th, to arrange to have a portrait of their old Dean, Dr. W. B. Geikie, painted and hung in the Academy of Medicine. Every graduate, of which there are about 2,500 throughout the world, will be given an opportunity to contribute toward the fund. The following committee have the work in hand, viz., Drs. Temple, McMurrich, Marlow, Pepler, Richardson, Haydon, Crux and Worthington.

QUEBEC.

The Notre Dame Hospital has appointed E. St. Pierre, P. Delochechio, E. Champoux, N. Gariépy, P. Perrin, H. DERNERS.

Dr. A. Vallée, son of Professor Vallée, has been named for the chair of anatomy at Laval Medical Faculty, Quebec.

Dr. Todd, so well known for his researches in sleeping sickness, has been mentioned as professor of bacteriology at McGill.

Dr. G. E. Armstrong has been made professor of clinical surgery, and Dr. James Bell professor of surgery, in place of Dr. Roddick, resigned.

A chair of history in medicine has been established at McGill, and Dr. McPhail has been selected as its first incumbent. The congratulations of those who know Dr. McPhail are due him.

The remains of Dr. Madore, physician to the Mounted Police of the North-West, at Prince Albert, were brought home and interred in the family plot at Ste. Anne de Bellevue.

The Hotel Dieu has appointed as internes J. Hamelin, H. Ethier, O. Chabot, N. Carriveau, A. Brassard, E. Dupuis, P. A. Robichaud, N. Cléron, E. Lachapelle, and E. Lamoureaux.

There are 1,680 physicians in the Province of Quebec to a population of 1,649,000, or one practitioner to every 982 persons. In Montreal there is one to every 552 of the population.

The widow of the late Sir William Hingston offered a medal to the graduate of Laval obtaining the highest marks. Alphonse Herbert and Sylvio Roth obtained each 1,830 marks out of a possible of 2,000.

Dr. Roddick has voluntarily retired from the chair of surgery in McGill Medical Faculty, and in doing so carries with him the universal respect of his colleagues and the medical profession of the country. Few have done more for medical education.

The Faculty of Medicine of Laval has chosen Dr. L. D. Mignault and A. A. Foucher to represent it on the Board of Governors of the College of Physicians. The general elections to the College takes place in September.

A Montreal doctor was fined \$20 for not reporting within 24 hours the death of a child from typhoid fever. The doctor explained that he had only seen the child once and did not know it was dead, but the judge would not accept this explanation.

The Quebec Government has appointed Dr. Bourgeois, of Three Rivers, and Dr. Laberge, of Montreal, to be members of the Provincial Bureau of Hygiene. Dr. Laberge is to be director of the Bureau. Dr. Rouleau has also been named to take the place of Dr. Roy in making post-mortems.

The work of arranging for new medical buildings for McGill is proceeding. Plans are being got ready, and the burned walls are being taken down. The insurance secured will amount to about \$325,000. This will leave about \$200,000 to raise in order to go on with the completion of the buildings. The many and rich friends of McGill should find no difficulty in raising this amount.

The Protestant citizens of the city of Quebec are moving for a sanitarium. Already over \$12,000 has been secured for the building fund, and \$5,000 a year for five years towards a maintenance fund. It is thought one of the two sites offered by the Government on Lake Edward

will be selected. The one on the banks of the Baliseau, two miles south of the lake, is the favorite. It has good railway facilities on the St. John Railway.

MARITIME PROVINCES.

Drs. B. A. LeBlanc, H. D. Chisholm, and J. Macdonald have been appointed house surgeons to the Victoria General Hospital, Halifax.

Dr. E. R. Faulkner, late of Mahone, has passed the final examinations for the F.R.C.S. diploma.

Dr. Sponagle has been appointed medical inspector of the military camps at Sussex and Charlottetown.

While Dr. S. W. Johnston was inspecting the shacks occupied by the Italians near the steel plant he was attacked by a number of them and had to send for police assistance.

Lieut.-Col. Murray MacLaren has been appointed principal medical officer for the 8th military district in place of the late Dr. Marsh. Dr. T. D. Walker succeeds Dr. MacLaren as officer commanding the 8th Field Ambulance.

A new county medical society has been formed in Nova Scotia under the name of "The Annapolis-Kings Medical Society." The officers are: Dr. G. E. Dewitt, president; Drs. J. A. Sponagle and P. N. Balcom, vice-presidents; Dr. W. F. Read, secretary-treasurer; Drs. J. B. Mach and L. P. Morse, members of the Executive Committee.

On Tuesday, June 11th, 1907, at St. John's Cathedral, St. John's, Newfoundland, by the Lord Bishop of Newfoundland, assisted by the Rev. Canon Saunders, M.A., rector, Lionel C. W. Stewart Pritchard, M.D., C.M., Trinity University, Toronto, and Fell. Trin. Med. Coll., Toronto, residing at Bay Roberts, Newfoundland, was married to Eleanor Catherine, daughter of the Right Hon. Sir William V. Whiteway, K.C.M.G., K.C., D.C.L., Riverview, St. John's, Newfoundland.

WESTERN PROVINCES.

The city of Strathcona is to build a new hospital. It has also purchased a site for an isolation hospital.

Dr. L. E. Irving, city health officer for Edmonton, has been made health officer for the Province of Alberta.

The city of Edmonton carried the by-law approving of a grant of \$50,000 for a hospital under the control of the municipality.

Dr. D. G. Revell has been appointed Provincial Pathologist for Alberta. He has gone to select a proper equipment for the laboratory.

Dr. Beer, of Carlyle, Sask., has been appointed medical officer to the White Bear Indian reserve.

The medical men in the High River District met and organized a medical society. Dr. Welch was elected president and Dr. Everett the secretary.

In Winnipeg for the month of May the births were 297 and the deaths were 150. In Calgary for the months of January, February, March and April there were 280 births and 163 deaths.

The city of Regina has carried a vote for \$100,000 for a municipal hospital for the city. The city felt it could not afford to be left behind the other Western cities.

Dr. Chamberlain, of Toronto, Dominion Inspector of the sanitary conditions under which men work who are engaged on public works, paid a visit a short time ago to Winnipeg and the West.

Dr. W. A. Ternan, of Edmonton, has been appointed medical health officer at a salary of \$2,000 a year, in place of Dr. Irving, the former incumbent of the office.

Dr. J. D. Lafferty has resigned from the Council of the College of Physicians and Surgeons of Alberta, and has been appointed Registrar and Treasurer for the Council.

The Public School Board of Regina has decided that no child will be admitted to school who has not been vaccinated within three years. The medical health officer will vaccinate free of charge any children requiring vaccination.

At the suggestion of the local Council of Women, Winnipeg, a movement has been set on foot for a hospital for children. It was also suggested that a series of Sunday afternoon lectures be given on the prevention of tuberculosis.

The Province of Manitoba voted largely in favor of reciprocity. It is hoped that this may come about between the various Provinces and also with Great Britain. The effect, it is fully expected, will be a raising of the standard of medical education.

The medical men in Calgary have taken a strong stand against lodge and club practice. It is felt that the only way to get rid of the evil is by a united effort. The Calgary doctors take the proper ground that all such contract practice is against the interests of the profession and the patients.

At the annual meeting of the Council of the College of Physicians and Surgeons of Manitoba, the Treasurer stated that he had \$15,744.62 on hand, and that there were no debts. There are registered in the Province of Manitoba 303 practitioners. Dr. Hardie was elected president; Dr. Rogers, vice-president; Dr. Patterson, treasurer; Dr. Gray, registrar. Drs. Clark, Smith, Hardie and Gray were appointed University representatives. An effort will be made to secure an agreement with the Canadian Medical Protective Association for the admission of all Manitoba practitioners.

BRITISH COLUMBIA.

The vital statistics for Vancouver for May, 1907, were: Births, 69; marriages, 43, and deaths, 64.

Dr. Georgina Urquhart has been appointed to assist in the medical inspection of the school children of Vancouver.

The entire leper colony at D'Arcy Island has been sent back to China. There is now no leper colony in British Columbia.

Dr. Samuel Petersky is now the resident medical superintendent of the General Hospital at Lake Kootenay, Nelson, B.C.

Dr. C. J. Fagan has secured the \$50,000 required to enable him to claim the donation offered by Lieutenant-Governor Dunsmuir. Work counts.

The first cottage of the new isolation hospitals in connection with the General Hospital at Fairview, Vancouver, has been opened. It is for scarlet fever cases.

Provincial Health Officer, Dr. C. J. Fagan; City Health Officer, Dr. Underhill, and Mr. Steve Madison are investigating the water supply of Vancouver, and the best methods of securing its purity.

FROM ABROAD.

The Shrewsbury town council, England, has resolved to institute voluntary notification of consumption, and disinfect, free of charge, every house which a consumptive has vacated.

The *Interstate Medical Journal* (St. Louis) announces the purchase of the *St. Louis Courier of Medicine*, one of the oldest medical journals in the West, and its consolidation with the *Interstate* on July 1st.

The medical journals in Britain are giving more and more attention to preventive medicine. It is a leading feature of lectures and addresses. Lately so in a special manner by Sir F. Treves.

The medical men of Vienna have been agitating for an increase of fees. They contend that the cost of living has gone up at least 50 per cent., while the income of doctors has not increased.

Dr. W. T. Grenfell, who has done such excellent work in Labrador, was honored with the degree of M.D. by Oxford University recently. This was a case of honor to both giver and receiver.

Sir W. T. Gardner died at Edinburgh, June 28th, 1907, in his eighty-second year. He held the professorship of medicine in Glasgow University for nearly forty years. He was an extensive writer.

At the recent meeting of the Laryngological, Rhinological, and Otolological Association, which met in New York, Drs. Wishart, Goldsmith, Trow, McLennan, Thorburn, and Price Brown, all of Toronto, were present.

The College of Physicians and Surgeons of New York celebrated its centennial on June 10 and 11. There was a large attendance of alumni, and an excellent programme of clinical demonstrations was furnished.

Dr. Thomas McRae, Associate Professor of Medicine, Johns Hopkins, Baltimore, has been made a Fellow of the Royal College of Physicians, London. Dr. McRae is from Guelph and a graduate of the University of Toronto.

At a conference held in Washington a short time ago, it was decided to organize a National Association for the Promotion of School Hygiene. It is hoped to enlist the coöperation of the teachers throughout the country in the movement.

The International Congress on Tuberculosis will be held in Washington, D.C., from September 20th to October 10th. There will be an extensive tuberculosis exhibition. The various departments of the Government are giving \$100,000 to finance the Congress.

Throughout the Manyema country in Africa, sleeping sickness is working fearful havoc. When a person takes ill his relatives turn him out. Thus all along the roadsides are to be seen persons dead or dying. The natives are in great dread of the disease.

Sir Wm. Henry Broadbent, physician-in-ordinary to King Edward and the Prince of Wales, and who for a long time attended the late Queen Victoria and others of the Royal Family, died July 10th. He was born in 1835.

Sir Charles Tupper has recovered from his illness and will sail for Canada on August 9th. Many forget that Sir Charles is a doctor and once practised in Toronto, selling his residence to the late Dr. W. T. Aikins.

Julius Dreschfeld, M.D., F.R.C.P., B.Sc., Professor of Medicine in the University of Manchester, died suddenly June 13, of heart failure. He had suffered from an attack of influenza, and kept on at his usual work. The end came quite unexpectedly.

A bill passed the British House of Commons recently to the effect that school children entering an elementary school shall undergo a medical inspection. The bill was introduced by Mr. Rea and consented to by both Houses. It was a consent bill.

The various medical societies of the Transvaal, Natal, Cape Colony and the Orange River Colony are showing much activity and doing excellent work in restraining unqualified practitioners and lessening the evils arising from imperfectly trained midwives.

During the years 1901 to 1904, of every 1,000 children born in England and Wales, only 141 reached their first anniversary. From the years 5 to 25 the death rate has been reduced 50 per cent., during the past fifty years. In the same time the birth rate has fallen 17 per cent.

Professor Albrecht, of Vienna, in a study of 200 cases of pneumonia complicating pertussis, and in 70 cases of uncomplicated pertussis, found the bacillus of Eppendorf. He also found it in 80 per cent. of cases of measles. It does not differ in appearance from that of influenza.

Drs. Beebe and Tracy, of Cornell University Medical College, have been conducting some experiments with Coley's mixed toxins of the streptococcus of erysipelas and the bacillus prodigiosus. The results have gone to prove the value of this treatment of sarcoma.

Edward Hallaran Bennett, M.D., F.R.C.S.I., professor of surgery, Trinity College, Dublin, died on 21st June. He was a brilliant surgeon and an excellent teacher. He was instrumental in bringing about the union of societies that gave birth to the Royal Academy of Medicine of Ireland.

Sir James Barr, who gave the address on medicine at the meeting of the British Medical Association in Toronto last year, tells us that the hats worn in Britain have decreased in size by one full size during the past half century. This decrease in the size of the brain-box, he regards as of much importance.

Dr. Andrew H. Smith, a well-known physician of New York, and once the president of the New York Academy of Medicine, has retired from practice and gone to live at his home in Geneva, N.Y. He was physician to the St. Luke's and Presbyterian Hospitals. He saw active service during the civil war.

New South Wales, Australia, has begun a regular medical inspection of the public school children. Dr. R. E. Booth has been appointed by the Department of Public School Instruction, with full power to deal with pupils who require medical attention, and with the hygienic state of the schools.

The Vaccination Act in Britain is having a hard time. It might be well to throw the question open and allow vaccination to become quite voluntary until the people became convinced of their folly. In the meantime charge the cost of smallpox cases to those who refuse to be vaccinated. If they will cause the disease, make them pay for it.

Professor Liebermeister, of Cologne, has been conducting a series of experiments on tuberculous patients. He finds that the blood and juices from many of the organs of such patients speedily infect guinea pigs when injected into them. This would show that the bacilli are widely scattered throughout the body, even though there be no miliary tubercle.

The Rockefeller Institute, 66th street and Avenue A, New York, has adopted the following series of titles for its staff: Member, associate member, associate, assistant fellow, and scholar. The following have

been appointed members: Simon Flexner, pathology; S. J. Meltzer, physiology and pharmacology; E. L. Opie, pathology; P. A. Levene, biological chemistry. There have been a number of assistants appointed, and grants made in aid of research work.

The Council of the American Medical Association has had the medical colleges of the United States inspected. There are 160 colleges, of varying degrees of efficiency from the very highest to the very lowest. Many of the colleges were found to be only part of quiz schools, where students are "coached" for their examinations, such as those set by the State Boards of Health.

In a recent investigation into a death occurring in New York under "Christian Science" treatment, it came out that a number of doctors are in the habit of furnishing death certificates to persons who die under "Christian Science" treatment. A recommendation was forwarded to the Department of Health and the Attorney of New York to look into this matter, as it enabled Christian Scientists to evade the law.

Professor G. H. E. Nuttall, of Cambridge University, in speaking of malaria, said that there were 2,000,000 cases of it in Italy with 16,000 deaths each year. About one-half of the people in Greece suffered and about 6,000 died annually. In India malaria caused six times as many deaths as cholera. In Africa it was a terrible scourge in many districts. It was then pointed out what could be done by way of prevention.

A very important law has been enacted in Denmark regarding syphilis. Under this law the police may punish as vagabonds females who cannot show their ability to earn a living in a decent manner. The law also provides that any one suffering from syphilis is entitled to free attendance at the hands of certain medical men appointed for this purpose and paid from public funds. The Act has very materially reduced the incidence of the disease.

A movement has been started in Boston to treat certain diseases by means of persuasion and advice. A number of physicians and clergymen are taking part in the movement. A dispensary has been opened. No drugs are to be employed and organic diseases are not to be treated, as it is admitted that mental influences cannot affect such conditions. It is hoped in this way to counteract the effects of Christian Science. No fee is to be charged. This thorough and proper use of the influence of the mind over the body may be the means of much good by giving a rational application instead of a fanatic one to mental forces.

OBITUARY.

JOHN HUTCHESON, M.D.

Dr. John Hutcheson, of Grenfell, died in May of pneumonia. He was one of the pioneer settlers, having gone there from Edinburgh in 1886. He was highly respected.

C. J. MARTIN, M.D.

Dr. Martin died of pneumonia at Qu'Appelle. He was a graduate of McGill College. He was only 31 years of age and had been located in Qu'Appelle only a few months.

JOHN T. CARROLL, M.D.

Dr. Carroll died at North Vancouver. He had been reeve of the place. He was one of the early physicians of the locality and took a deep interest in municipal affairs.

WILLIAM CLAXTON, M.D.

William Claxton, of Verona, died in his sixtieth year. He was a graduate of Queen's University. He took an active interest in public affairs, especially as a temperance advocate. He had been ill for some time with Bright's disease.

S. A. KING, M.D.

Dr. S. A. King died at his home in Kingsville, Essex County, on 8th July, 1907. He was one of the best known physicians and residents of Essex County. He took a prominent part in all public questions and in elections. He was in his sixty-first year.

ACLAND W. H. ORONHYATEKHA, M.D.

Dr. Oronhyatekha died suddenly of heart failure on Sunday, 7th July, at his home, The Pines, a few miles from Deseronto. He was the only son of the late Supreme Chief Ranger of the I.O.F. He was married, but his wife was on the ocean returning home at the time of his death. He was 39 years of age and a graduate of Toronto University. Dr. Rose, of Toronto, was visiting Dr. Oronhyatekha at the time of his death, but the end came so suddenly that nothing could be done.

H. P. CLAY, M.D.

Dr. Clay died very suddenly at his residence in Pugwash, N.S., in his forty-ninth year. On the evening of 14th June he attended a social in his church, and then made some calls. He reached home about 12 o'clock, feeling very ill. Dr. McIntosh was called in, but the late Dr. Clay never regained consciousness and passed away on the morning of the 15th June. His father was the Rev. Dr. Clay, and his mother the daughter of Hon. H. G. Pineo. He leaves a widow and four children. He took much interest in health matters, and was very active in the interests of the local and Provincial medical societies. He was regarded as a most conscientious practitioner.

A. D. MCGILLIVARY, M.D.

Dr. McGillivary died at his home in Sydney, Cape Breton, in his sixty-sixth year. He had suffered from an attack of paralysis for two years. He graduated from Bellevue in 1863, and settled at first at Sherbrooke, N.S., from which place he removed to Sydney in 1865. He was a very public spirited gentleman, and always took an active interest in everything for the good of the community. He was an active Mason, was surgeon to the 29th Highlanders for many years, a Presbyterian in faith, and a Liberal in politics. He leaves two sons and two daughters.

J. W. LESSLIE, M.D., C.M.

Death came with little warning to Dr. Joseph Walter Lesslie, of Toronto, on July 17th. He was in his fifty-fourth year, and was born in Toronto. He served for many years as surgeon to the Queen's Own

Rifles, and in that capacity went through the Riel Rebellion of 1885. He was also a member of the staff of the Toronto Western Hospital. He took his medical course in Toronto School of Medicine and graduated from the University of Toronto in 1879. He practised continuously in Toronto. He was noted for his generous and kindly nature. He was the son of the late Mr. Joseph Lesslie, for many years postmaster of Toronto. He leaves a widow and two sisters to mourn his death, and to these we extend our sincere sympathy.

BOOK REVIEWS.

CLINICAL PSYCHIATRY.

A Text-Book for Students and Physicians. Abstracted and adapted from the seventh German Edition of Kraepelin's "Lehrbuch der Psychiatrie," by A. Ross Diefendorf, M.D., Lecturer on Psychiatry in Yale University, Member of the American Neurological Association, of the New York Neurological Association, of the New York Psychiatrial Society, and of the American Medico-Psychological Association, etc. New Edition Revised and Enlarged. The MacMillan Company, of Canada, Limited, 27 Richmond Street West, Toronto. Price, \$3.75 net.

The important subject of psychiatry is now beginning to receive its due share of attention among the many diseased conditions to which human flesh is heir. Many cases of mental derangement are amenable to cure if taken early and treated properly. We can readily recall the time when all that was done for the insane was to commit them to a place of custody. As to further treatment they received but little. Now it is fully recognized that insanity is but the evidence of the blot within upon the brain, or some other organ reflexly affecting the brain, or poisoning it. The elucidation of all the factors that make for a sound mind in a sound body is the aim of modern psychiatry. Further, it is now known that much may be done along the lines of prevention. All this is well shown in the book before us. Professor Kraepelin has long been known as an ardent and able worker upon the subject of mental alienation, and it is no small advantage to the medical profession to have his views so clearly set forth as they are in this volume by one of his students and admirers. Dr. Diefendorf has been peculiarly fortunate in his arrangement of the matter in this book, placing it together in such a manner as to make the work both interesting, instructive and easily grasped in its detail. As one reads through this book it becomes plain that there is a new concep-

tion of the whole field of insanity running through it. It is true many of the old names appear, but their combinations differ. The study of mental derangements are approached from the modern psychological standpoint—the only true method. In this way a rational foundation is laid for etiology, pathology, semeiology, and therapeutics. We can recommend this work with much confidence, and would like to see it in the hands of every practitioner.

PROGRESSIVE MEDICINE, VOL. II., JUNE, 1907.

A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 381 pages, with illustrations. Per annum, in four cloth-bound volumes, \$9.00; in paper binding, \$6.00; carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

The June issue of *Progressive Medicine* (Vol. II. of the 1907 series) reviews many very important subjects. It opens with Hernia, by Dr. W. B. Coley. The Surgery of the Abdomen is discussed by Dr. Edward M. Foote. Then follows Gynæcology, by Dr. John G. Clark. Alfred Stengel devotes his article to recent work on the blood. These four articles are very full, scholarly, and exhaustive, and leave nothing to be desired. Dr. Coley gives his experience derived from 1,805 operations for hernia. Dr. Foote deals carefully with cases of gastric and intestinal ulceration. Dr. Clark urges early operation in cancer of the uterus. We can again highly recommend this series.

OSLER'S MODERN MEDICINE, VOL. II.

In Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore; in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal. Assisted by Thomas McCrea, M.D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. In seven octavo volumes of about 1,000 pages each; illustrated. Volume II. just ready. Price per volume, cloth, \$6.00, net; leather, \$7.00, net; half morocco, \$7.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1907.

The early appearance of volume II. of this great work has a practical significance for the reader, quite apart from its indication of steady progress towards completion, for it ensures that the matter is fresh from

the author's pen. The first volume dealt with General Medicine and the Diseases Caused by Physical, Chemical and Organic Agents, and by Parasites of the Vegetable and Animal Kingdoms, and closed with chapters on Nutrition and that most important group of disorders which arise from faulty metabolism. The second volume disposes of one-half of the great modern class known as the Infections, which is to be finished in the third volume, due in the autumn. The fourth deals with the Diseases of the Blood and Circulation, the fifth with those of the Alimentary Tract; the sixth with those of the Kidneys, of the Internally-secreting Glands, those of still obscure causation, and with Muscular, Vaso-Motor and Tropic Disorders. The seventh and last volume will cover Diseases of the Nervous System and of the Mind. This very brief *résumé* shows the simple classification, the judicious distribution of space, and the sustained interest of the work from beginning to end.

Reverting now to the contents of the volume in hand, Hektoen opens with an Introduction on the study of Infections, following which McCrea considers Typhoid, Typhus, and Relapsing Fever; Councilman, Smallpox and Chickenpox; Dock, Vaccination; McCollom, Scarlet Fever and Diphtheria; Ruhräh, Measles; Rubella, the Fourth Disease, Erythema Infectiosum, Whooping Cough and Mumps; Lord, Influenza; Coleman, Dengue; Koplik, Meningitis; Anders, Erysipelas; Musser and Norris, Pneumoniä; Pearce, Toxæmia, Septicæmia and Pyæmia; Poynton, Rheumatism; Dunbar, Cholera; Carroll, Yellow Fever; Calvert, Plague, and Shiga, Bacillary Dysentery.

Dr. Osler's position is such that the leaders of the profession of two Continents have stood ready to respond to his request to participate in the creation of this great work. His assignment of subjects shows his keen judgment of the men qualified to write with the highest authority. The resultant product will cover the whole field of medicine in its present advanced state of cultivation. It records the new level of knowledge which is open in its pages to every physician who desires the best information on any point of theory or practice.

To have the best should be the ambition of every physician. Here is his opportunity by securing this work.

BENGER'S FOOD AND HOW TO USE IT.

This excellent little booklet gives full directions on the use of Benger's Food. There is much useful information in the booklet on the feeding of infants and invalids. A copy will be sent to any physician who desires one. Benger & Co., Manchester, England.

THE PRACTICE OF PEDIATRICS.

Edited by Walter Lester Carr, M.D., Consulting Physician to the French Hospital; Visiting Physician Infants' and Children's Hospital, New York, large octavo, 1,014 pages, with 199 engravings and 32 full-page plates in colors and monochrome. Price per single volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.00. Price for any two volumes, cloth, \$11.00; leather, \$13.00; half morocco, \$15.00. Price for the three volumes, cloth, \$15.00; leather, \$18.00; half morocco, \$21.00.

Carr's Pediatrics, together with Bovee's Gynæcology and Peterson's Obstetrics, fill out The Practitioner's Library of Gynæcology, Obstetrics and Pediatrics.

In preparing this new series the object has been to cover the whole domain composed of three cognate major specialties. Eminent American and English authors have united under the editorship of Drs. Bovee, of Washington; Carr, of New York, and Peterson, of Ann Arbor. By excluding those features of disease which are properly to be sought in works on general medicine, these volumes find space for a complete and comprehensive presentation of their respective subjects, with full practical details. Together with the most advanced knowledge of established value, the authors have included their own observations, and the therapeutic measures which have resulted in the greatest success. This adds a personal element of obvious value. Abundant engravings and full-page plates illuminate the text, the facilities at command of the editors having enabled them to secure photographs and drawings exhibiting any point desired. Though it is manifestly to the advantage of every physician to have the whole library at hand, the volumes are sold separately for the convenience of those interested in the individual departments.

This volume on the diseases of children is a particularly well written one, and will find many appreciative readers.

 DISEASES OF THE RECTUM.

Diseases of the Rectum, their Consequences and Non-Surgical Treatment, by W. C. Brinkerhoff, M.D., Steinway Hall, Chicago, Ill. Price \$2.00. Published by Orban Publishing Co., 17-21 E. Van Buren St., Chicago, Ill., 1907.

One looks over this little book with feelings of satisfaction and disappointment. It is written to advocate the use of the injection treatment of hæmorrhoids. It is true a few other diseases are discussed briefly. The author speaks of the Mitchell treatment or the injection method. But the most careful search which we could give the book failed to find the

formula used for the injections. It is left open to suppose it is the one containing carbolic acid, glycerine, and water. It is unfortunate that more prominence is not given to the formula. If it is in the book, we could not find it. There is merit in the injection treatment. Those interested in the subject will find the book interesting.

HIP DISEASE.

Rational and Effective Treatment of Hip Disease, by P. Bruce Bennie, M.A., M.D., B.Sc., etc. Compiled by Alex. B. Bennie, M.A., M.B., B.Sc. London, Baillière, Tindall and Cox, 3 Henrietta St., Covent Garden, 1907. Price, \$1.50. Canadian Agents, J. A. Carveth & Co., Toronto.

This little book is founded on 28 years' experience in the treatment of these cases in the Hospital for Sick Children, Melbourne. The book is well written and beautifully illustrated. This work is written for the purpose of impressing upon the profession the special merits of the splint for hip disease devised and recommended by the late H. O. Thomas. Dr. Bennie has introduced some improvements on the splint and simplified its use. We can recommend this book in the very highest terms of praise. It would be a good thing if the sound methods laid down here were generally followed.

ON TREATMENT.

By Harry Campbell, M.D., B.S., F.R.C.P., Physician to the North-West London Hospital, and to the Hospital for Diseases of the Nervous System, Welbeck Street. London, Baillière, Tindall and Cox, 1907. Price, \$1.50. Canadian Agents, J. A. Carveth & Co., Toronto.

Dr. Campbell has long been known as an extensive writer on medical subjects. The present book is a valuable addition to those he has already written. This work discusses the many therapeutic agencies at the physician's command, other than the use of drugs. The author treats of such varied subjects as quackery, the healing power of nature, psychotherapeutics, fresh air, diet, the physician's personality, etc., etc. It is interesting to note how much may be done without resorting to the aid of pharmacology. We have given this book a very careful perusal and feel constrained to state that it should be extensively read and its teachings put into practice.

INTERNATIONAL CLINICS.

A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, etc., etc. Edited by W. T. Longcope, M.D., etc. Vol. II., 17th Series, 1907. Philadelphia and London: J. B. Lippincott Company. Montreal: Wm. Roberts. Price, \$2.25.

This volume is an excellent one. There is not a weak article in the entire book. This volume has articles on Treatment, Medicine, Surgery, Gynæcology, Pediatrics, Neurology, and Pathology. The illustrations are numerous and well executed. The publishers merit much praise for the care they have shown in the preparation of this volume. This makes an excellent addition to an excellent series.

 THE PRACTICE OF OBSTETRICS.

By American Authors. Edited by Charles Jewett, M.D., Professor of Obstetrics in the Long Island Hospital, Brooklyn, N. Y. In one handsome octavo volume of 786 pages, with 445 engravings in black and colors, and 36 full-page colored plates. Cloth, \$5.00 net; leather, \$6.00 net; half morocco, \$6.50 net. Lea Brothers & Co., New York and Philadelphia.

This excellent work on obstetrics is now in its third edition. This is in itself high praise. The work is a composite one by a number of authors, and usually such books do not run through one edition after another in rapid succession. This is an exception. The reasons for this continual demand is apparent on a perusal of the book. Each section is carefully written and kept well up to date. The illustrations are plentiful and good, and the mechanical make-up of the book all that could be desired. For an all round, reliable text-book on obstetrics this work, edited by Professor Jewett, will be found very satisfactory.

 MISCELLANEOUS.

 THE ANNUAL MEETING OF THE ONTARIO MEDICAL COUNCIL,
 JULY 2, 3, 4, 5.

The meeting this year was held in Kingston. It is many years since the Medical Council met outside of Toronto. Dr. W. H. Moorehouse, of London, the President, gave his address. He intimated that a site and new building for the Council would soon be decided upon. He

claimed that the board of examiners was composed of competent and trustworthy gentlemen, and should inspire confidence in the result of their work. The by-law regulating the elections of members required revision to make them suit present conditions. It should be the constant aim of the Council to raise the standard of education; and every attempt to lower it should be steadily resisted. He referred to the appeal of Dr. Creighton.

Dr. W. Spankie, of Wolfe Island, was elected President for the ensuing year. He graduated from Queen's University in 1862 as B.A., and M.D. in 1885. For many years he has held the position of Inspector of Schools for Frontenac, as well as conducting an active practice. He is, therefore, well fitted to fill the important position to which his colleagues have elected him. He extended to the Council a very hearty welcome to Kingston. He said it was worthy of note that the first president was a Kingston man, the late Dr. J. R. Dickson in 1866-67. He was one of the founders of Queen's Medical College in 1854. He was a noted surgeon, and one of the first graduates of the College was Hon. Michael Sullivan, in 1858, and who now represents the Royal College of Physicians and Surgeons of Kingston on the Council.

Hon. Dr. R. A. Pyne stated that he would not be a candidate for the office of Registrar, a position which he had held for 27 years. Much regret was expressed at his retirement from the position he had filled with such uniform satisfaction for so many years, and a tribute was paid him for his excellent work in behalf of medical education.

Dr. P. Stewart, of Milton, was chosen the Vice-president; Dr. J. L. Bray, of Chatham, the Registrar; Dr. H. Wilberforce Aikins, the Treasurer; Mr. H. S. Osler, the legal counsel; Dr. J. C. Patton, Toronto, the auditor; Mr. Charles Rose, the prosecutor; and Mr. Geo. Angus, the stenographer.

Mayor Mowat extended a hearty civic welcome to the members of the Medical Council. Invitations were received for a drive to the Royal Military College and Queen's University, and also to a trip among the Thousand Islands.

When the Council assembled on the morning of the 3rd July, the following resolution was placed upon the minutes:—

“Members of the Ontario Medical Council, with sincere regret, part with their esteemed Registrar, Hon. Dr. Pyne, after a faithful and continuous service of well nigh thirty years. These years have witnessed the formative period of medical education in the Province of Ontario and in the Dominion of Canada. The high standard of medical education in the country, its exemplary ethical life, its culture and its history of noble and philanthropic deeds may fairly be attributed in no small degree to

his unremitting energy and vigilance. He has always been a thoughtful and considerate friend of the student body. With great tact and never-failing courtesy, kindness of heart, his rare experience has directed the Council in many trying situations. Ontario has had a faithful servant in Hon. Dr. Pyne during these years, and we who know him best and the high value in faithful labor he has rendered to the State have pleasure in acknowledging our indebtedness for his efforts in the cause of humanity and for the public weal."

Hon. Dr. Pyne thanked the members of the Council for their kind words of appreciation and referred to the work of the Council during the twenty-eight years he has been identified with it. It was a work that he enjoyed, and he regretted very much to have to give it up. The progress of the Council, he said, might be compared with the progress of the Dominion of Canada, which had just celebrated its fortieth birthday. There had been marked progress, and while retiring from the position of Registrar, he would have fond recollections of the times spent in the service of the Council.

A number of applications asking for registration were referred to committee. Dr. McArthur, London, gave notice of motion that he would move at a subsequent meeting that the Council appoint an Executive Committee.

In the afternoon the members enjoyed an outing among the Thousand Islands.

During the sessions of 4th July a number of interesting topics were discussed.

Sir James Grant, of Ottawa, moved, and ex-President Dr. W. H. Moorehouse, of London, seconded, a resolution recommending that hygiene and temperance be taught in the public schools of Ontario. This was unanimously adopted, and a recommendation made that facilities be provided for training the teachers on these subjects.

It was decided to issue a new Register corrected up to December, 1907.

There was considerable discussion over the fifth year of the students' course. It was felt by a number of the members of the Council that the work of the fifth year is not well arranged.

Dr. Britton moved for a special committee to report upon the matter, but this was not agreed to, and the matter remains in the hands of the Educational Committee to report next year on arrangements for better teaching in this year.

The question of a site for the Council building was gone into fully. No decision was reached. It is likely that a site will be purchased in Toronto, on which a handsome structure will be erected that will be a

credit to the Province. It was referred to a committee with Dr. E. E. King as chairman.

In the evening the members of the Council were the guests of the Queen's Medical Faculty. They were entertained at the Yacht Club, where a smoker was given.

During the forenoon session of 5th July, the members of the Council presented Hon. Dr. R. A. Pyne with a handsome silver service in recognition of his having served the Council for 27 years. The presentation was given by Dr. Henderson, of Strathroy, the member of the Council who has served longest. Dr. Pyne made a suitable reply.

It was decided to hold the supplemental examinations in September, so as not to interfere with the work of the session. When held in November, as heretofore, it caused much inconvenience to those who had to take these examinations.

GRADUATES OF LAVAL MEDICAL COLLEGE.

The examinations this year are reported as having been unusually severe. The following have passed their doctorate examinations:—Allaire, J. M. Paul; Archambault, Z.; Badeaux, Joseph; Bélisle, Sév.; Birs, A.; Raily, R.; Bouillé, J. L.; Bernier, J. E.; Cléroux, Vital; Croteau, T.; Corriveau, U.; Caza, O.; Collin, H.; Chabat, L. A.; Champoux, E.; Dupuis, E.; Daunais, Jos.; Demers, Henri; Delvecchio, P.; Dussault, E.; David, J.; Gross, Chs.; Grégoire, G. M.; Gariépy, Eug.; Handfield, D.; Hébert, A.; Jasmin, Horace; Jabour, Dominique; Lauzé, L.; Lussier, L.; Lamoureux, E.; Lachapelle, Ernest; Millier, A. J.; Prévost, A.; Perrin, P.; Roch, Sylvio; Roy, D.; Robichaud, P. A., and Wiseman, M.

BRITISH COLUMBIA LICENTIATES.

The semi-annual medical examination for British Columbia was held May 6th to 10th. There were twenty-two candidates for examination. Fourteen were ordered to be registered. The following were those registered:—Dolby, R. V.; Bennett, A. E. H.; Bagnall, A. W.; Storrs, H. R.; McNaughton, S. K.; Curming, G. W.; Suter, J. C.; Leech, A.; Rees, A. W.; McIntosh, H. H.; Pole, L. W.; McPhee, T. J.; Mullin, J. J., and McTavish, W. A.

THE COMING SESSION AT MCGILL.

From inquiries received from intending students, there seems to be some danger of the idea getting abroad that McGill University has been so badly crippled by the recent fires that teaching in some of the departments is likely to be discontinued for a time. Nothing could be further from the truth. Both in the Medical and Applied Science Faculties arrangements are in progress for overtaking completely the usual programme of teaching without any curtailment of work in any department. The rear part of the Medical Building, which survived the recent fire, lends itself admirably to the needs of the first two years of the curriculum, and it is being rapidly adapted for the purposes of this teaching. In addition to the large lecture room, with a capacity of seating 400, this building will continue to provide accommodation in the departments of Medical Chemistry, Pharmacology, Hygiene, and Physiology. The Pathological and Bacteriological class-room is being transformed into a dissecting room, which will be as large as the old room destroyed by the fire. The Medical Faculty is fortunate in being able to supplement this accommodation by the laboratories both at the Montreal General Hospital and the Royal Victoria Hospital. It will be seen from this statement that the work of teaching can be carried on without difficulty during the period in which the new school will be under construction.

THE INSANE OF ONTARIO.

The annual report on the provincial asylums for lunatics and idiots just published shows that at the end of 1906 there were 5,972 people in these institutions in Ontario. The asylum population had increased during 1906 by 124. The number of new patients admitted during the year was 1,168, which was 38 more than in 1905. This, with other circumstances, caused an increase in the total expenditure, as shown by the table on page xiv., of \$36,347.14. As shown, over \$16,000 of this is due to the opening of the Epileptic Hospital at Woodstock.

The inmates of Toronto Asylum have increased over 12 per cent., while the increase in expenditure is about 10 per cent. This 10 per cent. is not all due to the increased population, for in Toronto, as in all other institutions, very considerable increases have been caused by:—

1. Advancements in the salaries of nurses and attendants, and in some cases other employees.
2. Necessary changes in the quantity and quality of clothing supplied the patients.

3. Outlays for furniture and furnishings, which have added largely to the homelike appearance of the wards.

4. Necessary and long delayed repairs to walls, ceilings, floors and buildings in general.

5. The well known advance in the cost of supplies.

Nearly all the foregoing items apply to each institution.

In spite of additional accommodation for 160 patients being provided, there were on December 31st, 1906, 66 applicants waiting admission to the asylums, exclusive of the Asylum for Idiots, at Orillia, with only 22 vacancies. A census was recently taken in the asylums of all patients who, in the opinion of the Medical Superintendents, were eligible for admission to the houses of refuge in the province, and it was found that over 900 patients could be safely taken care of in such houses of refuge. If the county authorities would undertake to take care of their harmless chronic insane, accommodation sufficient for several years to come would be secured, and the removal of 900 patients above mentioned would leave in the asylums the acute cases and also a very considerable number of chronics who are dangerous and difficult of control, as well as some who require special nursing and treatment. This would also enable us to admit immediately the acute and dangerous cases which should receive prompt treatment and care. These quiet chronic patients should be admitted to houses of refuge where not only the buildings and equipment but the quality of care and treatment provided will be suitable to the class or classes of the insane to be provided for. A system of inspection under departmental regulation would prevent the development of abuses and insure to the patients comfort and proper treatment. By removing these chronic insane to the counties to which they originally belonged, the difficulties of probation are lessened and facilities are afforded the friends to visit their helpless ones, which through the expenses incurred in travelling long distances, they are at present deprived of.

During the year there were 58 patients at the Hospital for Epileptics at Woodstock. Inspector Armstrong says: Before the objects for which the institution is designed can be attained, regulations must be introduced that will compel the friends and relatives to leave the patients under institution care for a sufficient time to permit of the treatment being effective. It is found that as the patients improve and the friends see that they can be managed at home, and that owing to the scarcity of help and high wages they can make use of them, they remove them. The Medical Superintendent is helpless and cannot do more than suggest that the patients should remain and the treatment be followed up until such time as, in his opinion, the patient has improved sufficiently to be removed.

FINAL EXAMINATIONS OF THE ONTARIO MEDICAL COUNCIL.

The following have passed the final examinations:—

J. K. Blair, Tarbert; B. A. Blackwell, Toronto; N. H. Beal, London; E. Bolton, Phillippsville; A. M. Bell, Moscow; J. W. Barton, Toronto; W. H. Ballantyne, Kingston; E. Binns, Welland; W. E. Brown, Midland; D. C. Balfour, Hamilton; J. W. Counter, Toronto; C. R. Cumming, Galt; R. O. Coghlan, Wyoming; J. G. Crookshank, Blenheim; J. C. Calhoun, Toronto; Kenneth Campbell, Bruce Mines; J. Chant, Chantry; C. E. C. Cole, Toronto; E. E. Cleaver, Toronto; C. G. Chapin, Waterford; W. J. Corrigan, Toronto; R. M. Charlton, Galt; R. H. Dillane, Tottenham; F. B. Dawson, Maple Creek; E. G. Davis, London; O. T. Dinnick, Toronto; L. H. Douglas, London; R. G. Edwards, Hornby; N. D. Frawley, Orillia; E. Fidler, Toronto; E. R. Frankish, Toronto; E. Glendinning, Malvern; G. H. Gardiner, Mount Forest; E. D. Gillis, Dunkirk; D. H. Gesner, Grimsby; O. M. Groves, Carp; E. George, Port Elgin; J. H. Holbrook, Toronto; N. J. Heatlie, Solina; D. E. Howes, Drew Station; J. J. Hamilton, Bethany; G. A. Houston, Tweed; C. M. Hincks, Toronto; R. Hacking, Listowel; C. S. Hawkins, Canton; E. M. Henderson, Toronto; R. A. Jones, Mount Forest; J. Johnston, Combermere; N. J. Jones, Toronto; C. G. Kirkpatrick, Ora Station; D. M. Kilgour, Guelph; W. B. Kendall, Toronto; H. W. Kerfoot, Smith's Falls; H. J. R. Lindsay, St. Thomas; C. Laidlaw, Georgetown; H. B. Longmore, Camden East; W. A. Lewis, Barrie; J. C. Masson, Toronto; F. J. Munn, Toronto; J. T. MacKay, Toronto; M. A. MacKinnon, Mooretown; W. L. Mair, Clinton; L. Main, Sheffield; A. S. Moorhead, Toronto; Cora B. Murdoch, Sarnia; R. W. Mann, Bridgenorth; F. W. Manning, Windsor; R. J. MacMillan, Dutton; S. J. N. Magwood, Toronto; A. P. Miller, Chatham; F. McQuaid, St. Columban; D. J. McKay, Ingersoll; D. McLellan, Forresters' Falls; W. A. McClure, Elder's Mills; A. W. McPherson, Peterboro'; W. F. McPhedran, Toronto; J. McCombe, Buckingham, Que.; H. M. McNeill, Toronto; W. C. McMurtry, Port Hope; T. H. Norman, Schomberg; F. J. O'Connor, Long Point; A. Pain, Hamilton; L. L. Playfair, Kingston; W. C. Platt, Petrolea; W. E. Patterson, Newburgh; E. O. Platt, Plainfield; J. P. Quigley, Kingston; J. X. Robert, Chatham; W. T. Rich, Oakwood; A. H. Rolph, Toronto; F. Reid, Orillia; J. A. Routledge, Lambeth; A. T. Ripley, Wallacetown; J. Reid, Renfrew; W. M. Robb, Avonmore; W. H. Reid, Lucknow; W. B. Sproule, Thornton; B. C. Sutherland, Montreal; S. H. Smith, Chambers; J. J. Sheahan, Healey's; W. M. Shoebottom, London; W. C. Shier, Uxbridge; W. T. Shirreff, Fitzroy Harbor; C. W. Slemmon, Hayden; W. J. Smith, Pine River; J. Spence, Webb-

wood; A. R. Tilley, Ottawa; A. C. H. Trottier, Tilbury; C. A. M. Thrush, Byng; H. M. Torrington, Toronto; G. J. A. Thompson, London; R. M. Turner, Toronto; F. B. Thornton, Consecon; F. Vanderlip, St. Catharines; J. H. White, Ottawa; F. J. Walker, Petrolca; H. G. Willson, Toronto; J. J. Wade, Balderson; R. E. Wodehouse, Blenheim; F. Woodhall, Hamilton.

TRYPANOSOMA EQUIPERDUM AND DOURINE.

Dr. J. Rutherford, Veterinary Director-General for Canada, has issued the following important statement:—

“Pathologists will be interested in the information that the *Trypanosoma equiperdum*, has been found in a mare clinically affected with dourine, or *maladie du coit*, at the Quarantine Station established by this Department at Lethbridge, Alberta, in 1904. The first demonstration was made by Drs. E. A. Watson and M. V. Gallivan on February 11th, 1907, in material taken from a vesicle on the mucous membrane of the vagina of the animal above referred to, which was found to be affected with dourine on the premises of her owner, Mr. R. Tiffin, near Lethbridge, on December 21st, 1906, and subsequently removed to the Quarantine Station for purposes of experimental observation.

“The disease was successfully transmitted in February to a yearling filly and the parasite subsequently observed in preparations from a fresh plaque. The finding was confirmed by Dr. C. H. Higgins, pathologist of the Department, on March 21st, and was further observed in preparations taken by him on the 23rd and 25th of the same month.

“The identity of dourine, or *maladie du coit*, as seen on this continent and hitherto diagnosed by American and Canadian veterinarians from clinical manifestations alone, with the disease as known in Africa and Asia, as well as in Southern Europe, is thus fully established.

“A detailed report of the discovery and of the work which led up to it, as well as of the steps subsequently taken, will be issued at the earliest possible date.”

AMERICAN MEDICAL ASSOCIATION RESOLUTIONS.

At the Atlantic City session of the American Medical Association the following resolutions, regarding the work of the Council on Pharmacy and Chemistry, were presented by the Reference Committee on Reports of Officers and were unanimously adopted by the House of Delegates:—

“Whereas, the Council on Pharmacy and Chemistry, after examining many hundreds of preparations, has officially announced its approval of a large number of such preparations; and

"Whereas, we believe that the editors of many medical journals in this country, both official organs of State Associations and privately-owned journals, are desirous of co-operating in the work of freeing the medical profession from the nostrum control; therefore be it

"Resolved, that this Association most earnestly requests all medical journals to refuse to aid in promoting the sale of preparations which have not been approved by the Council, by refusing advertising space to such preparations; and be it further

"Resolved, that we most earnestly request the moral and financial support of our members for those medical journals, whether privately-owned or controlled by medical organizations, which disregard commercialism and stand firm for honest and right dealing, thus sustaining the Council in its greatest work for the medical profession."

MEDICAL PREPARATIONS, ETC.

PLATT'S CHLORIDES AND THEIR USES.

Sick rooms in summer can be kept cool, comfortable, and free from odor by the following simple and practical method: Prepare a mixture of "Platt's Chlorides" and water (one part to ten) in a bowl suitable for moistening a towel or sheet, frequently wafted about the room and then hung up, will maintain a constant cooling and deodorizing action by liquid evaporation and chemical absorption.

In all contagious diseases, the liberal use of Platt's Chlorides for disinfecting the discharges and deodorizing the sick room is recommended by the most eminent physicians. In every case of sickness, whether infectious or not, the use of this odorless liquid aids the patient and protects the attendants.

Platt's Chlorides is an odorless and colorless liquid, which has been highly recommended as a disinfectant and deodorant by physicians and nurses.

By frequently sprinkling the floors with Platt's Chlorides, diluted with ten parts water, the rooms occupied by patients suffering from contagious diseases can be kept free from odor and contagious dust.