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The Canadian Practitioner and Review.

Vol. XXXII. TORONTO, DECEMBER, 1907.

No. 12

Original Communications.

TREATMENT OF VASCULAR BIRTH-SPOTS (ANGIOMATA) BY RADIUM.*

BY DR. LOUIS WICKHAM,

Doctor at Saint Lazare, ex-Chief of the Clinic of the Faculty at the St. Louis Hospital.

AND

DR. DEGRAIS,

Chief of the Laboratory at the St. Louis Hospital.

(Work done in the Biological Laboratory for the study of Radium together with fourteen photographs painted in water-color.)

The studies which we undertook several years ago on the subject of radium have permitted us to regard this radio-active body as endowed with very important therapeutic properties. At the contact of the invisible rays which it gives forth the tissues change; certain budding productions seem really to burst; certain ulcerations become healed; and certain chronic inflammations give way and disappear. So we have been able to establish in preceding communications to the French Society of Dermatology¹, and to the Congress at Rheims², and to that at New York³, favorable conclusions on the use of radium in the treatment of cutaneous epithelioma and of certain obstinate forms of eczema and prurigo, neurodermites and psoriasis. But, nevertheless, since it is recognized that the action of radium on the capillary veins obliterates them, it seemed plainly indicated that this action might be used for the

* Communication to the Academy of Medicine at Paris—Session of October 8th, 1907.

1. Vide the Bulletins of the French Society of Dermatology, March and July, November and December, 1906 and 1907.

2. Vide the Bulletins of the French Society of Dermatology, August 6th, 1907.

3. Vide the Bulletins of the French Society of Dermatology, September 7th, 1907. International Congress on Dermatology.

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treatment of the vascular birth-spots commonly called "wine stains." Here are given as accurately as possible the conclusions on our study of this subject, which we have the honor of submitting to-day to the Academy. The photographs painted in water-color which you have in your hands, and which I give here, represent different hospital types brought up in the series which we have studied. They show types varying from the flat surface wine stain on a level with the skin, to the stain extending in length even to covering a whole cheek, or projecting to the point of forming a genuine angiomatous erectile tumor. The therapeutic results which you see in the corresponding photographs have been obtained by a very simple manner of operating, that is by the direct application of the appliances to the stain. These appliances are flat, and the radium salt is fixed to their surface by a varnish. The rays which filter through the varnish vary in power according to the quantity and the activity of the salt incorporated, and according to the thickness of the varnish. This filtered, so-called exterior radiation, being known and analysed by special electrosopes, the only thing that remains for the profession to know is how much time is necessary for such and such power of exterior radiation to be applied to such and such variety of stain to determine the necessary and sufficient therapeutic reaction. Here is an example of a very powerful apparatus containing twenty centigrams of salt with 500,000 activity. Its exterior radiation is 300,000, and consists of five per cent. of Alpha rays, and 85 per cent. of Bêta rays, and 10 per cent. of Gamma rays. Applied for one or two minutes every two or three days, it acts without exciting visible reaction. Half-an-hour's application at a time produces exulceration. And thus you may class and catalogue the power of all the appliances that you use.

For the flat, shallow birth-spots it is sufficient to produce a slightly exulcerative reaction, but for those which are deeper it is necessary to use stronger measures. On the contrary, for those which protrude you may use applications of radium in small quantities (repeating them often), which do their work without exciting visible reaction. Thus was treated the large tumor erectile in the middle forehead of the baby whose photograph is in your hands. This lesion, whose projection was two centimeters on two centimeters of base, was directed to us by Dr. Gastou about the month of March. Now it is quite obliterated and is quite colorless, and we never urged it to exulceration.

But here are two points which we ought to insist upon being known: first, the worth of the tissues used in reaction, and, secondly, the absolutely painless nature of the treatment. As for the value of reparation of the tissues, histology is in accordance with clinical observation. Dr. Dominici, my colleague in the Biological Laboratory for the study of Radium, has shown that the cells under the influence of the rays of radium take on again their embryonic condition, but without being subject to the changes which accompany habitual inflammations. Then follows a simple embryonic process freed of all which could hinder reparation. And, in fact, the clinic shows tissues made in reparation which do not deserve the name of scars. These are pliant, united, smooth, without indentation nor fibrous stroma, and they do not pull on the neighboring tissues. They differ from the normal skin only by the absence of granules, and by a color clearer, whiter, and sprinkled here and there with some rare elements of "telangiectasie." It is, moreover, this property of esthetic reparation so peculiar to radium that we have used with profit in the treatment of bad, disfiguring scars, especially those which accompany scrofula.

The second point, the absence of pain, is important to be remembered. This circumstance not only permits larger surfaces to be acted upon, but it renders the treatment very easy for pusillanimous individuals, for children, even for infants. Applications can, in fact, be made during their sleep, and the subsequent reaction excites nothing more than a slight transitory smart that is very easily borne. This quality of the radium treatment was easily foreseen, since plainly the rays have the quality of being painless. We see, for example, their action in pruriginous diseases of the skin, neuralgia, and the excessive sensitiveness of the skin which follows shingles. We believe ourselves, therefore, able to conclude that in the treatment of vascular birth-spots radium is superior to all other means, even to electrolysis. In fact, what hinders the use of electrolysis is the pain and the number of operations necessary. It is also almost impossible to use it on children, or on very large spots. But there is more. Even theoretically, treatment by electrolysis cannot claim to act on certain deep birth-spots. Here is, for example, the photograph of a young girl with a vascular birth-spot on her face, crossing the entire breadth of her cheek, and even coloring the mucous buccal layer. My master and my friend, Dr. Brocq, on directing this young girl to me, told me that he considered this form absolutely incurable. So, also, was perhaps then my own conviction. A single spot in the

middle of the cheek was submitted to the rays. Here is the apparatus which we used. It was applied for five hours. This water-color shows the reaction which followed. And here is now the present condition. The part treated has become colorless, is smooth, united and flexible. But what is more important to know is that the action has spread through all the tissues, and that the buccal mucous membrane has also become colorless in the neighboring parts.

The future will show definitely to what point the action of radium can be extended in the treatment of birth-spots. But this last example causes the limits at which we first believed we would have to stop to recede. We are able to declare to-day that radium can be used advantageously in different degrees in all forms of vascular stains, even those hitherto called incurable. Nevertheless, the forms most amenable to treatment are those which are most colored, and which project somewhat.

A word more. These conclusions, in addition to those which have been established elsewhere in the department of applications directed to the skin, mark, therefore, in a definite fashion, the existence in the rays of radium of a powerful curative force which will be a useful factor in practice. Thenceforth, will it not be right to hope for still more from such a force if it can be introduced at a small cost? But that is a hope which is at present without foundation.

We have used a number of subcutaneous and intra-muscular injections of solutions containing radium, as radiferous water or gray radiferous oil, in the treatment of syphilis, and we have proved that our injections were borne well, at least in the quantities used. We have, moreover, obtained by these proceedings certain favorable results, which have been presented to the Society of Dermatology.

It is true that this question of penetration into the tissues of radio-active solutions is very complex. It includes the clinical study of new forces, that of the gas called emanation, and that of radio-activity which comes from it. Also in such work we can hope only to make slow progress, because we are aided very little by the collaboration of laboratories of physics, of chemistry, of experimental medicine, and those having at their disposal the elements necessary for research. These conditions have bound us more firmly to the biological laboratory for the study of radium. They have appeared to us to constitute the elements of studies of the very greatest interest, and we have decided to pursue our research work there.

EARLY DIAGNOSIS OF MALIGNANT TUMORS.*

(Pathological Aspect.)

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It is a well-established custom for a practitioner when in need of assistance in a case to consult with a leading physician, surgeon, or a specialist. One type of the latter class which is forging to the front in all large centres is the pathologist in the role of a bedside adviser. Many cases have of late been reported in the standard journals in which is pointed out the tendency to more frequent personal contact between the pathologist and the practitioner, the former thus having the opportunity of seeing all aspects of the case, in contrast to his limited knowledge present in the older scheme.

To the pathologist is due the credit for teaching the surgeon just how radical an operation is necessary to free the individual from the diseased tissue, and for showing him how essential it is to remove the lymphatic vessels and glands which drain a malignant tumor. Malignant areas have been found by the pathologist in the glands, prior to their discovery in the primary growth, thus leading to the recognition of its malignancy, and this, even in the absence of hardness, thickening or other clinical signs of malignancy. Such perspicacity, if given its proper chance, bids fair in the near future to completely eradicate those hopelessly inoperable cases, which even now necessarily come to the operating table; and also those cases in which extremely radical measures are now and again unnecessarily adopted. In view of the above facts one should not consider that he has fulfilled his obligation to those patients in whom there is a tumor with a suspicion of malignancy until he has urged them to avail themselves of the advantages that are to be derived from the opinion of an expert pathologist. The purpose of the present paper is to point out some of the relations which exist between the clinical and pathological branches of medical work, and to urge an ever-increasing alliance of the same. The pathologist can be called in consultation for the purpose of aiding in diagnosis at three different stages: (1) At the preliminary examination. (2) At the operation. (3) After the removal of the tumor or part of it.

(1) At the preliminary examination. On account of his more thorough knowledge of the minute structure of tumors and of the changes which they undergo, especially the nature of early metastases, the pathologist may be able to recognize and to give a more accurate interpretation of their physical characters than the clinician, and thus enable an early diagnosis to be made.

* Read at meeting of Ontario Medical Association.

Before operation also come those pathological examinations of the urine, faeces, blood, stomach contents, and pathological discharges, which, as aids to diagnosis, have been long established. Laboratory workers, however, frequently feel very keenly the futility of forming definite opinions of these materials when they are not in possession of all the clinical points.

Again, the presence of the pathologist at this time will suggest more and more new opportunities of taking advantage of the well-known method of removing scrapings or of small portions of the tumor for the purpose of confirming or contradicting a provisional diagnosis.

(2) At the operation. The more thorough the surgeon's knowledge of the pathology of tumors is, the greater will be his ability to diagnose and treat them efficiently. Yet his insight into the details of their growth can hardly be as extensive as that of the pathologist, who is devoting his time to a special study of their structure. The presence of the latter during the operation to add his opinion is, therefore, often advisable.

Another important point is the making of microscopical sections during the progress of the operation, a procedure which has developed to a considerable degree in the last few years. By means of the wonderful improvements in the freezing microtome and the special stains (such as Unna's polychrome methylene blue) a most satisfactory section can be mounted in from one to two minutes. The forming of an opinion as to the nature of the section will depend, in point of time, on its structure, whether typical or not; but in most cases this whole procedure can be completed without materially delaying the operation, the surgeon using this time for tying vessels or carrying out other details in the technique of the operation. It has, therefore, become essential that an operating theatre should have in an adjoining room the pathological equipment necessary for the carrying out of this method.

(3) After the removal of the tumor. "It is by a study of the general structure and of the topography of tumors, as well as of the character of their individual cells, that we are enabled to determine their nature. As a rule, the peripheral portions of the more rapidly growing tumors, in which there is a suspicion of malignancy, are best adapted for microscopical examination, because the invasion of the adjacent tissues by eccentric or peripheral growth is one of the very elements of malignancy, and also because in this area secondary degenerative changes are less likely to occur than in the central parts." It is in the recognition of this invasion and of the typical character of the indi-

vidual cells that the experience and judgment of the pathologist are taxed to the utmost. Many difficulties arise which lead in some cases to his giving a report which is indefinite, non-committal and unsatisfactory, from the surgeon's standpoint. First among these is the, as yet, undiscovered etiological factor which causes malignant tumors. Again, the pathologist has to keep in mind the numerous pathological changes that obscure or resemble early malignancy in tumors. For example, inflammation, with the formation of granulation and fibrous tissue, so obscures the picture of malignancy that many pathologists nowadays are of the opinion that it is quite impossible in its presence to come to a definite decision as to whether malignancy is present or not. The infective diseases, syphilis and tuberculosis, produce pathological changes, certain areas of which closely resemble some types of malignancy. Benign tumors, with degeneration or inflammation superimposed, may closely simulate malignant ones. Mixed tumors, arising in the brain, kidney, testicle, prostate and thyroid, continue to baffle pathologists as to their exact nature. Endotheliomata are also not clearly understood.

Assistance might be given to the pathologist to remove some of the above difficulties by bringing him in closer association with the clinician, thus enabling him to see the whole clinical picture of the case as well as the microscopical nature of the tumor.

Every endeavor should also be made to reduce the artefacts in a specimen to a minimum. The sooner a section is examined after its removal the truer and more accurate the picture of its structure. Therefore, in forwarding material for pathological examination decomposition must be avoided by placing the material in ice or in some preserving fluid, formalin 5 to 10 per cent. being by far the most satisfactory one. Too strong solutions should not be used, as they produce contraction of the tissues and distortion of the cells. A full clinical history of the case should invariably accompany the specimen, stating the exact site from which it was removed and its relation to the surrounding tissues.

Conclusions:—

- (1) That a closer association should exist between the pathological and clinical branches of the profession.
- (2) That sections of tumors should be examined microscopically during the operation for their removal.
- (3) That the pathological report of a specimen is sometimes unavoidably unsatisfactory.
- (4) That specimens must be properly preserved during transportation and be accompanied by a full clinical history.

CHOLECYSTITIS WITH GANGRENE OF THE GALL BLADDER.*

BY JAMES F. W. ROSS, M.D.

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A disease about which very little is known by the profession at large, and a condition of considerable rarity, is the one I purpose discussing this evening, namely, Cholecystitis with Gangrene of the Gall Bladder. It has been my good fortune to meet with five well-authenticated cases, all of which recovered.

Case 1.—(Dr. R., No. 685, Abdominal Operations.)

History.—A few days before I saw the patient he had complained of sudden, severe pain in the pelvis, not localized, but extending over the whole of the abdominal cavity. A purgative had been given and the bowels moved freely; the temperature had been elevated and pulse increased in frequency; there had been nausea, but no vomiting. He had never had any previous illness except a severe attack several years before of what was supposed to have been typhoid fever, and several attacks of what was called acute indigestion.

On examination a fullness was observed below the liver; the right rectus muscle was not rigid, the abdomen was flaccid, and the diagnosis lay between acute appendicitis and some unexplained condition of the gall bladder. I supposed he was suffering from acute gangrenous appendicitis and advised immediate operation.

Operation.—July 15th, '98; assistant, Dr. Wickson; visitor, Dr. Stuart. The abdomen was opened to the right of the right rectus muscle, below the navel. The appendix was drawn up and found to be healthy, but it was removed owing to the fact that during its manipulation the mesentery had been torn. A further examination of the abdominal contents revealed a lump under the edge of the liver, and the incision was increased upwards so that the mass could be readily reached. On breaking down recent adhesions and pushing back the intestine a gangrenous gall bladder was found. The parts looked angry from the inflammation present. Lymph covered the tip and some portion of the side of the gall bladder. On aspirating the gall bladder a quantity of mucus-pus was evacuated. Five gall stones were removed, one of which was obstructing the cystic duct. The gangrenous area was confined to the tip.

* Read before the Toronto Clinical Society, 1903.

The gall bladder was drawn into the wound, stitched in place and a drainage tube placed in its interior. Another drainage tube was passed into Morrison's pouch, which was surrounded with gauze packing. During the manipulation the abdominal contents were carefully protected by aseptic gauze packing.

The patient made an uninterrupted recovery. The fistulous opening closed at the end of two weeks. In October, 1898, he was in good health and had regained his original weight.

Case 2.—(Mrs. W., No. 1124, Abdominal Operations.)

History.—The patient had been confined seven weeks previously. She was up and going about. There had been no difficulty in connection with the confinement except that the perineum had been slightly torn. This had healed. There were some varicose veins in the right labium majus. The first symptom noticed was a very severe pain under the edge of the ribs on the right side; she had eructations of gas and could not take a long breath without discomfort; there was some vomiting; the pain did not increase during the day, but on the following day it became excruciating. Her physician, Dr. T. B. Richardson, was called and he found the suffering so intense that he at once gave a one-half grain of morphia. The pulse was running from 120 to 130, and the patient seemed extremely prostrated. During the night the pulse increased to 140, and the condition appeared very alarming.

I saw her the next morning and made a careful examination. There was no abdominal tenderness except at one spot over the gall bladder; the abdomen was slightly puffed but not rigid; on the contrary, quite flaccid. There was no vomiting at this time but some rather troublesome belching of gas. Previously the patient had suffered from symptoms of indigestion, but without any severe colic. She had never been jaundiced; the tongue was normal, the face flushed, the temperature 102-3, pulse 130. It occurred to me that the case resembled that of Dr. R. and that it must be an instance of that very rare condition—gangrene of the gall bladder. The diagnosis lay between perforation of a gastric ulcer on the posterior wall of the stomach, gangrene of the gall bladder, and appendicitis. A definite tender spot over the gall bladder rather pointed to that organ as the seat of trouble. Pain shot through to the right shoulder blade; there was decided embarrassment to respiration. The rapid variation of the pulse was remarkable, and seemed to be characteristic of this condition. It varied from 112 to 140 beats per minute within a very short period of time. I felt that

operation should be performed at once, but it was delayed until the next day. Dr. Temple saw the patient with Dr. Richardson and myself just before operation was performed.

Operation.—June 27th, 1902. When the abdomen was opened a gangrenous gall bladder was found; it was very tense and of a greenish black color; the contents were grumous; the gangrenous area was extensive, but did not include the whole gall bladder and could be readily mapped out. The remainder of the organ was reddened, thickened, and friable, and would not hold a pair of forceps. There were no gall stones present. Some recent adhesions were readily broken down, gauze was packed around, and through-and-through drainage instituted by counter-puncture at the bottom of Morrison's post-hepatic pouch. The peritoneal cavity had been protected by sponges. The patient's pulse when she returned to bed was 140. The gauze packing was removed at a subsequent date and a little chloroform was given before carrying out this procedure. A biliary fistula remained for some time, but this gradually closed. The patient made an uneventful recovery. I met her this summer on one of the Niagara boats and she was in excellent health.

Case 3.—(Mrs. W., No. 1336, Abdominal Operations.)

History.—The patient, who was fifty years of age, had been ill for a few days. She complained of a severe attack of colic, afterwards of severe chills accompanied by high fever. Her family physician (Dr. R. J. Wilson) was called and found a mass below the ribs on the left side, and came to the conclusion that the gall bladder was distended. I saw her with him and confirmed this opinion. The gall bladder was tense and tender on pressure, the pulse was increased in frequency, and the patient appeared greatly prostrated.

Operation.—Sept. 28th, 1904. Operation was performed in the General Hospital. On opening the abdomen the gall bladder was found enlarged and so tense that it appeared to be on the point of bursting. From its appearance it was evidently partially gangrenous. When punctured a large quantity of fluid containing flakes of pus was withdrawn. The gall bladder was covered with lymph. From the recent inflammation the walls were thickened and when collapsed after the removal of the fluid it felt like a piece of wet sole leather. A drainage tube was placed in the gall bladder and the wound was closed. A subsequent operation was required to close the biliary fistula, otherwise the convalescence was uneventful.

Case 4.—(Mrs. L., No. 1264, Abdominal Operations.)

History.—This case was admitted to St. Michael's Hospital and treated on the medical side for two or three weeks for typhoid fever. Widal's test showed it to be a case of typhoid, but there seems to have been considerable doubt about it among the physicians who saw her. On examination I found a mass below the liver; she had severe pain; was tender on percussion; the pulse was rapid and irregular, and she looked profoundly septic. Operation was advised.

Operation.—Sept. 3rd, 1906. Assistants, Drs. Guinane and Wainwright. On opening the abdomen an inflamed mass was encountered beneath the edge of the liver, which, on dissection, proved to be a gangrenous gall bladder. It was not considered advisable to remove it, as, owing to the extensively gangrenous and friable condition it would not hold stitches. After removal of the grumous contents a small piece of rubber tubing was passed into the gall bladder and iodoform gauze packed around it. The patient made an excellent recovery, and the biliary fistula healed without a further operation.

Case 5.—(R., No. 1516, Abdominal Operations.)

History.—The patient, a female, aged forty-five, complained of sudden pain in the abdomen. She was seen by Dr. McMahon, who found a thickening of the edge of the liver on the right side; the temperature was elevated—101 to 102—and he thought the case was one of cholecystitis. I saw the patient in St. Michael's Hospital. She looked very ill; the tongue was brown and dry; the face purple from congestion produced by some peculiar effect on the vascular system; the respiration was rapid; the livid expression of the face and ears very marked; the intellect was clear; the pulse rapid and feeble—130 to 140 a minute, and felt like that of a person in danger of dying; she looked comatose. On examination a mass could be felt below the liver on the right side. Owing to the peculiar interference with the respiration, the flushed appearance of the face, and the fluctuations of the pulse rate, gangrene of the gall bladder was diagnosed. Operation was advised.

Operation.—Oct. 26th, 1906. On opening the abdomen a mass was found under the liver, from the lower edge of which a somewhat thickened omentum was pushed away, together with the mesentery of the transverse colon, and the gall bladder was disclosed, distended, and with a gangrenous area affecting all its coats about the size of a ten-cent piece or somewhat larger. After protecting the peritoneal cavity with sponges, the gall bladder was punctured and some grumous, brown fluid escaped.

The opening was then enlarged and the gall bladder washed out; a few small stones were removed. The mucous coat of the gall bladder was entirely gangrenous so far as could be seen, and apparently ready to exfoliate. A puncture was made in Morrison's pouch behind the liver and a drainage tube drawn in so as to effect through-and-through drainage. Another tube was placed in the gall bladder, which was stitched with a running suture to the skin. Iodoform gauze was packed around the organ to protect the peritoneal cavity in case of leak. Convalescence was uneventful, and the patient left the hospital thirty-four days after the operation.

In a review of the literature on this subject I have found the following cases of gangrenous cholecystitis reported:

Czerny—2 cases; 1 died.—*Munch. Med. Wochft.*, Vol. 50, p. 929.

Hotchkiss—1 case; died.—*Annals of Surgery*, Vol. 17, p. 197.

Moynihah—2 cases, (1) died, following the involvement of the hepatic artery in carcinoma of the pancreas. Gallstone disease, page 197; (2) recovered.—*British Med. Journal*, '03, 1, p. 186.

Mayo Robson—1 case.—*British Med. Journal*, '03, 1, p. 184. (Robson reports having seen one specimen of a gangrenous gall bladder at Guy's Museum in '97 (No. 1, 397); "Diseases of the Gall Bladder and Bile Ducts.")

Ferguson—1 case; recovered; operated upon on the 13th day.—*Journal of the American Med. Ass'n*, Jan. 24th, '05.

Samuel—2 cases; both recovered.—*American Pract. and News*, Nov. '04.

Fowler (Russell S.)—3 cases; 1 died; impending perforation in 2nd and perforation in the 3rd.—*Brooklyn Med. Journal*, Dec., '05.

Ransohoff—1 case; recovered; careful search revealed no stones and there had been no infection at any time.—*Journal of the American Med. Ass'n*, Feb. 10th, '06.

Gibbon—1 case; recovered.—*Am. Jr. Med. Sciences*, Vol. 125, p. 592.

Donoghue—1 case; recovered.—*Am. Jr. Med. Sciences*, Vol. 123, p. 193.

Courvoisier—3 cases; *Beitrag*, Leipz., '90.

Dr. Samuel regards the two cases he reports as representing the extreme limit of inflammation of the gall bladder and thinks they may be explained by the impaction of the cystic duct with one or more stones and subsequent infection of the gall bladder

with colon bacillus and streptococcus. There is rapid infiltration of the wall of the gall bladder with exudate and infective thromboses of the veins. This leads to a necrosis. At the same time there is an extensive involvement of the peritoneum, as shown by the mass of organized lymph surrounding the gall bladder.

Dr. Ransohoff mentions a case of rupture of the common bile duct as a consequence of gangrene of the wall, followed by a peculiar sign to which attention had never been called before; there was a localized jaundice affecting the area of the navel only. At the operation bile was found staining the peritoneal fat. He considered that this jaundice was the result of inhibition. It makes itself manifest first in the integument of the navel, as this part is thinner than the rest of the abdominal wall. He remarks that total gangrene of the gall bladder has not as yet been observed, except in the case he presents, as an affection independent of gallstones, and he considers total gangrene of the gall bladder a very rare condition. Czerny ascribes gangrene of the gall bladder to pressure on the cystic artery, which, except for a very insignificant anastomosis along the attached surface of the gall bladder, is practically an end artery. In Czerny's case the gangrene was limited to the mucosa of the gall bladder; in Ferguson's case most of the gall bladder came away as a slough five weeks after the operation.

When this subject was discussed in New York after the presentation of Dr. Hotchkiss' paper in 1894, Dr. Gerster said that he had never had an opportunity of observing a case of gangrenous empyema of the gall bladder. Dr. McBurney said he had operated a number of times on the gall bladder and had never yet seen a case of gangrene. He had met with many cases of gangrenous inflammation of the vermiform appendix. He contrasts the two organs and says that while one is frequently gangrenous the other is very infrequently so. He suggests as an explanation the toughness and non-vascularity of the gall bladder walls in contradistinction to the soft and vascular walls of the appendix, the vessels of which become rapidly plugged with bacteria. As an active feature in each case we have the interference with drainage.

In the same discussion Dr. Abbe stated he had seen a case of acute phlegmonous inflammation of the gall bladder, and when he operated he found that the mucous membrane, the cellular tissue and the peritoneal layer of the gall bladder slipped up and down upon each other so as to be readily dif-

ferentiated. He thought there was less tendency to gangrene from interference with the arterial supply in the gall bladder than in the appendix. In the case mentioned by Dr. Hotchkiss a circular constriction had taken place that was evidently sufficient to choke off the blood supply from the extremity of the viscus. He thought it unwise to burden the nomenclature of liver surgery with the name "gangrenous inflammation." With an experience of five cases, I am of the opinion that the disease is a distinct and definite one, accompanied by very distinct and definite symptoms. The condition has been diagnosed by more than one observer.

Mayo Robson considers gangrene of the gall bladder as only an extreme degree of phlegmonous cholecystitis. In the Museum of Guy's Hospital he found a well-marked specimen of the condition, and, later, reported a case of his own.

Symptoms.—I find that the symptoms of the disease are of a very marked type. The patient, perhaps in the midst of health, is seized with sudden acute pain in the right hypochondrium, which may be so severe as to cause collapse, faintness and prostration. The constitutional disturbance is very alarming. The most peculiar symptom I have observed is the condition of the pulse, the rate of which varies very quickly from 70 beats to the minute to 130 to 140 to the minute, when it becomes feeble and running, and is accompanied by lividity of the face, blueness of the hands and feet, and the body surfaces become cold, clammy and covered with sweat. There is always an elevation of temperature and sometimes a rigor. When such a condition is present and a mass is found in the right hypochondrium, beneath the edge of the liver, extremely sensitive to the touch, we are justified in diagnosing gangrenous cholecystitis, and immediate operation is indicated. By early operation and open drainage I have been able to save 100 per cent. of my cases.

Selected Article.

A. DEPARTMENT OF INOCULATION AND IMMUNIZATION.

BY DR. J. N. E. BROWN,
Superintendent Toronto General Hospital.

GENESIS OF THE DEPARTMENT.

The reason the Toronto General Hospital was fortunate in being able to undertake the work of an inoculation department so soon after the discovery of opsonins was due to the fact that when the discoverer, Sir Almroth Wright, visited America the authorities of the Toronto General Hospital enjoyed the privilege of listening to him speak of his work. In this address at the hospital he advised us to undertake the work and to secure the services of Dr. Ross, one of our own students and internes, who had spent nine months in the laboratory in St. Mary's Hospital, London, working at the new therapy with him, and who was about to practice his profession in our city.

The services of Dr. Ross were secured, the board agreeing to pay a salary of \$1,000 per year. To fit him up a laboratory, one room, about 24x15, equip it with the necessary apparatus and the first quantity of the necessary stains, etc., cost \$826. The work has now been carried on most enthusiastically for a period of five months, though for some months previously the opsonic work had been carried on to a limited extent by our resident pathologist, who had received some instruction in the subject some months before.

St. Mary's Hospital of London, the one in which Sir Almroth Wright works, was the first institution to give assistance to this new means of diagnosis and therapy. The London Hospital was second, and, as far as I know, the Toronto General Hospital was third.

THE RATIONALE OF THE ACTION OF OPSONINS.

Wright found that when he mixed healthy washed white blood corpuscles with a pure culture of some micro-organism, such as the staphylococci (the causative agent in boils), no phagocytosis took place, but upon the addition of blood serum the white blood corpuscles would gobble up the micro-organisms. It was then quite patent that something in the blood serum either first

stimulated the white cells to greater activity in the ingestion of the germs, or that something in the blood serum acted in such a way upon the microbes as to make them more palatable to the white blood corpuscles. He found that the latter was the case by another experiment. He incubated the micro-organisms with blood serum, after which he washed free every trace of the serum. Washed white corpuscles were then added to the micro-organisms. These they engulfed with avidity.

This substance, which added such piquancy to the micro-organisms that the white blood corpuscles devoured them, Wright called an "opsonin" (from the Latin word "*opsono*" I prepare a feast for). As he found that for each of the several micro-organisms infecting the human system and causing disease, there was a corresponding something in the blood which tended to make them palatable to the white cells, he came to the obvious conclusion that there was an opsonin in the blood to correspond with each micro-organism which had become peccant in the human system. Hence the plural form, "opsonins."

While speaking of this I may point out that in Wright's work, and also in Dr. Ross', numerous cases have presented themselves where a mixed infection was present. For example, a patient would present himself, suffering from a tubercular lesion, in which a secondary infection had occurred, due to the staphylococcus, the streptococcus or some other organism; all of which infections in succession called for such treatment as would bring about an increase in opsonins to combat their particular invasions.

METHOD OF EXAMINING THE BLOOD OF PATIENT.

A patient, suffering from furunculosis (boils) is brought to the laboratory for treatment. A sample of his blood from the vicinity of the lesion is examined; and the micro-organisms, staphylococci, are found. The next step consists in taking a measured quantity of white blood corpuscles, an equal quantity of an emulsion of these living staphylococci and an equal portion of the patient's serum. These are collected in an instrument like this (instrument shown) in this way (demonstration). These three substances are then thoroughly mixed together and incubated fifteen minutes, preferably in a special incubator made for the purpose. While this incubation is taking place, a second experiment is going on which consists in taking white blood corpuscles, as in the previous experiment, the same quantity of staphylococci as in the previous experiment,

and an equal portion of the serum of a *normal* individual. These are mixed together and incubated fifteen minutes. A smear of the first incubated mixture is then taken and examined under the microscope; stained, and the number of staphylococci in each of fifty or more white corpuscles are counted. Suppose there be found 250—that is 5 germs in each blood corpuscle. A similar procedure is taken with the second incubated mixture, which contains the *normal* serum. In this case the number of germs in the 50 corpuscles will be, say, 500—that is, 10 germs ingested by each white corpuscle. From these two experiments the investigator concludes that the patient's power of battling with these particular micro-organisms is only one-half of what it should be, and decides, to say in inoculation parlance, that the patient's opsonic index is one-half or .5. This index is taken from time to time during the course of treatment, and is an indication of the progress the patient is making.

TREATMENT.

The treatment of these bacterial diseases, whether due to the staphylococcus, streptococcus, gonococcus, the tubercle bacillus or some other micro-organism, consists in making a vaccine of the organism which has caused the disease. The technique of this I will not describe, but will simply say that the vaccine is made up of devitalized (dead) micro-organisms suspended in the form of an emulsion in salt solution. To see that the vaccine is perfectly safe to administer, some of it is put in a suitable medium, and if there are no signs of growth we may conclude that it is safe to inoculate the patient. To make assurance doubly-sure, a guinea pig may be inoculated with the vaccine; if he survive the vaccine may be pronounced safe to administer to the patient.

A certain measured dose of a standardized emulsion is given—that is to say, an approximate number of dead micro-organisms are injected hypodermically into the system, say 2,000,000 to 200,000,000, depending on circumstances. The number of these in any given emulsion may be counted by means of making a comparative count of the number of these micro-organisms which are found in association with a certain number of counted red blood corpuscles present in a cubic millimetre.

As a rule, immediately following the injection, the patient's opsonic index becomes lowered, but, succeeding this negative phase, the index steadily rises, passes its old mark and exceeds the opsonic index of the normal individual. This upward movement is termed the positive * phase. Subsequent to this, from

*Chart shown.

time to time the opsonic index is taken and the clinical symptoms watched. If the latter do not abate and the index has not yet reached normal, another injection is given, following which, after a second brief negative phase, the index will rise higher than before. In acute infection, such as boils, acute sycosis, carbuncle, etc., the patient will often, after two injections, be cured. In chronic conditions treatment may require to be carried on for weeks or even months.

The types of cases which will most likely benefit from treatment by inoculation, and which the members of the medical staff are invited to refer to the new department for treatment are:

Class 1.—Containing those in which the bacterial focus is strictly localized and the disease is of a chronic nature.

(1) *Due to the Tubercle Bacillus:*

So-called Surgical Tuberculosis: Such as Tuberculous Dermatitis, certain cases of Lupus, Tuberculous Glands, Tuberculous Epididymitis and Orchitis, Tuberculous Cystitis, Tuberculous Peritonitis, Tuberculous Disease of Bones and Joints. Also Tuberculous Iritis, Bazin's Disease, Sinuses and Fistulae. Early Pulmonary Tuberculosis.

(2) *Due to Staphylococcus:*

Boils, Acne, Sycosis, Felons, Carbuncles, and the majority of "septic" surgical processes, such as Infected Wounds, certain cases of Chronic Osteomyelitis, etc.

(3) *Due to Streptococcus:*

Certain cases of Chronic Osteomyelitis, Infected Wounds, Chronic Urethritis, certain cases of Cystitis, certain Chronic Septic processes, Puerperal Sepsis.

(4) *Due to Pneumococcus:*

Certain cases of Cystitis, Chronic Empyemata, Antrum Disease, Chronic Septic processes.

(5) *Due to Gonococcus:*

Acute Gonorrhoea, Chronic Gonorrhoea, Gonorrhoeal Rheumatism.

(6) *Due to Bacillus Coli:*

Infected Wounds, Chronic Cystitis, Persistently Discharging Gall-Bladder and Abdominal Wounds, Sinuses and Fistulae, Pyelitis, etc.

(7) *Due to True and Pseudo-Diphtheria Bacillus:*

Infected Abdominal Wounds, etc.

(8) *Due to Typhoid Bacillus:*

Prophylactic; and Chronic Periostitis, etc.

Class 2.—Containing those in which the bacterial focus is not strictly localized.

(1) *Pulmonary Tuberculosis:*

Certain of the more serious Septic processes such as follow upon Infected Fingers, etc.

Class 3.—Containing the Blood Infections, Septicemias and Pyemias; such as Puerperal Septic processes, Ulcerative Endocarditis and Pyemias of any variety.

The resources of the Department are also available for the *diagnosis* of medical and surgical cases, especially where Tuberculosis of any sort is suspected.

In the management of such a laboratory it is necessary to have a man in charge who is not only well versed in laboratory methods and thoroughly acquainted with the principles and practices of therapeutic inoculation with bacterial vaccines, but (what is probably nearly as important), a man who has also been thoroughly trained in the departments of pathology, medicine, and surgery. I have observed that this wide and thorough knowledge has been of great importance to the gentleman who has charge of our department, in that he is able to make a proper selection of his cases, to appreciate the clinical symptoms present and the pathological picture behind them and to give the treatment with the highest degree of skill. I fear the objection which has been raised to therapeutic inoculation in certain medical centers in America has arisen from the fact that either the men who have been experimenting with it have not been thoroughly versed in the technique of inoculation with bacterial vaccines or have not appreciated the clinical condition of the patient from the wider standpoint. Unless a man with this "all aroundness" (if I may be excused for using the term) can be secured to take charge of an inoculation department, I am doubtful whether it would be wise for any hospital to establish one; for if the work is done carelessly very serious results may follow.

STAFF.

In addition to the chief of such a department in a hospital of, say, 200 beds, there should be a capable medical assistant and a laboratory man.

ACCOMMODATION.

At present we have but one room about 24x15 in size. This is all the space we could afford for this laboratory for the present, but a larger one is necessary. In addition to the labo-

ratory there should be two inoculation rooms, one for the use of male patients and the other for the use of female patients, and, if possible, a general waiting room. Plenty of light, preferably from the north, should be admitted.

Besides the equipment of an ordinary bacteriological laboratory one needs several pieces of additional apparatus especially designed for such work; a gas blow-pipe with foot bellows, a stock of glass tubing, a special incubator, a refrigerator and scales. Outside of certain changes in a building which we transformed into a laboratory at a cost of \$300, we expended \$500 on purchasing a microscope, a centrifuge, a special incubator, and various other utensils, stains, and fittings. The cost of maintenance of the laboratory is being met in part by students who take the course. During the past month we have received \$125 in fees from them. A fee of \$25 is charged for a three weeks' course, and of \$50 for a six weeks' course. In addition our pay wards are being patronized by patients who are being given the treatment.

TYPES OF CASES TREATED.

1. Mr. C.—An in-patient of the hospital for three months suffering from a crushed foot, which had become septic. Two operations had been performed, the third was impossible without destroying the usefulness of the foot. The infection was discovered to be due to a staphylococcus. Inoculation was performed with a vaccine made from the staphylococcus. Control of the infection was almost immediate. The ultimate result was complete restoration of the foot within seven weeks' time.

2. Mr. M.—Suffering from a discharging empyema. Examined eight weeks after an operation; streptococcus infection. Discharge stopped and sinus closed; patient left the hospital at the end of one week and returned to his work. Streptococcus vaccine used.

3. Mrs. B.—Osteomyelitis of the lower jaw in proximity to the joint. Two operations of scraping had been performed; disease still progressed; a third operation impossible without destroying the articulation. After ten days' inoculation of the streptococcus vaccine the infection was controlled and the wound closed. Patient made a complete recovery.

4. Mrs. C.—Chronic pyemia, of several months' duration, following erysipelas. Numerous abscesses formed in different portions of the body, due to the streptococcus. Streptococcus vaccine succeeded in controlling the disease and curing the patient within four weeks.

5. Mr. B.—Referred to the hospital by Dr. Wishart, one of our nose and throat specialists, a diagnosis of acute mastoid abscess having been made. Dr. Wishart suspected the condition was one of furunculosis of the auditory meatus. A pure culture of the staphylococcus was obtained from the lesion; inoculation was performed and in 24 hours the acute condition had entirely subsided, and the diagnosis of Dr. Wishart was confirmed. The patient made a complete recovery, being saved the danger and distress of a serious operation.

6. Mr. S. P.—Had been suffering for four years from what had been diagnosed as tubercular cystitis. Patient had been in the hospital one year, with a prospect of remaining a lifetime. The case was turned over to Dr. Ross. No evidence of tuberculosis could be found, but streptococci were present in abundance in the urine. After three or four weeks' treatment with streptococcus vaccine his condition had improved wonderfully—the frequency of micturition had greatly diminished, pain had disappeared, and in fact he became so comfortable that he returned to his work as a steamfitter's assistant, and can readily perform a whole day's duty. Treatment is being continued.

7. Mrs. R.—Sub-phrenic abscess, secondary to infection of a vein; abscess discharged through the right lung, formed and reformed and discharged at intervals of every few days for a space of five months. Patient was referred to the inoculation department. The infection was found to be streptococcus; and although the patient was in an extremely low condition for from ten days to two weeks, and seemed almost at death's door, the administration of streptococcus vaccine succeeded in restoring her to almost complete health after five weeks' treatment. So well did she become that she returned to her household duties and is almost as well as she was before the commencement of her prolonged sickness.

8. Mr. H.—Tubercular cystitis. Numerous tubercle bacilli were found in the urine. The chief symptoms were constant pain and frequent micturition, the patient being obliged to relieve himself about every half-hour. Duration of illness, four years. Almost all methods of treatment had been tried without avail. After a period of two months' inoculation with the tuberculin vaccine all pain disappeared and the patient was able to hold his water for from one and a half to two hours and sometimes longer. Still under treatment.

9. M. B.—Tuberculous glands. Duration of disease, nine months. One gland about to discharge was aspirated instead of

being incised. The treatment with tuberculin was started, the broken-down gland resolved, and the other tuberculous glands have decreased very much in size.

10. Mr. E.—Sycosis barbae (barber's itch), four years' duration. Treated by eminent specialists in London and Toronto without avail. Considered by many to have been the worst case of the sort they had ever seen. The whole of the face was involved. Infection was found to be due to staphylococcus. Treatment by inoculation was commenced. There was little evidence of improvement for several weeks, but at the end of two months and a half the disease had disappeared, and all that was left to show for the condition was a roughening and reddening of the skin. This man's condition was so bad that he could not procure any occupation. He is now one of our most useful hospital employes.

11. M. C. K.—Acute sycosis due to staphylococcus. It had spread rapidly over the face. Within 48 hours after the first inoculation the disease was controlled. In four days the patient was allowed to shave. In five days the patient returned to his business with little to be seen but a few patches of redness.

We have also treated many cases of furunculosis; a number of cases of acne; and several cases of wounds following injuries; and discharging sinuses, in all cases. Dr. Ross has at present 50 cases under treatment.

HOW AN INOCULATION DEPARTMENT MAY ASSIST DIAGNOSIS.

From the recital of the above cases it will be seen that our laboratory assisted in clearing up the *diagnosis* in certain cases in which the exact causative agent had not been ascertained. Case No. 6, cited, affords an instance. This case had been considered to be one of tuberculous cystitis, but on careful examination of the urine, the peccant micro-organisms proved to be streptococci, no tubercle bacilli being found. This minute point in the diagnosis seemed to be confirmed because the patient readily responded to the treatment by the streptococcus vaccine.

WARNING AGAINST PROPRIETARY VACCINES.

There is no doubt that shortly there will be placed on the market many vaccines for the relief of diseases due to bacterial invasions. These will have to be used with caution, if at all, because the keynote of the treatment lies in the use of homologous vaccines; that is to say, the vaccine used should preferably be prepared from the identical micro-organism which causes the disease.—*The National Hospital Record*.

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, H. J. HAMILTON,* C. J. COPP,
F. A. CLARKSON AND BREFNEY O'REILLY.

Minor Signs of Thyroid Insufficiency.

In an article in the *Gazette Des Hopitaux*, Leopold Levi and Henry de Rothschild discuss the minor signs of thyroid insufficiency, pointing out that it is as necessary to endeavor to diagnose the lighter degrees of the malady as to recognize the complete forms. These milder forms they have named paroxysmal hypothyrea and hypothyrea minima. For more than two years they have been working on this subject, and have seen the benefit of the treatment in more than four hundred cases. They state that Hertoghe has preceded them in this view, and further say they will have occasion to recall important ideas made clear by their learned *confrere* of Antwerp.

The Minor Permanent Signs.—It is necessary to know, first of all, that all the signs which will be discussed are not necessarily found in the one individual. Inversely one must be careful as to the making of a diagnosis on a single sign. The combination only of a great number of minor signs will allow one to suspect or to justify a diagnosis of thyroid insufficiency. The proof of treatment confirming these suspicions will render a diagnosis easier. The following signs are to be relied on:

Transitory Edemas.—In the absence of all albuminuria hypothyrea is made manifest by white sluggish edemas of firm enough consistence, which are situated at the level of the eyelids in the frontal and malar regions. Occasionally there is a passing puffiness of the feet, the patient complaining that his boots cramp him, or that the fingers are so swollen that he is scarcely able to remove his ring. These edemas repeat themselves more or less often, may or may not be periodical. Side by side with edemas of the skin may be placed swelling of the vocal cords, oftentimes coming on at the menstrual periods and explaining the huskiness of the voice. Obstruction of the nasal fossæ is another noteworthy sign.

We have here some signs which by their repetition acquire some value as an aid to diagnosis:

The Sign of the Eyebrow.—Coincident with the edema of

the eyelid, or independent of it, one sees a thinning of the eyebrows at their outer margins. This is due to a keratosis pilaris or to a developmental error. This sign, easy of recognition, is extremely common in those suffering from thyroid insufficiency. It is often hereditary and seen in entire families. By its presence one should be led to look for other signs of hypothyrea.

Variations of Heat Production.—The thyroid body has a thermogenic function, and a whole series of symptoms are produced by its functioning poorly. Before counting this of value, from the point of view of hypothyrea, it is necessary to examine the urine, for a certain number of these signs do not appear except where there is also renal insufficiency, this latter calling attention to a latent thyroid insufficiency, and in these cases the kidney becomes the principal object of treatment. These ailments are the following: The mildest form shows itself by giving rise to a chilliness of the extremities, especially of the feet. Of these the patient is often unconscious, especially in the case of children, or is subconscious. The chilliness, in fact, is not great, and the patient so accustomed to his symptom that he does not describe it to his physician unless questioned. A second state is evidenced by cold, confined to either one or more extremities. It may be located in the back, in the thigh, or it may be general. The sensation is usually a conscious one, and the patient complains of it. They suffer almost constantly from the cold, especially in the winter, clothing themselves heavily during the day and at night using extra coverings.

There exists often at the same time vaso-motor disturbances, these patients having often pale extremities associated with numbness of the hands or fingers. Again, their hands may be bluish in color and chilblains frequent.

A third degree is signalled by chills, as shown by Hertoghe. These are general, being most severe in the dorsal region, and occur about 4 or 5 o'clock in the afternoon, or they may occur immediately after meals or in the morning. Their duration may be momentary or prolonged, and are accompanied sometimes by "goose skin," chattering of the teeth, or a general trembling. More often they are but a momentary shudder. In a certain number of cases the body temperature is lower than normal during the day and is elevated at night. These patients with subnormal temperatures occasionally present an exquisite hyperesthesia to cold and are subject to autoinfections, such as coryza, etc.

Constipation.—Evidenced by the infrequency of stools and

hard fecal matter, often accompanied with intestinal mucus and sometimes colic.

Fatigue.—These patients suffer greatly from fatigue, which comes on after slight effort and is usually seen in the mornings. This fatigue is similar to that induced by neurasthenia, and like the apathy of those suffering from myxedema.

Anorexia.—An example of thyroid extract in these cases is cited: A man suffering also with chronic rheumatism, showed after the eighth day of treatment a marked appetite; ate between meals, and with heavy doses ate so much that his friends believed him to be the host of a tape-worm.

Headache.—Of this there are seen two forms: a frontal headache similar to that experienced at the outset of coryza, and occipital headache with a tender point at the level of the occipital nerve. This is more intense in the morning and disappears towards evening after a heavy meal. The least fatigue, draught of air, etc., causes its return.

Muscular Pains and Painful Joints.—Those with hypothyrea complain of a varied type of muscular pains, setting them down to neuralgia, lumbago, rheumatism, etc. These pains are attributable to colds and fatigue, with diminished thyroid secretion. With the articular pains a similar condition exists.

Somnolence.—Briquet, of Armentiers, and Lorand, of Carlsbad, have pointed out that sleep is regulated by the thyroid body, whether it may or may not be influenced by the pituitary body. Patients with thyroid insufficiency have need of a great deal of sleep, and are sleepy after meals. Thyroid medication diminishes the need of sleep, and if pushed to excess causes insomnia.

Obesity.—Hypothyrea is often associated with obesity, and in these cases again the extract produces excellent results.

Physical and Mental Backwardness.—Of all the glands which by their internal secretion regulate physical and mental development of the child, the thyroid gland plays the prominent part, and children with hypothyrea learn their alphabet and arithmetic with difficulty. This backwardness may be associated with incontinence of urine, voice troubles, etc.

Early Senility.—Varicose veins, hemorrhoids, cutaneous hemorrhages all are evidences of this. In these cases again the exhibition of the extract produces good results. The existence in the one patient of several of these signs should lead one to a diagnosis which the good results of medication should verify.

ACCIDENTS OF THYROID INSUFFICIENCY.

Autoinfections.—Those with hypothyrea fall an easy prey to infections of the mucous membranes; pharyngitis, tonsillitis, peritonsillar abscess, herpes, etc., are common with these subjects. Heredity appears to play a prominent part and especially in those who suffer from tonsillar affections, and in these there seems to be a remarkable periodicity.

Periodical Autointoxications.—Migraine should draw one's attention to the possibility of hypothyrea, for it is often of thyroid origin. It is found most frequently in females, but also in males, and may appear as early as nine years or as late as thirty-five. The migraine is paroxysmal in character, and often associated with vomiting and nausea as to force the patient to his bed. Here, again, one should search for other signs of hypothyrea. Vomiting without apparent cause is seen to occur in the mornings; this and also the periodical vomiting of infancy are often of thyroid origin, as the happy effect of the treatment has shown. Urticaria and pruritis are frequently observed in these patients. Hertoghe has shown that thyroid medication possesses an inhibitory action on the menstrual flow, and is indicated in some cases of metrorrhagia. The pain which often accompanies menstruation in these cases is greatly lessened. They give as an example a young lady of twenty-three years who had suffered for ten years and who now passes her periods without any discomfort. In those suffering from hypothyrea the medication exerts a great influence on their moral natures. Attacks of anger, sadness, enervation, nervous excitability, also vertigo, diarrhea, palpitation, disappear with treatment. Thyroid insufficiency is often a family disorder and hereditary, as are some of the symptoms which accompany it, such as constipation and the sign of the eyebrow. Sometimes it is manifested by a morbid temperament rather than by any distinct disorder.

Recognizing actual minor signs and symptoms of hypothyrea, let us endeavor to make a diagnosis in order to give proper treatment. One should always examine the urine, as a certain number of manifestations of hypothyrea are also noted in autointoxications of a different origin. Many times in a well known case, side by side with well recognized symptoms are others which appear to conflict with the diagnosis. Thus, instead of constipation we may have diarrhea, insomnia in the place of somnolence. A third may have the eyebrows well developed. In reality this is often the case, and justifies the theory of dissociation of the thyroid functions, or they may be

simply reactional paroxysms, hypothyrea giving place to hyperthyrea through action. It is thus that it is necessary to interpret these signs that we have placed under the category of accidental. In these cases it is necessary that the medication be given with care in order not to aggravate the symptoms one seeks to combat. The object of the treatment is to re-establish thyroid equilibrium, and with experience the exact dose may be arrived at.

With the discovery of the signs of hypothyrea, giving ample evidence of an ill-functioning gland, one does not necessarily arrive at a complete diagnosis. Hypothyrea may be only an incident in the illness. There may, for instance, be an ovarian or hepatic insufficiency as well.—*J. S. A. G.*

Epileptoid Attacks in Bradycardia and Tachycardia.

Fred Hugh Clarke, in the *British Medical Journal* of Aug. 10th, 1907, discusses the above subject, and refers to four cases in which there was no demonstrable heart lesion.

Tachycardia, according to Allbutt, is "an enormous quickening of the pulses of a heart, not necessarily the seat of static disease, with sudden onset and subsequent reversion to the normal, less certain phenomena of exhaustion." These latter refer especially to symptoms connected with the nervous system. According to Clarke, in the cases presenting tachycardia, no heart lesion was demonstrable, beyond the fact that after numerous attacks signs of hypertrophy may be noted, a bruit may be temporarily present during the attack, the tachycardia may last from a few hours to several days. Finally, as exhaustion sets in irregularity occurs, stops are felt in the radial pulse and concurrently the patient suffers in mild cases from sparks before the eyes, to in severe ones epileptiform convulsions with loss of consciousness, the face becoming pale, lips livid, thumbs drawn inwards, head backward; the patient may scream and convergent squint be present. The prognosis in this class of case is more favorable than those of bradycardia, in which Clarke believes an organic lesion in the region of the bundle of His to be the direct cause; the former he considers to belong to class of neuroses.

The immediate cause of the attacks is to be found in the cerebral anemia consequent on ventricular asystole, and the severity of the case depends on its duration. In tachycardia, apparently a pure neurosis, characterized by great rapidity in the auricular contractions, after a time fatigue of the bundle of His occurs and repeated asystole of the ventricles ensues,

with the above-mentioned results; in bradycardia, according to Balfour, life is seldom prolonged beyond three or four years, and sudden death from asystole is frequent, whereas in the former disease, even after years, recovery may be complete.

The Blood in Typhoid.

The medium used in isolating the typhoid bacillus from the blood by Coleman and Buxton (*Am. Journal Medical Sciences*, June, 1907) consists of 90 c.c. ox bile, 10 c.c. glycerine, 2 grams peptone, sterilized and divided into five parts; 3 flasks containing 20 c.c. of medium are inoculated with 3 c.c. of fresh blood each, incubated for 12-18 hours; then streak inoculations are made from each flask on litmus-lactose-ager plates; in 6 hours if a growth is observed which does not redden the ager and is found to resemble the typhoid bacillus, it is tested for the Widal reaction with immune serum.

The authors believe that a bacillæmia is a constant occurrence in enteric fever and that negative results are the result of faulty technique; they also think that the fever is caused by the destruction of vast numbers of bacilli in the circulatory blood with liberation of endotoxine and consequent reaction of them last, and for this reason the use of intestinal disinfectants is irrational. Their results show that it is during the earlier stages of the disease that the bacilli are present in greatest numbers in the blood stream; in protracted cases they can be recovered from the blood so long as pyrexia is present; they are also found in 90 per cent. of relapsing cases; finally, so far as the usefulness of the serum reaction is concerned, in 223 cases examined, in all of which the bacillus was isolated from the blood, 55 gave a negative serum-reaction.

Juvenile Paresis with a Report of One Case. Morris J. Karpas, M.D., *New York Medical Journal*, Sept. 21st, 1907.

The comparative rarity of this condition is first spoken of by the author, and it is noted that Alzheimer in his series of 360 cases had only 13 juveniles. In Mickle's series of 2,456 cases only three were 15 years or under, and 264 were 20 years of age. The case quoted by the author was 23 years of age; her father and mother (the latter infected by the former) were both syphilitic before the patient's birth, and the father was frequently intoxicated at the time of cohabitation before the birth of the patient.

The syphilis in the patient developed when she was four months old; was not treated for the condition, which evidently

progressed. She was always considered "cranky," headstrong and bad-tempered as a child, and when 8 years old began to suffer from frontal headaches, and had some defect of vision in the left eye. She left school at 12; was often drowsy, and spent considerable time during the day in sleep. Puberty was at the age of 15, normal for one year, then irregular. Headaches were so severe when 16 that she was compelled to give up an occupation which she had but recently become engaged in.

Paresis began to develop when 17 years of age, when she became dull and stupid, attention weak, intellectual activities were sluggish, speech defect developed; gait became impaired, and some failure of memory was observed. After her admission to the hospital it was noted that she was disoriented, and that there was a very severe lesion of memory. Her physical examination revealed many stigmata of degeneration: her pupils were unequal, did not react to light, and the other reflexes were diminished. She soon developed delusions of a persecutory nature, and possibly had some hallucinatory experiences.

During the further progress of the case the patient had many epileptiform seizures of the grand mal type; she continued to show very marked mental and physical deterioration, and finally died of exhaustion. An autopsy was refused, unfortunately, so that the pathological findings are not appended.

In reviewing the literature it appears that authorities are pretty well agreed that the onset of juvenile paresis is as a rule synchronous with the development of puberty, and Krafft-Ebing explains this by saying that "the damage to the ganglion-cells and nerve fibres caused by hereditary lues renders them incapable of adapting themselves to the changed conditions of nutrition at the important biological period, and atrophy results."

Heredity is said by Alzheimer to play an important rôle, and syphilis or syphilitic nervous diseases, alcoholism or even paresis in the parents, were usually found to have been present.

The statistics in regard to lues, as is the case in all clinical studies of paresis, varied with different observers.

The physical signs in juvenile paresis do not vary greatly from those seen in the ordinary form, although optic atrophy is said to be more common. The mental picture is the same as that in other forms, a gradual and progressive deterioration. Remissions are said to be very rare, the course of the disease slow and insidious, and the average duration four and a half years.

SURGERY.

IN CHARGE OF EDMUND E. KING, GEORGE A. BINGHAM,
C. B. SHUTTLEWORTH AND F. W. MARLOW.

Umbilical Hernia.

In the *Journal of the American Medical Association*, June 1, 1907, W. J. Mayo describes a method of dealing with umbilical hernia, in which the largest protrusion may be satisfactorily reduced and the hernial opening closed without tension. The method consists in making two aponeurotic flaps and overlapping them from above downwards and maintaining them in apposition by sutures. Two transverse elliptical incisions are made, above and below the hernial protrusion, cleanly exposing the neck of the sac and the aponeurotic structures for several inches above and below it. The sac is opened after clearing it from the surrounding structures, and the contained intestine is then reduced into the abdominal cavity. Any free omentum is ligated in sections and the stumps returned into the abdomen. The sac, all adherent omentum, and the skin is then cut away without further manipulation. A large curved needle, threaded with celluloidin linen, is then passed from without inwards through the whole thickness of the upper flap about two or three inches from its lower edge. The needle is brought out through the hernial opening and a mattress suture is passed through the lower flap one-fourth of an inch from its upper margin, securing a firm grasp of the aponeurotic structures. The suture is finally passed through the upper flap from within, and made to emerge one-third of an inch lateral to the point of its original entrance. A similar mattress suture of chromicised catgut is inserted on each side of this. These three sutures are then drawn tight, which brings the entire thickness of the lower flap behind the upper flap. The upper flap is now retracted and any gaps between the three mattress sutures are closed with catgut. Finally the lower edge of the upper flap is sewn to the surface of the aponeurosis below by a continuous chromicised catgut suture, and the skin wound is closed. Patients are kept in bed for from twelve to twenty days afterwards. The results are excellent, only one partial failure being reported in seventy-five cases, which were traced after operation.

Dislocation and Fracture of Vertebrae.

Mr. C. J. Bond reported the case of a man of forty-six years who had been struck on the back two days previously, and sustained a fracture dislocation of the twelfth dorsal and first lumbar vertebrae, with crushing of the cord and complete

paraplegia. Laminectomy was performed and the dura mater freely opened. The cord was found completely divided. The last dorsal nerve roots were then cut above the crushed portion, leaving them as long as possible. The first lumbar nerves below the disorganized cord were then cut and their proximal ends were turned upward and sutured to the proximal ends of the cut dorsal nerves above the crushed segment of the cord. It was hoped that by this means a path might be provided for the possible transmission of nerve impulses across the gap. The patient recovered and the wound healed. He lived nearly five months afterwards. There was no evidence of voluntary movement, though there was a transitory alteration in the anesthetic area. The bladder symptoms were not changed.—*Brit. Med. Jour.*, May 18, 1907.

Unreduced Colles' Fracture.

The *N. Y. Medical Record*, of May 25, 1907, contains an illustrated article by Clarence A. McWilliams, dealing with the treatment of old cases of unreduced Colles' fracture. Such cases are usually diagnosed at the time of the accident as simple sprain of the wrist joint. After consolidation has taken place, the functional disability and deformity suggest that a fracture had taken place. This is confirmed by a skiagraph. The question arises at once whether anything can be done to improve the condition. Even with considerable deformity, in some cases the disability may be so slight that any attempt to improve the deformity might only lead to increased disability. In other cases where the disability and deformity are both marked, an attempt to overcome these by refracture is strongly to be advised, providing that this can be done without great damage to the surrounding structures. By using the hands alone it is almost impossible to produce a fracture in the same line as the original injury, as sufficient force cannot be brought to bear on the small lower fragment without severely straining the ligaments of the wrist. The author has used the following procedure. The blades of a large monkey-wrench are well padded and firmly applied to the bone below the site of the old fracture, the patient being under an anesthetic. With the expenditure of very little force, a refracture through the old line may be brought about by twisting the wrench so as to flex the lower part on the upper. The case is then treated as a fresh Colles' fracture. The writer claims that no serious damage is done to the tendons about the wrist by the application of the wrench, and that he has carried out this method in several cases with uniform satisfaction.

PSYCHIATRY.

IN CHARGE OF DR. J. G. FITZGERALD,
Clinical Director and Pathologist, Toronto Asylum.

After-Care of the Insane.—By Wm. Mabon, M.D., New York.
American Journal of Insanity, July, 1907.

In an excellent article Mabon here gives a summary, not only of the work being done in New York State by the "after care" Association, but briefly mentions the excellent services rendered by such associations in various foreign countries—in France, Germany, Japan, and in some of the States of the Union.

The exact functions of an after-care association are discussed and various suggestions received from foreign workers in the same field of endeavor are recorded. The object of the after-care association in New York State is explained in the resolutions adopted at the conference of the State Commission in Lunacy, with the managers and superintendents of the State Hospitals, held in Albany, January, 1906, where it was resolved: "That in the opinion of this conference it is desirable that there shall be in this State through private philanthropy, a system for providing temporary assistance and friendly aid and counsel for needy persons discharged recovered from State Hospitals for the Insane, otherwise known as 'After-Care for the Insane.'

"Resolved, That the State Charities Aid Association be requested by this conference to organize a system of after-care for the insane, in this State, and to put it into practical operation.

"Resolved, That the representatives of the State Commission in Lunacy, and the managers and superintendents of the State Hospitals for the Insane, here present, hereby pledge to the State Charities Aid Association their earnest and hearty cooperation in the establishment and maintenance of a system of after-care for the insane in this State."

That an after-care association is of the utmost value to the community is no longer a matter of doubt, and it is the duty of those who are interested in the future welfare of the unfortunate indigent insane who often, after their discharge from institutions for the insane, are unable to maintain themselves for a time, and often of necessity return to the environment which may have been a factor in the causation of their illness; to see that some arrangement is made whereby everything possible is done to make the recovery a permanent one. That this is of great economic as well as of humane interest cannot be

denied, and the former if not the latter reason should appeal to everyone.

It would seem that in the Province of Ontario, with her seven thousand or more insane, and her large yearly admissions, an After-Care Association would find plenty of scope for useful activity, and would mark a distinct advance in the consideration of the problems connected with psychiatry in its broadest sense.

The following advice offered to patients who are about to be discharged from the Manhattan State Hospital seems so timely and so apropos that it is worth while quoting in this connection:

"The superintendent begs leave to offer the following advice for the benefit of the patient who is leaving the hospital, with the view of preventing, if possible, a return of the mental attack:

"Those conditions and surroundings which operated in bringing about the first attack should be avoided, and, as far as possible remedied. Where the surroundings were objectionable a change should be made in residence. Bad associates should by all means be avoided. In order to effectually change the surroundings and associates, it is frequently necessary to move to another section of the city, or even leave town and take up life in another community.

"Oftentimes it is embarrassing to the patient to have the subject of the former residence in the hospital discussed. See that the patient avoids all forms of dissipation; endeavor to keep the patient occupied and establish regular hours for meals and for retiring. During the summer months, where it is possible, it is well for the patient to go to the country for a short time at least. The home life should be made as pleasant as possible, and friends should endeavor to encourage and help in every way.

"Inasmuch as it is the practice of this institution to parole for a period of thirty days before discharging a patient, it should be considered a duty on the part of relatives to encourage the patient to return to the hospital once a week during the parole period to consult with his former ward physician in reference to the progress of his convalescence, and to seek from him advice as to the best mode of living. The patient, at the same time, should have instilled into his mind that the idea of these regular visits to his physician is not for the purpose of his possible return to the institution, but rather to prevent a recurrence of his disease, and hence the necessity for a recommitment."

“Whenever a paroled patient declines to return to the institution, it is well to keep him under careful observation, and in the case of any illness, or a suspicious symptom of his former malady, the family physician should be immediately consulted, and then if advice is desired, a letter addressed to the superintendent will receive a prompt answer.”

A Simple Staining Method for Gonococcus.

Preliminary Note.—The method here suggested has been found very useful, and because of its simplicity it must appeal to the busy practitioner, by whom so many laboratory procedures are performed with difficulty, and require the expenditure of no inconsiderable amount of time.

The gonococcus is stained by any aniline basic dye, and is decolorized by Grams' method. These facts are taken advantage of by the advocates of the common method of staining where Bismarck brown is used to differentiate the gonococcus.

Our method is simply the application of Nissl's soapy methylene blue solution without any counterstain. The solution is made up as follows:

Methylene Blue B. Patent.....	3.75
Venetian Soap	1.75
Distilled Water	1000.

The smears, which should be made on slides (and care must be taken to have them *as thin as possible*), are fixed in the air and then stained (without heating) for one minute with Nissl's, washed, blotted and are ready for examination with oil-immersion lens.

The two objections to the method are: That there is no counterstain, and other pyogenic cocci may be mistaken for the gonococcus. We feel that if the smears are thin, so that individual pus cells can be carefully studied, this objection will lose weight; the other objection that any ordinary methylene blue solution would do as well, we have not found to be the case.

For many years Nissl's stain has been a popular differential cell stain in the preparation of tissue of the central nervous system, and although it is unreliable at times for permanent preparations, its value in the study of sections that are examined at once is of undoubted value, and we have found it is of equal value as a simple laboratory method for the study of the gonococcus.

Editorials.

AN IMPORTANT HOSPITAL SERVICE.

Pasteur clearly proved that all true fermentations, including putrefaction, are caused by the growth of micro-organisms, and pointed out the importance of such organisms in the economy of Nature. In the meantime, Lister, an Englishman, was working quietly in Edinburgh and Glasgow, making practical applications of Pasteur's great discovery to surgery, with results well known to the world.

It is interesting to consider Lord Lister's hospital connections. After graduating from the University of London, he spent about eight years in Edinburgh. He then went to Glasgow, where he practised and taught antiseptic surgery in the Royal Infirmary of that city from 1860 to 1876. He was then induced to go to London to take a position in King's College Hospital, and entered on his duties there with the distinct understanding that he was to have complete charge of his own service. In that little service, in that comparatively small hospital, he taught the surgeons of the world the details of his wonderful discovery.

One important point in connection with this bit of history is that if there had been a Chief of Surgery in King's College Hospital Lister would not have served under him, and would therefore have refused to accept the position. On the other hand, if the hospital authorities had offered him the position of Chief of Surgery, with a certain amount of executive work and the duty of supervising the whole surgical department, he would have declined.

A question of much interest to us in Toronto arises in this connection. Would it be well for our Hospital Board to imitate the example set by King's College of London, that is, to import a man from outside to take charge of one of its medical or surgical services? Many of us would say, yes, certainly, if an outsider could be procured who is better fitted for such a posi-

tion than any local physician or surgeon. It would be much safer to import a man for such a service than for a whole department. So far as medicine and surgery are concerned, it is generally considered that we have sufficient good material in Toronto for the parallel services which are to be established. Appointments to positions on the science side will require very careful consideration.

DISCUSSIONS AT MEDICAL SOCIETIES.

We learn from the *British Medical Journal* that Mr. Shattock, President of the Pathological Section of the Royal Society of Medicine, has introduced into his Society an important change in the manner of discussing papers. In his inaugural address he said it had hitherto been the practice after a paper was read for subsequent speakers to make their observations in a set or continuous form. He proposed to substitute during his year of office another method of discussion which might be called that of interruption. He thought such a plan would encourage debate by making it easier for members to take part in it, would elicit opinions more effectually, and would be less tedious to the audience. The method, in short, was that commonly spoken of as the Socratic, as illustrated in the dialogues of Plato. Mr. Shattock thought that the method was particularly adapted for the discussion of scientific questions.

The *Journal*, in commenting on the new departure, says that under such a method readers of papers will have to stand the fire of questions arising directly out of the subject dealt with. Many men can throw useful light on a question by asking for explanations or by casual remarks who do not care to make set speeches.

THE TARSO-PHALANGEAL REFLEX.

This term, which is making its appearance in current medical literature, applies to a dorsal flexion of the 2nd and 3rd toes, or sometimes the 2nd to the 5th toes, when the dorsum of the foot

is lightly tapped. It was first described by Von Bechterew, St. Petersburg, in 1901, and some years later Mendel reported a series of cases in which it had been applied with helpful diagnostic results. It has, when positive, the same significance as the Babinski reflex, indicating some central organic lesion of the motor nervous system. As it sometimes makes its appearance before the Babinski sign, it is another aid to the determining of the question whether the disease under consideration is functional or organic.

The reflex is best elicited by resting the inner surface of the leg and foot on a firm support, the knee being bent, and tapping over the head of the 3rd or 4th metatarsal, the cuboid, or the external cuneiform bone. A negative result under these conditions means little, but a positive can only be interpreted as a lesion of the pyramidal tract.

THE PETITION TO THE CONJOINT COLLEGES.

At the close of the Winter Session last year, petitions bearing 2,792 signatures, including those of 133 Fellows of the Royal College of Physicians, London, and 380 Fellows and 1,500 members of the Royal College of Surgeons of England, were laid before these two bodies, praying that women might be admitted to the examinations of the Royal College of Physicians and the Royal College of Surgeons. It is eleven years since these bodies were last approached on this subject, and the large number of signatures obtained in a period of four months (November, 1906, to March, 1907) is noteworthy. It was thought wise to limit the signatures to medical men only, and in many cases the signatures were accompanied by cordial expressions of agreement with the prayer of the petition and of appreciation of the good work done by medical women. The petitions are now being considered by the two Colleges, and their decision will shortly be announced.

ASYLUM SERVICE.

The Government of Ontario is responding nobly to the cry from the medical profession for reform in the asylum service—especially as to appointments. The Grit heads of asylums are getting gradually weeded out, or resigned out, or transferred out. By a singular and happy coincidence Tory heads are coming in to take the places of the useless Grits. The world moves on, and in the course of time Ontario will have the finest asylum service in the world. Appointments to senior positions will depend on merit alone—the merit of being good working Tories.

Psychiatry.

In former issues we have referred to the important subject of psychiatry, and expressed the hope that in the near future a psychiatric clinic would be established. The Ontario Government appointed a commission, composed of Hon. Dr. Willoughby, of Colborne; Dr. Clarke, of the Toronto Asylum, and Dr. Ryan, of the Kingston Asylum, to investigate and report on the subject. After a visit to Europe they returned to Canada in August, and advised the establishment of a clinic such as the one they inspected in Munich under the charge of Dr. Kraepelin. We understand the Government hopes to act on the suggestions of the commission, and establish a number of psychiatric hospitals in different parts of Ontario.

In this connection we have much pleasure in announcing that the Board of Governors of the University of Toronto have appointed Dr. C. K. Clarke Professor of Psychiatry. It is expected that the first psychiatric clinic will be established in connection with the Toronto General Hospital. The appointment of Dr. Clarke as the director of the first of these important clinics will meet with the general approval of the profession of Ontario. We understand that Dr. Clarke will be retained for a time in his present position of Superintendent of the Asylum for Insane in Toronto.

TORONTO GENERAL HOSPITAL.

We are glad to be able to publish in this issue a report of the discussion which took place in the Medical Faculty Building on the evening of October 10th. It happened, fortunately, through the foresight of the Hospital Board, that Mr. Thomas Bengough, a chartered stenographic reporter, was present and took down all the remarks of the various speakers in shorthand. Our excellent report, which is to some extent condensed, may be considered absolutely correct.

Thirty-nine members of the Medical Faculty were in attendance, and a careful perusal of the discussion will show that the differences of opinion among the speakers were very slight. Dr. McPhedran, in the early part of his address, spoke strongly in favor of the German methods; in fact, he stood almost alone as the champion of these methods. While nearly all the other members of the Faculty differed from him in this regard, they probably agreed with most of the other opinions which he expressed. His criticisms of the methods of making appointments and allotting work to senior and junior teachers were apt and just. His statement that juniors should be encouraged to go abroad and remain for extended periods will be generally indorsed. His plea that the best available men, no matter where they come from, should be selected in making appointments, will receive the approval of a large section. His statement that the more outside blood we bring in the better for the institution will probably not be generally accepted. However, it may be inferred that Dr. McPhedran himself would be fairly well satisfied if our own men who go abroad and do good work receive the appointments.

Nearly all the other speakers approved of the so-called British methods. An important feature of these methods which they approved of was the system of multiple or parallel services in medicine and surgery. They insisted that these services should be separate, distinct and independent, and the different services should work side by side. It appeared during the discussion that some supposed that the Toronto General Hospital in the past had been conducted according to quasi-British methods. It was pointed out, however, very distinctly by Drs. Davison, Primrose and others that the past and present conditions in the Toronto General Hospital were not in any sense to be compared with the conditions which existed in Scotland or in England. According to the plan carried out in Edinburgh each surgeon has charge of thirty or forty beds in one or two wards, and controls all those beds, having his own nurses and house

surgeons. This was very different from a ward of twenty-five beds in the Toronto General Hospital, where you would find as many as six or eight surgeons attending the patients, with probably as many house surgeons, all of whom gave more or less instruction to the nurses connected with the ward.

Dr. Reeve suggested a compromise in the better sense of the term between the two systems. He thought if there were three services in surgery, the heads of which were doing similar work, one might be called the senior, whose duty would be to consult with his confreres, and also consult with the Board about the department of surgery when required. Dr. Powell said something of this kind was done at the new Mount Sinai Hospital, where there are separate services in surgery and medicine, but seven men are appointed from the staff who are immediately in touch with the board of government. All things considered the whole discussion was very creditable to those who took part in it.

At the meeting of the Committee on Hospital Reorganization and the members of the Medical Faculty who are on the Hospital staff, held October 10th in the new Medical Building, the following were present:

Dr. Falconer, President of the University; Messrs. J. W. Flavelle (Chairman), W. T. White, B. E. Walker, Drs. J. O. Orr and A. B. Macallum, and His Worship, Mayor Coatsworth (representing the Hospital Board), Dr. J. N. E. Brown (Secretary of the Board), Rev. Bruce Macdonald (representing the Board of Governors of the University), and the following members of the Medical Faculty: Drs. R. A. Reeve, W. P. Caven, Graham Chambers, E. A. Bruce, Kennedy McIlwraith, N. A. Powell, And. Gordon, J. M. MacCallum, B. Richardson, L. Teskey, A. McPhedran, Allen Baines, Clarence Starr, Fred. Fenton, W. Goldie, G. McDonagh, C. B. Shuttleworth, H. T. Machell, J. J. Mackenzie, J. L. Davison, Chas. Trow, Geo. Bingham, R. J. Dwyer, F. Marlow, Stanley Ryerson, Goldwin Howland, R. D. Rudolf, A. Primrose, J. A. Temple, W. B. Thistle, D. G. Wishart, H. B. Anderson, J. F. W. Ross, D. McGillivray, B. A. Bensley, H. Parsons, A. H. Wright, and I. H. Cameron.

CHAIRMAN FLAVELLE—The Committee that you are good enough to meet to-night is charged with the duty of reporting to the Board of the General Hospital a plan of reorganization of the staff. The Committee was constituted twelve months ago, and for several months was diligent in applying itself to the work of seeking to ascertain from any possible source that

which would help them to form an opinion concerning the report which they would make. The method of the committee has been to record each evening at its meetings its then opinion of the particular matter discussed, with the understanding that, without embarrassment, their opinions might be changed in the future. When we met this fall we found that there was one large question which seemed to claim precedence over all others—that is, Upon what method should the reorganization be determined?

I understand there are two methods, which are indicated broadly as the English on the one side, and the German on the other; the latter, as we have grown to understand it, being a system where a responsible chief is selected for each department, and the men associated with him are responsible for the general administration of the department, for the care of the sick and for the teaching work. On the other hand, the English system means the establishment of as many services in each department as might be considered wise, with the head of each service co-equal and co-ordinate in power with his associates.

We come to you now asking you through the President of the University to intimate your views as to these methods.

DR. REEVE—Mr. Chairman, should we not have a sort of compromise (in the better sense of the term) between the two systems? For a number of years, in the Medical Faculty, we had a recognized head of a department, say of medicine, surgery, etc. It is now generally understood that this will be largely of the nature of a University hospital, and if the old order is continued of recognizing the head of a department in the Medical Faculty, could not the same rule apply in the staff of the hospital? You have a large staff, and if you wish to carry out certain arrangements or investigations, to study the situation, as may be now and then, you have merely to communicate, primarily at any rate, with five, six or seven gentlemen, instead of perhaps fifty. That certainly leads to economy of time and trouble.

CHAIRMAN—I take it, Mr. Dean, that the modification you are suggesting would be this: If there were two or three or four services in either of the departments, some one man in charge of one service would be looked upon as senior, in the sense that he would be consulted from time to time as to matters concerning his department.

DR. REEVE—Primarily, but not to be a sort of autocrat like a physician or surgeon in a German hospital.

DR. CAVEN—Then the Dean, as I understand him, would regard the senior as purely executive and not the head in matters professional.

DR. REEVE—Not professional, no.

CHAIRMAN—Is there anything in the English system in contrast with the other systems which affects efficiency and modern service, and practice, and the development of medical science?

DR. DAVISON—It would appear to me that the system of which you speak as the English system would probably in a greater degree bring out what you desire in the way of broad lines in hospital work and in scientific advancement.

MR. WALKER—Surely it has not been so in the past?

DR. DAVISON—There have not been any co-equal services. In order to make myself clear, I would have it understood that I am speaking of medicine, which is the department in which I am engaged. If we had two services in medicine with two co-equal heads, I think it would be necessary that each of these gentlemen should give himself unreservedly to the hospital and consultative practice.

MR. WALKER—If there were four or five services do you think the rule would apply as well?

DR. DAVISON—The difficulty would be that we have not enough patients. The services should have at least fifty or sixty patients each, and if you make say four services in medicine, the patients will be wanting.

MR. WALKER—I want to find out whether your system would go on applying.

DR. DAVISON—Our system would not apply with four services, but I think it would with two and perhaps three.

MR. WALKER—Supposing there were patients enough for four services, would you still stand by the same system?

DR. DAVISON—No; if those men are to be consultants, as they should be, Toronto is not large enough to support four consulting physicians.

DR. PRIMROSE—I do not think it is quite fair to suggest that in the General Hospital the English system has been tested to any degree. From what Mr. Walker stated, I thought possibly he was assuming that.

MR. WALKER—I was thinking of medicine in England.

DR. PRIMROSE—I think the points that tend to efficiency are such, for example, as in a surgery ward of perhaps thirty beds, or two wards of forty beds, where the surgeon is able to control all those beds and have his own nurses and his own house surgeon. Under these conditions he is capable of doing efficient work. If you take the conditions in the Toronto General Hospital to-day you will find in a ward of twenty-five beds perhaps six or eight surgeons attending, and probably as many house

surgeons; and the nurses are receiving instructions from all that group. That is so very different from the English or Scotch system that it would not be fair to consider the past or present conditions in the Toronto General Hospital as at all on a par with the conditions which exist in Scotland or England.

CHAIRMAN—When you speak of English system do you mean that a ward is allotted to a particular physician or surgeon, and he alone serves with his assistants in that ward?

DR. DAVISON—Yes.

CHAIRMAN—Is that a common situation the world over?

DR. PRIMROSE—Universal.

CHAIRMAN—We have established conditions of our own, have we?

DR. PRIMROSE—Yes; there is no question about that.

DR. RUDOLF—In Edinburgh Hospital, if Dr. Wylie's ward was full, and patients came in, they would hand them over to another chief. I have seen them handing over patients to another service in another ward. I never saw Dr. Wylie go into another ward except in consultation.

DR. DAVISON—Of course that saves a great deal of confusion, and, as Dr. Primrose pointed out, you have a great grip on the house physician, and on your nurses, and every person who is doing work for you. As it is now, I have one nurse in number 6, another in number 5, another in number 34, and another in number 32, and I go all over the hospital. When I go to see eight or ten patients at the hospital, I probably have to talk to five or six nurses, here, there and everywhere. Of course that is no economy of either time or labor.

DR. PRIMROSE—And each of these nurses would probably have to converse with five or six physicians instead of being responsible to one head.

DR. ANDERSON—With reference to the difference between the English and German systems, I do not think the distinction is exactly that stated by you. I think that in the German system one man does not necessarily have charge of a whole department. I think that that is true to a certain extent, but it is according to the size of the service and the size of the school. In the smaller schools I think that is the custom; in larger schools I do not think it is.

For instance, in Munich there are two distinct medical services, and each of the services is self-contained and self-controlled. Take the first medical clinic under Professor Von Bauer, which has charge of the fourth year work. Professor Von Bauer has his own laboratories, which are complete in

every detail. In the same way in the second medical clinic, Professor Müller had his own laboratories, etc., and was entirely independent of Professor Von Bauer, so far as control was concerned. In a school the size of ours with 600 or 700 students, the amount of executive work that would be placed upon a single man in charge could not be carried out by one chief.

DR. POWELL—It would be well if we could adopt a system something like what they have at Mount Sinai, which is one of the best working hospitals that I know of. It was recently erected at a cost of \$3,000,000; it has several services in medicine and surgery. One service in surgery is presided over by Dr. Koester, with wards, assistants, etc., assigned to him. The rivalry between that and the other surgical services is such that the very best work is being done. Then there are seven men appointed from the staff who are immediately in touch with the Board of Governors.

DR. MCPHEDRAN—You have spoken of the German and English systems. It is only necessary to look at the results of the two in order to know which is better. The London institutions, for example, are practical failures; they confess that themselves.

The German system at the same time is producing work and results that astonish the world year after year. Pursuing this question I take it that it will have to be discussed from the university as well as the hospital point of view, and that the two are practically one. The hospital duty as an educational institution should not be lost sight of. With the great increase in our staff, the work cannot be co-ordinated. As it is now, each member of the staff comes on as a junior, and is placed in a position similar to that on the senior staff. He is given a section of work to do. There is no preparation, no period of apprenticeship, no knowledge as to whether he is qualified to do the work or not. There is no development or evolution of the man in the way of preparing him for the work. The consequence is that the whole staff act, each one independently. No matter how willing they are to co-ordinate their work, it is quite impossible to do so. The conditions here are unusual. So far as medical students go, we have probably the largest institution in America, but while our student population has increased enormously, our hospital population has practically diminished. In view of that fact, it seems to me that co-ordination of forces is absolutely necessary. I feel convinced that as far as the medical department is concerned, to make it most effective, it should be under the direction of one head. That person will

have very onerous duties to perform, I admit. In Johns Hopkins, with fifty students a year, all of them graduates of universities and therefore trained in the methods of work and observation, the head of the department of medicine found it a pretty taxing position to carry on the work. Here, with three times the number, and the majority of students but ill-trained high school boys, the duties would be much more onerous. Notwithstanding that, I feel that for the highest success of the institution, it is essential that the medical department should have such direction.

Of course, under such a head, the work of teaching would have to be done by a corps of associates and a number of demonstrators. These men while under the general direction of the principal, should have the most absolute freedom in the methods of doing their work. So long as they complied with the general principles established, their personal freedom for doing their work should be absolute, above any criticism from anybody, as independent as if they were independent units, because a man can do his work in no other way to the best advantage. They should not be placed under any man so far as doing their work is concerned, except that they would require to do it in accordance with certain general principles.

The juniors ought to be encouraged to go away for some months in every year, or go away for two years at a time. It should be arranged that when they go away their salaries should continue so that they could live abroad and do their work. It seems to me such a system would produce in time a centre of education which would attract students from all parts of the world. Then again the men appointed should be the best available that can be found in the world. Of course our own men who go abroad and do well would be quite eligible, but the more outside blood we bring in, the better for the institution.

Dr. Bruce—I had the pleasure this year of visiting several German hospitals and found something like this: In a large clinic under the control of a single surgeon, with a number of assistants and a large amount of material, he would be down in the morning for possibly ten or fifteen operations. The operation, as far as the highest surgeon was concerned, consisted in opening the abdomen, removing the growth, and handing the patient over to his assistant to complete the work.

What we want in the hospital is a service which, beginning with the chief, will extend down to the out-patient department. There should also be a proper assistant with other assistants being trained in the out-patient department. I think that a

surgeon in charge of a service should have an assistant who could assist him at his public ward operations, learn his technique and follow out all his directions. Then if the head be absent from any cause, the assistant would be capable of carrying out his work. Then, again, when the senior surgeon is absent on his vacation in the summer the assistant surgeon should receive the patients. I think that the number of services in a hospital should be determined by the amount of material which is present, by the number of patients which are admitted into the public wards in rotation. I think that any surgeon should be capable of looking after from thirty-five to forty patients.

DR. CAVEN—I think that it is in the best interests both of the students and of the hospital that the services should be entirely separate, and each conducted by a chief who has independent views and ideas and methods of his own. My own experience has been that I have derived great benefit from transferring—that is going from one service to another—and hearing the different views expressed by the chiefs of these different services. As to the time limit, I think that the chief of a department should be retired after ten years. In King's College Hospital the length of service limit is eight years.

DR. ROSS—I consider that the work in English countries is as good as that done in Germany. The work among surgeons in Germany is extremely sloppy, and is something after the abattoir style in Chicago. The patients are brought in and operated on, not as if they were human beings, but so many dogs. Such a system would never do in this country. They have no private wards in Vienna, and if you want to adopt the German system you will have to give up your private wards.

CHAIRMAN—This great State has said that the Faculty of Medicine is as important as any other faculty, and sooner or later the compensation from the money side must be adequate for the services. Will there be any condition that will create heads, whether they be co-ordinate or chief, so that for hospital and university work men will give themselves to the cause of medical research, medical education, scientific work and the relief of suffering immediately present?

DR. DAVISON—I take it that I have the support of all the medical men present in saying that a man who devotes himself exclusively to hospital practice would not be the highest type of physician or surgeon. It is impossible that he should dwell within the walls of a hospital and be a doctor; he is then a professor, and I hold that a doctor who is going in and out among

the poor and rich, all sorts and conditions of men and women, is far above that professor who sits in a laboratory, and looks through a microscope, or who goes in for research, research, research. I think there is a little too much talk to-day about research.

MR. WHITE—I, of course, understand—I think it is generally understood—that it is almost a truism that a physician who never sees life except in a hospital, or a professional lecture room, is not likely to be as capable a physician as the man who is engaged in general practice. I think that will be accepted. Now, what I have had in mind as a possibility is the mixture of the two. Suppose you had a chief in medicine and a chief in surgery, as has been indicated. Suppose he had associates in the hospital under some such plan as that mentioned, namely, three services—what would be the objection to the mixture of policy? I would think off-hand that the mixture would get better results. What would be the objection to that from the standpoint either of the University or the Hospital?

DR. DAVISON—That is, that the head of the department should be associated entirely with the Hospital and have no outside work at all?

MR. WHITE—Consultative work outside.

DR. DAVISON—I have no objection to that if you decided to have a head in the University, but I do not think it necessary to have a head in the Hospital.

MR. WHITE—I made it my business to visit the Harvard Medical School a while ago. I had the advantage of having the company of the Dean. They are establishing a new hospital that will bear the same relation to the Harvard University as this will bear to the Toronto University. They had no doubt that it should have a head, and that he should be in the hospital five hours if necessary—right on the job, as they put it—in the same way that a man was the head of the University in medicine.

DR. PRIMROSE—Does he do private practice?

MR. WHITE—Consultative practice.

DR. PRIMROSE—I think we must take into account the history of the development of medical education, and also what is done elsewhere, because from the remarks you made, Mr. Chairman, it struck me you would suggest that the man connected with the Hospital and the University should withdraw from private practice.

CHAIRMAN—I meant except consultative work.

DR. PRIMROSE—I do not think that that condition of affairs in its entirety has ever existed anywhere.

CHAIRMAN—No, I am sure not. I would not think it was wise to have it.

DR. PRIMROSE—You could not have a purely consulting surgeon. You refer practically to medicine?

CHAIRMAN—Yes.

DR. REEVE—You will remember that some time ago in speaking about some of the problems in connection with the hospital and University work, I mentioned that it was largely a matter of expense. If the trustees and governors wish to adopt a cast-iron rule, and pay the professors all round the same salary, they cannot get the men to do the work on the medical side, because they cannot afford to give up private work and consulting practice, so as to attend to their duties in the hospital, and as teachers also, without being recompensed. The governors and trustees must face this financial situation, and in the major departments must be prepared to recompense men so that they can give the time for teaching and for charity work and make all that is necessary from consulting practice. But it cannot be done if the governors of the University refuse to pay the medical men any more than they are paying the professors in Arts. It is in the air that these gentlemen are to get \$4,000 a year. You cannot get first-class talent in the medical profession for \$4,000.

DR. ORR—I desire to ask Dr. Davison and Dr. Caven if they think the one-head principle, both in the University and in the Hospital, would tend to develop the best type of medical student or medical practitioner.

DR. DAVISON—No, I think not. I think two or three services would develop the best student and best practitioner.

DR. TROW—I think our Dean is right in regard to this German one-man system. I spent a couple of years in Germany. The men who are at the head of departments are paid by the government, and they are paid liberally. In Germany things are all run on the military basis, and they think that they cannot run anything unless they have a captain at the head of it.

PROF. MACKENZIE—To-day the medical clinic is not quite the same as that of twenty years ago, or even ten years ago. If the clinical work in the Toronto General Hospital is to improve, there must be attached to the medical services a laboratory in charge of a competent chemist. It is important that the patients should have the benefit of the latest chemical investigation. There should be investigations under a trained chemist of blood, of urine and feces; that is what they have adopted at Johns Hopkins, and is the so-called German system. Dr.

Anderson could tell us that Professor Müller's clinic in Munich has at least three chemists who are doing nothing but chemical work for him and his patients. The question of expense is important. Can you afford to pay men to do these things?

A word in regard to the German system. I do not agree with some of the scoffing references that have been made to the German system, because it is not the German system—it is the European system. In Russia and in Europe it is the universal system, with the exception of Great Britain. The man who is at the head of a service devotes his whole time to it, whether there be two medical clinics as in Munich, or three as in Berlin, or three or four as in Vienna. He has his medical consultative practice, of course, but his first time is given to the hospital and the university.

CHAIRMAN—Can you have your chemical laboratories attached to your medical clinics unless your seniors in medical clinics understand laboratory work?

PROF. MACKENZIE—I do not suppose you can.

CHAIRMAN—We practically have not a fourth year man or a graduate who comes to the General Hospital, having passed through this school, who can do the simplest kind of work in the laboratory.

PROF. MACKENZIE—I do not think that the chief of the service should be a trained chemist, that is out of the question, but he certainly should have a knowledge of what the chemical side means, in order to direct his assistants.

DR. BINGHAM—I am very highly in favor of parallel services. The number of services should depend on the number of beds. The chiefs of services should be appointed after careful investigation. Then each chief should be consulted as to his assistants and juniors. After that the chief should be made absolutely responsible for his service in every particular from top to bottom. As the result of that system I conceive that benefit would be derived by the patient and also by the student. As one of my colleagues has stated, a rivalry would be instantly established. Every man would desire that his service should be the highest, and he would devote himself very ardently to that end. There would therefore be a constant stimulus to make use of the most modern and scientific methods for treating his patients, and as a result the patient must inevitably benefit thereby. The medical student must also benefit, because he will be brought in contact with men who are all working along the same line, but using different methods. That would teach the student to think. The student would begin to ask himself

which of these methods is the best, and not. It would lead to an investigating turn of mind on the part of the student. Then, again, it seems to me that the chief of a small staff such as that with, say, one assistant and two juniors, would daily be brought in contact with these men. They would be working side by side over the same patients, and the chief would have a much better chance of becoming intimately acquainted with the policy of his assistants and juniors than would a single chief with the policy of a large number of juniors. Therefore the chief of a single staff would be in a position to report at once as to any lack of capacity on the part of his assistant. It looks to me as though the two systems might be compared to two different kinds of machines. The one-man system is a large, cumbersome, slow moving institution, whose parts could not be readily adjusted to circumstances. The parallel clinic system, on the other hand, is a small, easily moving system, and the parts capable of rapid adjustment to circumstances and surroundings.

I can readily conceive that the one-man idea must appeal to the business layman, but I would point out that the treatment of disease is by no means and in no sense a business.

CHAIRMAN—Might I say in answer to Dr. Reeve and Professor Mackenzie that of course the question of expense enters into all our problems. Dr. Ross has stated that if we would get rid of private and semi-private wards, and have purely public wards, that would be a very desirable condition, and very much better for education. It is evidently true, but unfortunately we need the money which comes from those other departments. There is this to be borne in mind, that if the conviction comes to this body of men, representing the pick of the professional men of the country, that certain conditions ought to prevail, calling for expenditures of money, at first as moderate as might be, but increasing in volume, this University, and this community served by the hospital, must find the money. Dr. Temple, you are a very old member of this faculty.

DR. TEMPLE—There is no use in my speaking. I would only repeat what has been said by the majority in favor of parallel services.

DR. CHAMBERS—There are two arguments I would like to advance in favor of the multiple service. One is that by it you will get greater scope of initiative. The subject of medicine at the present time is not a simple science, it is a composite science, and a man may be well versed and make a good initiative in one department and not in another. For instance, in the study of metabolism a man may show good initiative, and

yet in bacteriological work he may have very ordinary initiative. It is very difficult to secure a man that will show initiative in all the departments.

The second argument is that with one service the series is too long for one department. There is not sufficient stimulus to the medical man. If you have multiple services, the medical assistants will consider that there are a greater number of goals for their ambition.

DR. McILWRAITH—I would like to make two statements in regard to what one speaker said. The first has reference to what you are asking about as to the chief of a service being able to take the scientific research work in the laboratory. I made some observations in that respect in Johns Hopkins University, and was somewhat surprised to learn that many researches which came out under the names of the heads of departments are not conducted by those gentlemen at all, but are conducted by trained chemists whom they or the hospital or someone else employ to do that work for them. The clinical men carry on the work to this extent that they find out what the problems are which are necessary to the advancement of medical science, and when they have gone that far they hand them over to the physiological chemists to carry on, because they cannot be specially trained physiological chemists and at the same time good clinicians.

The second point is that although all the junior men who are serving under their respective chiefs are loyal to the system, at the same time all or nearly all of them have appointments on other hospitals. I asked them why, and they said, "Although we have the greatest possible facilities for carrying on work, at the same time we are not the chiefs." The consequence is they go to other hospitals and obtain the positions of chief of medical clinic or surgical clinic, as the case may be, while at the same time they retain their position on the Johns Hopkins staff.

It seemed to me the one-man system there instead of being a centripetal force which gathered all the forces of the hospital together, was a centrifugal force which would tend to dissipate that hospital, and has to a large extent dissipated it already. Great numbers of their best men have been drawn off to Chicago and other hospitals, and more will follow.

CHAIRMAN—I think the criticism of Dr. McIlwraith is justified. The Chairman should not have used the word "direct."

DR. DWYER—I was on the committee a year ago that communicated with a number of hospitals and a number of men in the profession in all parts of the world, and we went into their

replies very carefully. The only safe basis that we could arrive at as to what number of men should be required, was the number of beds that they had to attend to, that is, thirty-five to forty. Professor Osler thought in this hospital there should be fifty beds.

I lived in England a year, and in Germany a year, and carefully observed the physicians of both countries, and I can assure you I would much rather be treated in England than in Germany. If I wanted a diagnosis I would go to Germany, or if I wanted a post-mortem on myself I would go to Germany. (Laughter.) You will pardon me, I do not want to make this a laughing matter, I am really serious about it. I think there should be at least two services in medicine in this hospital. A factor of considerable importance is that of competition.

DR. FENTON—I have been connected with the Toronto General Hospital for thirteen or fourteen years, and I am sure that the reason there were not laboratories there was not because they were not asked for or required. Under the old regime, I do not think that any amount of influence coming from the senior men could have produced laboratories.

PROF. CAMERON—The number of services in the hospital must be regulated by the number of beds.

PRESIDENT FALCONER—If you have three independent services from the Hospital point of view and one service from the University point of view, the man in charge of the University may not be able to get the material from his associate professors in the Hospital. They may say, "From the Hospital point of view we are independent."

PROF. CAMERON—I do not see why the classes should not be equally divided among the three.

PRESIDENT FALCONER—In that case you destroy your headship.

PROF. CAMERON—No, you correlate the three headships under University control, not destroy them. I think that forty or fifty beds, probably forty, would be sufficient, and if the Hospital has multiples of forty, there should be so many teachers, one in charge of each service. I do not think it signifies a bit whether you have a so-called German method or the English method. It is not the method, but the way in which the method is carried out.

DR. GOLDIE—How far does this division of service spread down into the interne staff of the Hospital? In the English system all the necessary assistants are confined to their own service.

DR. PRIMROSE—Might I just refer to one point which I think has not been alluded to. What has been discussed is an ideal system in having the head of the department in the University the head of the clinical work in the hospital; but, as a matter of fact, we have to deal with three hospitals, and therefore on that account the ideal plan could not be carried out in its entirety, because the head of the department in the University would be connected only with the Toronto General Hospital, and not with the other two.

DR. RUDOLF—It seems to have been assumed that although we might have several services there must necessarily be one clinical department in the University. That does not hold in England or Scotland. In Edinburgh, for instance, there are in the University three full professors of clinical surgery, with no man over them; they are all equal. I do not think that we can assume that there must be one man over these heads of departments. I was the chairman of the sub-committee on medical service who brought in this report, which was very fully discussed by the whole medical service and approved of, and then sent in as the report of the medical service. In that report we recommended two or three services. I think that is really the view of the medical staff of the Hospital, after a very full discussion.

NOTES.

At the meeting of the Winnipeg Medical Society, held October 4th, the following officers were elected: Dr. J. R. Davidson, President; Dr. J. N. MacLean, Vice-President; Dr. Vrooman, Sec.-Treas. After the meeting the members were entertained at dinner by the retiring President, Dr. Montgomery.

The first meeting of the newly elected Council for the College of Physicians and Surgeons of Manitoba was held in Winnipeg, October 9th. The following officers were elected: Dr. W. Rogers, of Winnipeg, President; Dr. M. O'Brien, of Dominion City, Vice-President; Dr. J. Patterson, of Winnipeg, Secretary, and Dr Gray, of Winnipeg, Registrar.

The following members were elected to represent the College of Physicians and Surgeons of Manitoba on the University Council: Dr. A. W. Moody, of Winnipeg; Dr. R. S. Thornton, M.P., of Deloraine; Dr. Cunningham, of Carman, and Dr. C. W. Clarke, of Winnipeg.

The annual meeting of the College of Physicians and Surgeons of the Province of Alberta was held in Calgary, September 4th, 1907. The members of the College are: Drs. R. G. Brett, J. M. Hotson, E. A. Breathwaite, W. J. Simpson, G. A. Kennedy, T. H. Muburn, and C. J. Stewart. The following officers were elected for the ensuing year: Dr. G. A. Kennedy, President; Dr. J. M. Hotson, Vice-President; Dr. J. D. Laferty, Registrar and Treasurer.

A committee was recently formed in Germany to found an institution in honor of Dr. Robert Koch. It is intended that the institution shall be devoted to research into the means of checking the diffusion of tuberculosis, and that it shall be a permanent memorial to the discovery of the tubercle bacillus by Professor Koch twenty-five years ago. We learn from the *New York Medical Journal* that Dr. Carl Beck, of New York, has been requested to form a committee in the United States to work in conjunction with the central committee in Berlin.

At a meeting of the faculties of the Louisville Medical College and the Hospital College of Medicine in Louisville, Oct. 18th, the two Colleges were united as the Faculty of the Central University, and will be known in the future as the Louisville and Hospital Medical College. The following officers were elected: President, Dr. L. S. McMurtry; Deans, Dr. C. W. Kelly and F. W. Boggess; Regents, Dr. H. B. Ritter and Dr. H. H. Grant; Secretary, Dr. Irwin Abell; Executive Committee, Dr. A. M. Cartledge, Dr. L. S. McMurtry, Dr. C. W. Kelly, Dr. H. B. Ritter, Dr. H. H. Grant, and Dr. G. A. Hendon.

At a meeting of the Western Territorial Medical Association of Toronto, the following schedule of minimum fees was unanimously adopted: Office consultation, with or without medicine, \$1.00; first or single day visit, \$2.00; subsequent visits, \$1.50; hurried emergency visits, \$3.00; night visits, 8 p.m. to 8 a.m., \$3.00; vaccination, \$1.00. Urinalysis, chemical, \$2.00; microscopical, \$2.00; both, \$3.00. Consultation with another practitioner, \$5.00; anesthetic, \$5.00; labor, normal, and 10 days' attendance, \$15.00; miscarriage, \$15.00, delivery with forceps, extra \$5.00; suture of perineum, extra \$5.00; for all together, \$20.00. Fracture of nose, \$5.00; maxilla, \$15.00; clavicle, \$15.00; humerus, \$25.00; scapula, \$25.00; ulna, \$20.00; radius, \$25.00; radius and ulna, \$40.00; ribs, \$5.00; femur.

\$50.00; fibula, \$15.00; tibia, \$40.00; finger, \$5.00; dislocations, \$10.00; minor operations under anesthetic, \$10.00; anesthetic, extra, \$5.00; major operations, \$50.00; life insurance examination, \$2.00.

The following is the result of the fall examinations of the Ontario College of Physicians and Surgeons:

Primary Examinations—Adams, W. F., Toronto; Black, H. H., London; Howard, E. A., Hagersville; Murray, J. R. G., Toronto; Walsh, W. C., Millbrook; Dudley, W. H., Pembroke.

The Intermediate Examination—Adams, W. F., Toronto; Anderson, John S., Wooler; Backus, Annie, Aylmer; Bethune, W., Ryckman's Corners; Dudley, W. H., Pembroke; Graham, M. R., Wallacetown; Howard, E. A., Hagersville; Johnston, W. J., Wareham; Kennedy, W. B. D., Pembroke; Keys, S. J., Kingston; MacDonald, J. D., Thamesville; Nickle, M. A., Madoc; Reid, G. R., Kingston; Robertson, D. E., Toronto; Sparks, G. L., St. Mary's; Simpson, L. J., Thornton; Whillans, J. A., Ilderton.

Final Examinations—Adams, W. F., Toronto; Anderson, John S., Wooler; Backus, Annie, Aylmer; Consitt, G. C. V., Perth; Cartwright, V. G., Aldershot; Cooper, George, Gravenhurst; Dudley, W. H., Pembroke; Howard, E. A., Hagersville; Holmes, L. S., London; Langstaff, Lillian, Richmond Hill; MacDonald, J. D., Thamesville; McKee, William, Barrie; Ochs, W. H., Hespeler; Panton, L. A. C., Kenora; Rolls, A. M., Toronto; Ruby, R. H., New Hamburg; Reid, G. R., Kingston; Sparks, G. L., St. Mary's; Stewart, G. S., Essex; Shaw, R. W., Niagara Falls South; Spankie, W., Wolfe Island; Whillans, J. A., Ilderton.

Medical Men Stand Firm.

The Medical Association of St. Catharines and district have taken a forward move in the matter of life insurance fees, which is meeting with the general approval of the profession throughout the Province. The life insurance companies were notified that after the first of July last the minimum fee for life insurance examinations would be \$5, to which some of the companies entered a protest. At a recent meeting the Association unanimously reaffirmed its decision to make no examinations for less than a five-dollar fee. All the leading companies of the United States, with one exception, have agreed to pay the fee. Several Canadian companies have, and it is expected the others will soon fall in line.—*Star-Journal*.

Personals.

Dr. Hugh S. Bingham has removed from Cannington to 523 Dovercourt Road, Toronto.

Dr. Beattie Nesbitt resigned from his position as Registrar of West Toronto, November 11th.

Dr. O. W. Jones, of Victoria, returned from a visit to England in the latter part of September.

Dr. Egerton Pope, of Winnipeg, after a short visit to England, returned to his home last month.

Dr. W. Grant, of Winnipeg, has been appointed resident physician for the Indians at Norquay House.

Dr. H. J. Hamilton, of Toronto, has removed from Church Street to his new residence, 220 Bloor Street West.

Dr. F. E. Etherington has been appointed Secretary of Queen's Medical Faculty, in the place of Dr. Connell.

Dr. W. H. Alexander, 238 Carlton Street, returned to his home, November 10th, after a six weeks' post-graduate course in New York.

We learn from the *Western Canada Medical Journal* that Dr. Boyle, of Vancouver, left for a prolonged trip in Europe early in November.

Dr. W. T. Connell has resigned the Secretaryship of the Medical Faculty of Queen's University because of his appointment to the position of Government Pathologist.

During a short visit of Dr. John L. Bray, of Toronto, to his former home in Chatham, the Curling Club of that city presented him with a handsome pair of curling stones.

Dr. Arthur B. Wright has removed from Gerrard Street East to 329 Church Street, having purchased the residence and office formerly owned by Dr. Herbert J. Hamilton.

The following physicians have been elected Associate Coroners: Dr. W. A. Graham and Dr. Solomon Singer, for Toronto; Dr. W. E. Mason, of Kearney, for Parry Sound District; Dr. Warren Kilborn, of Sharbot Lake, for the County of Frontenac; Dr. Geo. F. Jones, of Webbwood, and Dr. John E. Godfrey, of Richard's Landing, for the District of Algoma.

Dr. Benjamin Kilbourne has removed from Park Hill to 652 Dovercourt Road, Toronto.

Dr. Geo. H. Bowles (Tor., '92) has removed from Woodhill, Peel Co., to 559 Dovercourt Road, Toronto.

Dr. J. D. Thorburn, of 329 Bloor Street West, Toronto, has quite recovered from his recent mild attack of typhoid fever.

It was stated in the London *Free Press* that Dr. McCallum would not accept his transfer from London to the superintendency at Penetanguishene.

We notice in the short list of the King's Birthday honors that Sir Charles Tupper has been made a Privy Councillor, and will therefore be known hereafter as the Right Hon. Sir Charles Tupper. The list also contains the name of Dr. R. M. Coulter, Deputy Postmaster-General, who gets the order of C.M.G.

Dr. W. J. Robinson, Medical Health Officer of Guelph, and a member of the Provincial Board of Health, has been appointed Medical Superintendent of the Asylum for Insane in London, in the place of Dr. G. A. McCallum, who has been transferred from London to the Insane Asylum in Penetanguishene.

Hon. Dr. Reaume, Minister of Public Works, underwent a slight operation in Grace Hospital, Toronto, November 11th, and went to his home in Windsor, November 18th. The operation was for the purpose of closing an aperture left in the roof of the mouth after the removal of a small tumor some months ago in Detroit.

Obituary.

HONORABLE McN. PARKER, M.D.

The Hon. Dr. Parker, of Halifax, died November 4th, aged 85. Dr. Parker, next to Sir Charles Tupper, was probably the best known physician in the Maritime Provinces. He graduated in medicine at Edinburgh in 1845. In 1867 he was made a member of the Legislative Council of Nova Scotia, from which he retired in 1899 on account of ill health. He was a man of great ability, and was highly respected by all classes.

WM. BETTERIDGE, M.B.

Dr. Betteridge, of Strathroy, who graduated from Trinity University in 1855, died October 5th.

W. S. McINNES, M.D.

Dr. W. S. McInnes, of Brandon, Man., Minister of Education in his Province, died November 4th after an operation for appendicitis.

JOHN W. CONSIDINE, M.D.

Dr. Considine, who was at one time a prominent and active practitioner of the Niagara District, died at his home, Port Dalhousie, November 12th, aged 88. The deceased was born in Ireland, and received the degree of M.D. from Trinity University, Dublin.

Book Reviews.

THE PRACTITIONERS' VISITING LIST for 1908. An invaluable pocket-sized book, containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil and rubber, and calendar for two years. Price by mail, post-paid, to any address, \$1.25. Thumb-letter index, 25 cents extra. Descriptive circular, showing the several styles, sent on request. Philadelphia and New York: Lea Brothers & Co., Publishers.

The text portion of "The Practitioners' Visiting List for 1908" has been thoroughly revised and brought up to date. It contains among other valuable information a scheme of dentition, tables of weights and measures and comparative scales, instructions for examining the urine, diagnostic table of eruptive fevers, incompatibles—poisons and antidotes, directions for effecting artificial respiration, extensive table of doses, an alphabetical table of diseases and their remedies, and directions for ligation of arteries. The record portion contains ruled blanks of various kinds, adapted for noting all details of practice and professional business.

Printed on fine, tough paper, suitable for either pen or pencil, and bound with the utmost strength in handsome grained leather, "The Practitioners' Visiting List" is sold at the lowest price compatible with perfection in every detail.

TREATMENT OF THE DISEASES OF CHILDREN. By Charles Gilmore Kerley, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital, etc. Octavo volume of 597 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, \$5.00 net; half morocco, \$6.00 net. Canadian agents: J. A. Carveth & Co., Limited, Toronto.

There is probably no city in the world where the important subject of diseases of infants and children is better taught than in New York. Dr. Kerley is one of the best teachers in

New York, and has written a book worthy of his teaching ability. The work has been prepared for the general practitioner, is very practical in character, and is admirable in all respects. The ordinary physician will appreciate highly the thoroughness of the explanations as to treatment, both preventive and actual. When reading this book we thought it deserved a review instead of a "book notice." As we have not space for the former we are glad to tell our readers that it is a good book for the physician in active general practice.

DIAGNOSTICS OF DISEASES OF CHILDREN. By Le Grand Kerr, M.D. Pp. 542. Illustrated. Philadelphia and London: W. B. Saunders Co. Toronto: J. A. Carveth & Co. Cloth, \$5.00.

From one point of view diagnosis is the most important part of medical work. If we know what is the matter with the patient, the treatment is not difficult to apply or to ascertain. Diagnosis in children's diseases, it is evident, presents great difficulties, even greater than in the case of adults. It is somewhat surprising to find that the author, who is Professor of the Diseases of Children in the Brooklyn Post-Graduate Medical School, has produced a large book of over 500 pages, strictly on diagnostic lines, without any reference to the other important things the practitioner has to consider. We have no hesitation in commending it as a book of reference dealing comprehensively and somewhat exclusively with the subject announced in the title, in which there is abundant evidence of sound, painstaking work and good judgment. Every assistance is afforded to the student, *c.g.*, the plates are a great help. Those showing the location of the lymphatic glands are useful. The author has brought out many helpful, practical points in his discussion of migraine and elsewhere, which we do not remember seeing before.