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IMPORT OF RELAXED ABDOMINAL WALLS IN DISEASE OF THE DIGESTIVE ORGANS.*

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HAVING spent considerable time during the past five years in the dissection of the normal, pathological and comparative anatomy of the disgestive system, together with fairly close observation of all cases of disease of these organs coming under my care during that time, I feel that the observations I shall present may be of some value as suggestions towards their more scientific treatment.

I have purposely quoted considerably from well-known authorities, in order to show by their own statements that at least the majority of diseases of these organs are dependent upon a simple mechanical derangement, the result of abnormal intra-abdominal pressure.

The natural sequence of events I shall first state in order that we may the more readily follow the developments of the pathology. We have then:—

1st. Infection, as the exciting cause of pancreatitis, pancreatic calculi, cholecystitis, gallstones, diseases of liver, gastric and duodenal catarrh and ulcers, etc.

2nd. The duodenum, as the point of origin of the infection from below. The portal vein as the source of infection from above.

3rd. An abnormal duodenum.

4th. Obstruction and stagnation, the necessary requirements for infection.

5th. The point of obstruction, being where the superior mesenteric vessels cross the third portion of the duodenum.

6th. Tension, upon vessels the cause of the obstruction, as the duodenum is thereby gripped between the vessels and the posterior abdominal walls.

7th. The intestines, supplied by these vessels as the cause of the tension, their weight, irrespective of contents, being the sole factor.

8th. Insufficient normal support, being reason for vessels having to support the weight.

9th. Abdominal walls, being the normal support, must contain the pathology, which is responsible for above conditions.

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10th. The pathology of the abdominal walls is the result of the so-called predisposing causes of disease of these organs.

11th. Preventive treatment must be directed to condition of structures of the abdominal walls and similar tissues throughout the body during the course of and convalescence from these diseases.

12th. The serious nature of abdominal section for trivial causes and the almost criminal nature of so-called "exploratory incision."

The fact of infection being the cause of disease of these organs, and also that the infection is primarily of duodenal origin is so widely accepted that any comment would be superfluous, and I shall therefore limit the discussion of the four first points to quotations from a few well-known authorities.

Deaver, in Vol. III, p. 106, *International Clinics* of this year, says, "Pancreatitis, either acute or chronic, accompanies gall-stone disease in many instances, and for the reason that in both diseases the same factors operate. Infection and obstruction of the excretory ducts of the pancreas and biliary tracts are responsible for the lesions of those organs." Again, on page 107, "It can be emphatically stated that gallstones are always the result of precipitated salts and tissue debris, following in the wake of bacterial infection, mild or severe in degree. Furthermore, the complications of chronic gall-stone disease, adhesions, ulcerations, fistulæ, liver and pancreatic disease, etc., are also due to infection."

Mayo Robson says, speaking on catarrh of the gall bladder and bile ducts. "An extension from the duodenum is probably the usual cause, and as the common bile duct traverses the walls of the duodenum very obliquely, it is to be expected that the narrow terminal portion of the duct will be the first to suffer and be the seat of the primary obstruction. Chronic catarrh of the gall bladder and ducts is the sequel of above, with dyspeptic symptoms due to associated gastro-intestinal catarrh."

In discussing the etiology of pancreatitis, he says, "Pancreatitis is probably always a secondary disease, and usually dependent on infection spreading from the common bile duct or duodenum."

Ochsner, pp. 159, 161, of his work on clinical surgery, says of pyloric obstruction, cholecytitis and pancreatitis, "In is plain that each one of these conditions can only be relieved by securing perfect drainage for the cavities involved, and that stomach surgery is instituted to a very great extent for the purpose of overcoming faulty drainage of this organ."

Mayo Robson further says, "Though well recognized, I think it has not been sufficiently grasped that the essential cause of peptic ulcer if of a septic nature, and in many cases the source of the trouble

is oral." Even so, drainage by gastro-enterostomy cures irrespective of condition of mouth, and therefore we are justified in stating that faulty drainage is undoubtedly the chief cause.

Moynihan, on p. 47 of his recent work on gall stones and their surgical treatment, says, "The fact that the bacillus coli is the most common inhabitant of the gall bladder and of gall stones, suggests that an intestina origin is the most likely, for this organism abounds in the intestine, *though it is not, as a rule, present in large numbers in the duodenum when in a normal condition.*"

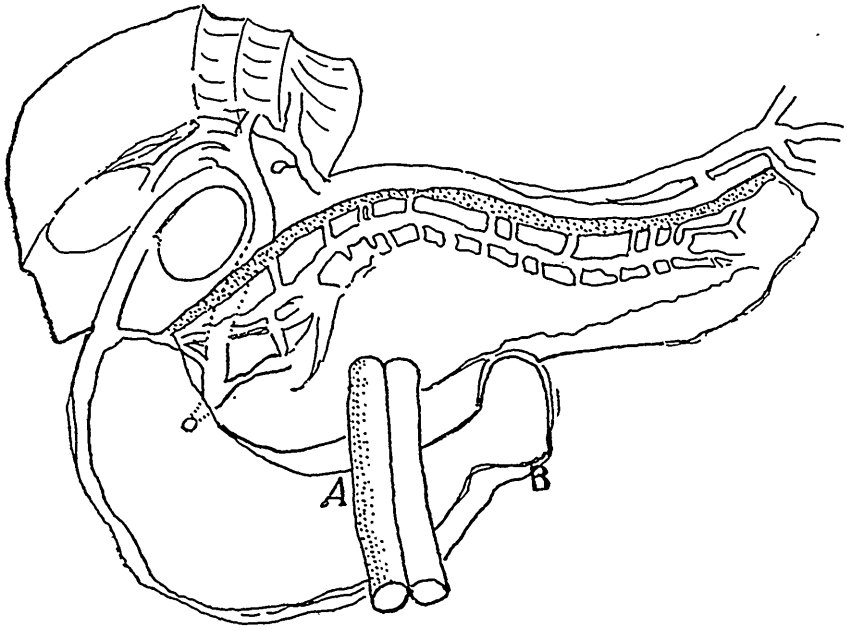

FIG. 1.—Section of liver, duodenum and pancreas, showing relations of normal ducts and openings by which infection travels from the duodenum when stagnation takes place. A. Showing point where sup. mes. vessels cross duodenum, also entrance of common bile and pancreatic ducts which lie above point of crossing and therefore bathed in stagnant contents of duodenum. B. Commencement of duodenum.

Opinion is now universally in favor of the view that it is the irritation of gall stones that determines the incidence of cancer.

Authorities also agree that old standing gastric ulcers are responsible for the vast majority of cases of cancer of the stomach.

We have here, then, clearly every reason to believe, by the statements of eminent authorities, that infection is the cause of diseases of the liver, gall bladder, bile ducts and pancreas, also of ulcer of stomach, and it is evident that the point of great significance is that of (as stated by one eminent authority), the associated-gastro-intestinal catarrh.

Also another very significant statement is that *the duodenum in its normal condition is practically free from infection.*

It is quite evident, even to the superficial observer, that it is immaterial whether the infection is an ascending one, as stated above, or descending, namely, by way of the portal vein, through the liver.

The essential point necessary for infection of the tissues being stagnation of contents by obstruction.

We are then led to look to the duodenum below the entrance of the pancreatic and common bile ducts for the pathological lesion responsible for the above wide spread infection. The exact location of this lesion I have demonstrated, and have had demonstrated many times to my own satisfaction and that of others.

Dr. Byron Robinson, of Chicago, first drew my attention to the condition some five years ago, while doing post-graduate work there. He, so far as I know, is the first American surgeon to make a study of the condition. The departure from normal lying at the point where the superior mesenteric vessels cross the horizontal portion of the duodenum, and is due to compression of this part of the bowel between the vessels and the posterior abdominal walls. I have seen this condition many times, post-mortem and otherwise, and was prompted to this report by the investigation of a very marked case which I examined in conjunction with Dr. Bolton. The subject was a young man, of some 30 years of age, who had come under the treatment of Dr. Bolton some two or three days previously for tuberculosis of the lungs. His previous history was somewhat meagre, although we learned he had been living the life of a bachelor, for a considerable time in a cabin alone, doing his own cooking, etc. For the last few months of his life he had been noticed standing on the street corners for hours each day, and was eventually taken up by some humane society and placed in the Royal Jubilee Hospital, where he died some two or three days later.

The following day we made a post-mortem. Upon opening the abdomen, nothing presented but an enormously distended stomach, reaching from the ensiform cartilage to the pubis, and from side to side of the abdomen, and, above and to the right, the duodenum presented and was distended to ten times its normal capacity. Upon raising the stomach the remaining intestines, small and large alike, were found to be absolutely empty. At this point, one of the three medical men present remarked on the decided pyloric obstruction. It required, however, but a second's examination to see that the pylorus would readily admit the entire hand and arm. The point of obstruction was sought, and was seen to be due to a tight band which produced enormous pressure of the bowel between it and the posterior abdominal wall. This band contained, upon dissection, the superior mesenteric artery and vein,

the tension upon which was evidently due to the prolapsed bowels which were found at the very lowest point of the abdominal cavity and in the pelvis.

A point of importance to be noted was the absolute emptiness of the bowel, it being very thin and ribbon-like, and comparatively very light.

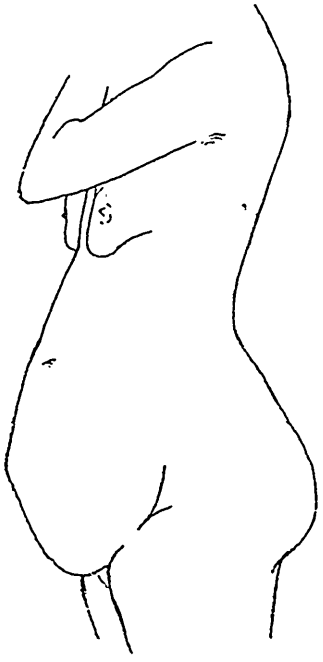

FIG. 2.—A lateral view of a female splanchnoptic, a multipara, showing relaxed abdominal walls and umbilicus.

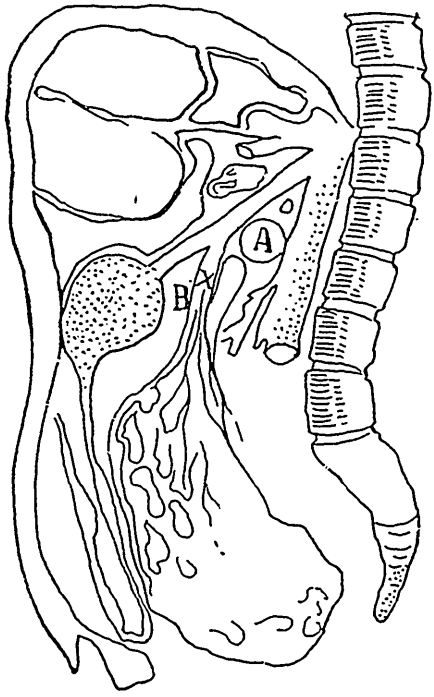

FIG. 3.—A profile view to illustrate how the transverse segment of the duodenum is changed by the sup. mes. art. vein and nerve in prolapse of intestines from relaxed abdominal wall. A. Duodenum. B. Mesenteric vessels. (B. Robinson.)

The condition of the viscera above the obstruction was next examined. The stomach and duodenum were distended with a dark grumous liquid, their mucous membranes thickened, and showed undoubted evidence of long continued irritation. The head and body of the pancreas were enlarged and hard, with greatly distended ducts, and showing a similar condition. The common bile duct, as also the cystic and hepatic ducts, were likewise enormously distended, and presented marked thickening of their mucous membranes and walls, the liver was swollen and hard, the gall bladder was at least five times its normal size, and presented several large pockets, some of which contained enormous stones.

Lack of time prevented further examination, which I greatly regretted, as I had never before, nor have I since, seen such marked pathology. Before this I had seen several such cases, only not nearly so well marked, and since then have seen several others.

Not later than a few months ago, in company with Dr. Fraser, whom I assisted in doing a P.M., I saw the same condition in a lady 53 years of age, who had died from acute alcoholism. Dr. Fraser remarked at the time the condition of the large flabby stomach, and when I pointed out the conditon of the duodenum, which was at least twice the normal size, and the cause of the trouble, he remarked, "Gracious, what a weight that band is," as he lifted it on his hand.

I mention these two cases as they were examined by two local men besides myself, and although the same condition has been written on by others, yet the importance of it pathologically has evidently been appreciated by but few.

It is very interesting to note that Dr. Ochsner, during his operative work, has noted a similar condition of obstruction, for in the February number of *The Annals of Surgery,* for 1905, in a discussion on gall-stone surgery, he remarks, "Upon opening the abdomen it would be found that the duodenum at its upper end was greatly distended, and that the pylorus was wide open. When one lifted up the transverse colon and examined the small intestine, the jejunum, where it passes through the mysentery was contracted. It was empty, while the duodenum was open. Enlarged glands were found along the duodenum. This could only be explained in this manner, that there was a physiological obstruction opposite the entrance to the common duct into the duodenum, and for that reason the duodenum was distended with gas above, and was closed lower down. In a large majority of these cases he had found either gall stones or sand in the gall bladder, and, furthermore, in many cases he had found pancreatitis, due to physiological closure, at a point behind the stomach, a little below the entrance to the common duct."

He would like to have other surgeons observe this condition in operating, as to whether, in many cases, they found a dilated duodenum, a wide pylorus, and a contracted jejunum down below.

This statement is exceedingly interesting, as it shows the location of the obstruction to be practically the same as I have already given, with the explanation of its being a physiological obstruction, whatever is meant by that.

Dr. Ochsner has since explained the nature of this obstruction. He has demonstrated the existence of a sphincter muscle surrounding the duodenum at a point midway between the entrance of the common duct and the duodeno-jejunal junction. This, however, being of the

nature of a sphincter, it is difficult to conceive how normally it could act as an obstruction. On the other hand, the obstructive effect of pressure by the superior mesenteric vessels on the third portion of the duodenum can be readily seen and demonstrated, namely, by either pressure from above by bands or corsets, or by tension from below, as adhesions or enteroplosis, which latter, in itself, is amply sufficient to produce considerable pressure and obstruction, even when the bowels are absolutely empty, as I have seen many times.

The fact of the matter is, the only obstructing element that can be shown to exist in this region physiologically, or otherwise, is the superior mesenteric vessels with their immediate surrounding mesenteric tissues.

We have here strong evidence that the cause of the obstruction is the band referred to, and this in turn to be due to the weight of the prolapsed intestines.

The next question naturally arises, "Why do the intestines prolapse?" Evidently from weak supports. The mesenteries are not the natural supports of the intestines, but, as Byron Robson has so ably put it, they are but "neuro-vascular visceral pedicles." True, they offer considerable support, and the degree of that support is readily demonstrated in that condition of relaxed abdominal wall termed by the Germans "hanging belly," where, on opening the abdomen we find invariably in my experience well-marked visceral ptsosis, with the various pathological conditions which necessarily follow in its train. Upon close examination of the structure of the abdominal walls they will be found elongated and separated muscular elastic fibres throughout all layers, the linea alba will be very much widened, thinned and relaxed, the entire abdominal wall offering but comparatively poor support to the contained viscera.

Any one doing careful P. M. work cannot but verify the correctness of the above findings, but the great source of error into which those who do P. M.'s, and those who write for the directions of others have fallen, is that they completely ignored the belly wall as a factor in disease, and have consequently by one grand sweeping incision from ensiform to pubes alighted upon the poor innocent viscera and accused them of the entire sin, much as do a good many respected citizens in laying upon the shoulders of the Devil the blame for misdemeanors for which they, and they alone, are responsible.

For one moment let us consider the normal structure and formation of the abdominal wall, and then ponder over the calamity which has befallen the individual with a belly wall as above described.

Taking into consideration the complete muscular boundaries of the abdominal cavity, with the variety of directions of the muscular fibres

and the fibro-elastic tissue found in their sheaths and in the remaining deep fascias of the part, we cannot look upon the abdominal wall in its entirety in any other light than that of a highly contractile and elastic apparatus admirably adapted by its powers of distension and contraction for accurate fitting, as it were, its contents. In short, as Byron Robinson, says, "It is the function of the abdominal wall to contract and dilate in the volume changes of the abdominal contents, as well as the volume changes in the thorax. And to keep up a vigilant guard,

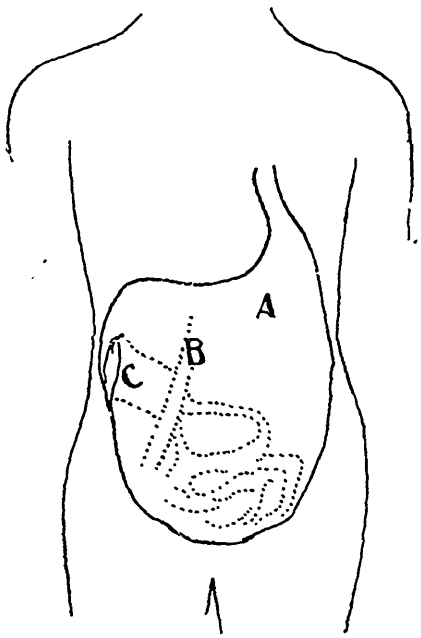

FIG. 4.—Showing delated stomach extending from diaphragm to pubes, delated duodenum, constriction by sup. mes. vessels, and contracted condition of intestines below. A. Dilated stomach. B. Mesenteric vessels. C. Dilated duodenum.

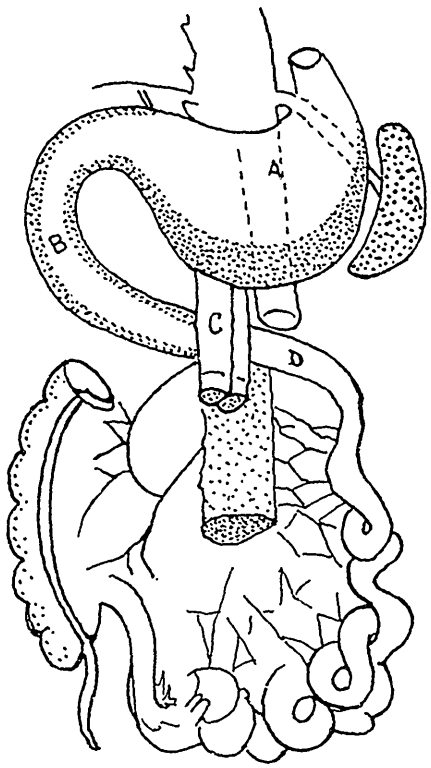

FIG. 5.—Front view of gastro-duodenal dilatation from compression of the transverse segment of the duodenum by sup. mes. vein, artery and nerve. A. Stomach. B. Duodenum above constriction. C. Mesenteric vessels. D. Duodenum below constriction.

a vigorous but delicate elastic regulation of abdominal visceral contents. It is the elastic spanning of the abdominal walls that maintains the delicate visceral poise." Gray (anatomy) refers to the same function. "When at the end of respiration the diaphragm relaxes, the abdominal walls return to their normal position, they, therefore, push up the viscera again, and these pressing on the diaphragm, cause it to resume its ordinary position of rest."

We, therefore, see the abdominal wall to be the main support of the viscera, preventing prolapse and maintaining them in their normal relations, and, therefore, its pathology explains why such conditions as pregnancy, typhoid, chlorosis, tuberculosis, etc., are predisposing causes of gall stones, gastric ulcer, etc., *i.e.*, by causing a weakening of the muscle fibres and elastic tissue, either from stretching, as in pregnancy or intra-abdominal tumors, or as a general debilitating effect, as in typhoid fever, influenza, tuberculosis and other prolonged constitutional diseases; and the treatment is, therefore, apparent, *i.e.*, the restoration of the normal structure and function of the parts.

It is interesting at this point to analyze the causes of two or three of the more common diseases of the digestive organs, as given by eminent authorities.

First taking Mayo Robson's classification of the etiology of gall stones.

EXCITING CAUSE.

(*a*) Infection.

PREDISPOSING CAUSES.

(*a*) *Age.*—Under 20 years, 2.4 per cent; 20 to 30 years, 3.2 per cent.; 30 to 40 years, 11.5 per cent.; 40 to 50 years, 11.1 per cent.; 50 to 60 years, 9.9 per cent.; 60 years and over, 25.2 per cent. Time of life in women when effects of child-bearing on muscular wall would become evident, also 50 years, and upwards, when muscular system has lost tone.

(*b*) *Sex.*—Women, 20 per cent. Pregnant, 90 per cent., which produces over-stretching. Non-pregnant, 10 per cent., corsets, etc. Men, 4.4 per cent. Debilitating diseases, etc.

(*c*) *Habits.*—Want of exercise, whereby the gall bladder is unaided in its expulsive efforts by the contraction of the abdominal muscles (significant).

(*d*) *Limited Supply of Nitrogenous Food.*—With bile salts diminished and a resultant precipitation of cholesterine.

His classification of the etiology of pancreatitis is also suggestive.

EXCITING CAUSES.

(*a*) *Infection.*—Depending upon stagnation and obstruction.

(*b*) *Irritation.*—Result of infection.

PREDISPOSING.

(*a*) *Obstruction in the Ducts.*—Duodenal catarrh, ulcer of duodenum, pancreatic calculi, gall stones, and cancer at head of pancreas. All due to infection, stagnation and obstruction.

(*b*) *General Ailments.*—Typhoid,, influenza, mumps, etc., causing general debility and therefore loss of muscular tone.

(*c*) *Anatomical Peculiarities.*—Here he evidently refers to anatomical peculiarities in the organs themselves, such as the common bile duct passing through the head of the pancreas, narrowness of duct at entrance to duodenum, etc., all of which are factors but of secondary consideration.

(*d*) *Hæmorrhage into Gland.*—Irritation is usual cause and generally from infection, which is, at present, generally held to be cause of hæmorrhage pancreatitis.

(*e*) *Injury.*—Result obvious.

(*f*) *New Growth.*—Results of irritation from infection.

(*g*) Fatty degeneration of blood vessels.

Osler's Etiology of Ulcer of Stomach.

(*a*) *Female Sex.*—Two to one, and other authorities as high as five to one. The internal causes are the relation of abdominal walls from distension by pregnancy, ovarian tumors, lack of exercise of muscles. The external causes are waist bands, corsets, etc.

(*b*) *Tuberculosis.*—Evident asthema, lowered muscular tone.

(*c*) *Anæmia and Chlorosis.*—Obvious.

(*d*) *Copræmia.*—Same.

(*e*) *Post Puerperal State.*—Over-stretching of abdominal walls and loss of tone.

(*f*) *Neuropathy.*—Deranged nerve supply to muscular system.

(*g*) *Hysteria.*—Same.

All the above conditions obviously produce general muscular weakness and the majority of the condition affect especially the abdominal muscles and elastic tissues. Pressure from without will also force the intestines distalward and produce tension on the superior mesenteric vessels. Plainly, too, in order to produce the above results it is not necessary that the intestines should prolapse to any great extent, but only that the abdominal walls should become deranged to an extent sufficient to throw a part of their support upon the mesenteries, thus causing tension on the vessels, the degree depending upon extra weight to be supported by the mesenteries.

Before closing it might be well to refer to that most contagious surgical procedure, namely, abdominal section. From the foregoing it is apparent that we cannot be too careful in the repair of the belly-wall wound, and especially in the proper adjustment of the supporting elements, the muscle sheaths and deep fascias. But more especially should we denounce in no uncertain manner that too-prevalent, so-called surgical procedure, "Exploratory Incision," instituted, no doubt, for the

convenience of ignorance and indolence. The seriousness of the procedure is evident from the statement of Glenard and Albrecht, as follows, "That as after celiotomy the intra-abdominal pressure is lost, there is general enteroptosis, and the traction exerted upon the superior mesenteric artery with its accompanying bundles of connective tissue, compresses the duodenum and causes stagnation of stomach contents."

We have here, then, also the ideal condition for the widespread infection of the entire digestive system.

TREATMENT.

The treatment of relaxed belly wall, with resultant visceroptosis, has of late received considerable attention.

Numerous surgical operation have been devised to fix dislocated viscera in their normal positions, all of which, although extensively used, have either become obsolete or fallen into disuse, by the thinking element of the profession.

For instance, such operation as suspension of the uterus, nephropexy, gastropexy, heptopexy, with innumerable other pexys. I once heard a paper read at an important medical meeting where the surgeon at one sitting had performed ventro-suspension, nephropexy on both kidneys, took a reef in the stomach, fixed the transverse colon to the abdominal wall at what was supposed to be its normal level, swung the liver in a hammock, and shortened the mesentery of the small intestines. How often have we seen "surgeons"(?) who have done one or all of these operations on a patient because some "authority" (?) had recommended the procedure?

"But men are prone to go it blind
Along the calf-paths of the mind,
And work away from sun to sun,
And do what other men have done.

They follow in the beaten track,
And out and in, and forth and back,
And still their devious course pursue
To keep the path that others do."

The pathology of the great majority of diseases of the abdominal viscera will, no doubt, be eventually traced to derangements of the abdominal and pelvic walls.

Movable and floating kidney, prolapsus of intestines, stomach, colon, liver, with resultant derangement of drainage and their usual train of symptoms are purely symptomatic.

Disease of the supporting structures allows of derangement of the blood and nerve supply of the viscera and seriously interferes with drainage, the condition for which surgical operations performed upon the viscera are instituted.

Several methods have been proposed for the cure of this condition, among which may be mentioned various forms of corsets, belts, strappings, etc., and the uniting by suture of the recti in one sheath.

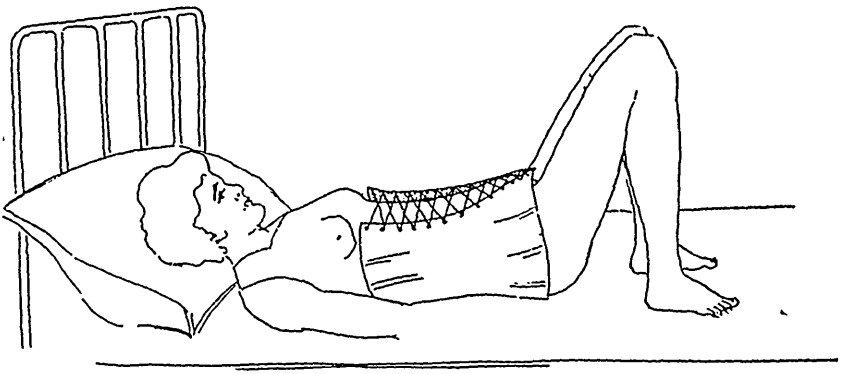

FIG. 6.—Dr. Gallant's Corset and method of applying it with the patient lying down and lacing from the lower end upwards.

One method I think is worthy of special mention, namely, that employed by Dr. Gallant, of New York, which consists of a specially fitted corset, a cut of which I enclose. Dr. Gallant also claims good results from the use of a long, straight-front corset, two sizes smaller than that usually worn, to be applied as in the cut, it being laced from below upwards, being laced tightly below, but allowed to separate above by two or three inches.

My object in this paper has not been to suggest plans of treatment, but to direct attention to this very common condition with its train of pathology, and thus rendering unto the viscera the things that belong to the viscera, and to the belly wall the things that belong to the belly wall.

THE DIAGNOSIS AND TREATMENT OF SOME CASES OF APPENDICITIS.*

By H. A. BRUCE, M.D., F.R.C.S., Eng., Associate Professor of Clinical Surgery, University of Toronto.

AS will appear from the above title it is my intention this evening to take up a few points in connection with the diagnosis and treatment of some cases of appendicitis. I will not attempt to cover the whole subject of appendicitis but simply call attention to some difficulties in the way of diagnosis and some few points which I have found especially valuable in treatment. I am going to refer briefly to some recent cases presenting some difficulties in diagnosis. These cases

*Read before the Toronto Medical Society, 10th May, 1906.

will show how mistakes are made in two directions: Firstly, a patient suffering from appendicitis in which a diagnosis of some other condition was made; secondly where the diagnosis was "appendicitis" and where the disease proved to be something else. Some of the conditions which closely resemble appendicitis are:—

1. Purulent salpingitis.
2. Acute cholecystitis, empyema or perforation of the gall bladder.
3. Tubercular peritonitis.
4. Acute indigestion.
5. Malignant disease of the cæcum.
6. Perforation of the stomach or intestines with general peritonitis.

The best way to avoid mistakes in the diagnosis of appendicitis is to note very carefully the onset of the illness and symptoms present. In appendicitis the illness begins suddenly, usually in a patient who has been until then in his ordinary health. The first symptom complained of usually is pain, at first referred to the region of the stomach or umbilicus, but, later on, settling down in the right iliac region; second, there will usually be nausea or vomiting within a few hours; third, tenderness, most marked on the right side; fourth, rigidity of the right rectus muscle; fifth, after some hours some elevation of temperature and increase in pulse rate.

However, the temperature and pulse are not to be relied upon, as in some very severe cases there is very little elevation of temperature and little increase in the pulse rate. In all of my acute cases there has been rigidity of the right rectus muscle; in more than one-half of the cases there has been vomiting, and in all the cases nausea or vomiting. One should be able to distinguish between appendicitis and conditions in the pelvis, such as pyo-salpinx, by a vaginal examination. In the latter condition there will be enlargement and tenderness of the tube, together with some fixity of the uterus. In acute appendicitis, where the appendix is lying to the outer side of the colon and pointing upward toward the liver, it may actually be in contact with the liver; and, if perforation occurs, an abscess may form immediately below the liver and then it might closely simulate empyema of the gall bladder. However, in the latter condition the outline of the gall bladder is more clearly defined and usually pear-shaped, whereas an abscess would be more irregular and indefinite. Again, in perforation of the stomach, one would likely have symptoms of indigestion for some time preceding the perforation. There would be a history of vomiting and, probably, the vomiting of blood. There would be a history of shock and collapse at the time of perforation, followed by pain in the stomach and then all over the abdomen. In tubercular peritonitis one might

be able to make out free fluid in the peritoneal cavity and general distention with tenderness and a longer history, although, as in one case, the patient was practically in perfect health until suddenly taken ill.

In regard to the treatment, I cannot too strongly insist upon very early operations in cases of acute appendicitis. Where the symptoms are definite and characteristic and when there is no doubt about its being acute appendicitis, I would advise an operation as early as it can possibly be arranged, that is, at the earliest possible moment after the diagnosis has been made. If this is six hours after the beginning of the attack, so much the better; if twelve or twenty-four hours after, the operation should be done at once. In most cases occurring in the city or in towns where there is a hospital, it is best to remove the patient into the hospital, as some hours would be lost in preparing the room and getting the necessary supplies, etc., for operation in the patient's house. I have frequently operated upon patients in the hospital within three hours after seeing them in their homes, and in several cases as early as one hour after. I am satisfied that moving the patient carefully in the ambulance does them no harm. If perforation has occurred and pus has formed and one is doubtful if it is walled off, then they should be sent to the hospital in a sitting posture, as recommended by Fowler.

Now, as to the actual operation, the incision which I have found most useful, is the "Battle" incision, that is an incision through the sheath of the rectus muscle at a little distance from the outer border, and separation of the muscular fibres of the rectus. This incision has two advantages: 1st, it is less likely than any other, unless the McBurney, to result in a hernia; 2nd, if one requires more room, it can readily be extended upward or downward.

When one opens through the peritoneum, if pus is found apparently free in the cavity, I always first pass in pieces of gauze and mop it out before making any further investigation. This is done so that, if the pus be limited and more or less localized, there would be no risk of spreading it. Further, I have many times found pus lying free in the abdominal cavity around the appendix, without any limiting adhesions and looking just as if it had been poured in. One would think from its appearance that if the patient turned on the left side it would gravitate in that direction. By mopping this up with pieces of gauze all the pus can be removed and drainage provided and the general cavity protected by aseptic or iodoform gauze.

Again, if it should be a case of general peritonitis and we followed the advice of Murphy, we will simply open, remove the appendix and put in a drain, also a drain above the pubis.

Again, if one is doubtful if the appendix is perforated or whether there is pus or not, after opening the peritoneum I always wall off the general peritoneal cavity with gauze sponges or pieces of gauze, so as to limit the field of operation to the region of the cæcum and appendix. Then if there be a mass, in opening it and searching for the appendix, if one suddenly comes upon pus it will be caught without distributing it throughout the general peritoneal cavity. I consider this a most important step in all operations for acute appendicitis, and I would consider anyone guilty of neglect who did not take this simple precaution.

Now, in approaching the mass I always do so from the outer side, insinuating a finger down toward the situation of the appendix. If the omentum is found surrounding it, this should be lifted up from the outer side. If an abscess has opened it should be mopped out with strips of gauze and then the appendix sought and removed. If it is gangrenous, it will only be necessary to throw a ligature of chromic gut around its base and cut beyond this. I think in all cases of appendicitis the appendix should be sought for and removed if possible. We have been having a considerable number of second attacks where there was an abscess and no attempt made to remove the appendix. I would not advise an inexperienced operator, however, to always try to remove the appendix, for if he succeeds in opening the abscess the patient is likely to recover from the attack and the appendxi can be removed at a subsequent operation. However, in experienced hands it is practically always possible to remove the appendix without increasing the risk.

Another thing to which I would like to refer is the position of the patient after operation. In cases of general septic peritonitis I think the Fowler position is a most valuable one, that is, to elevate the head of the bed a couple of feet, semi-sitting, so that drainage is downward toward the pelvis. It has been clearly shown that there is more rapid absorption in the peritoneum of the diaphragm than in the pelvic peritoneum, and, therefore, if we drain upward we will cause more to be absorbed. I have tried this several times with most satisfactory results. I wish also to refer to the treatment of a case with an abscess where it is partly localized to the region of the appendix, and the desirability of keeping the patient without nourishment by mouth for two or three days after the operation and using exclusive rectal feeding, and administering morphia sufficient to keep the patient free from pain. This latter also has the effect of limiting peristalsis. I am in the habit of giving normal saline, 8 ounces every four hours, and, after the first 24 hours, I add to each alternate saline half an ounce of liquid peptonoids. After twelve hours the patient is given sips of hot water

and this is gradually increased until they are taking two ounces of hot water every hour. I am satisfied that this treatment helps to limit the disease and to confine it to the region first involved.

1. Mrs. C., of Bowmanville, patient of Dr. A. S. Tilley, age 45, May 5, 1902. She was suddenly taken with severe pain in the abdomen, general at first, then becoming localized to the right side. There was some rigidity of the right rectus and tenderness over the appendix, she had been vomiting, temperature 103, pulse 120. I saw her three days after the beginning of this elevation, when the condition was as given above. She gave a history of having had some trouble in one of her knee joints, which we thought was tubercular.

At the operation I found general tubercular peritonitis and a very thickened appendix with tubercular nodules through it and also much thickening of the cæcum. Large caseous nodules covered the entire peritoneum and peritoneal surface of the intestines. Both fallopian tubes were very much enlarged with caseous nodules all over them. I simply flushed out the abdomen with saline and closed it. She made a good recovery and has been in good health since.

2. Miss C., patient of Dr. McCollum, operation Nov. 5th, 1905. The patient had been ailing for a week, temperature 101, pulse 110. On examination a mass could be felt in the lower part of the abdomen, extending across to the opposite side. The diagnosis of appendicitis was made, although I suspected pus tubes, but for special reasons did not make a vaginal examination.

On opening the abdomen in the middle line I found the right tube greatly distended, and it had made two complete turns at its uterine end. It was as large as a banana; its tip was quite black and the rest of a reddish brown color. It was untwisted and removed, a small portion of the ovary being left behind. The other tube was examined and also found to be distended, about the size of a small banana, so was removed. The appendix was also removed although normal.

Miss S., operation March 8th, 1906. She had been ailing with more or less pain in the abdomen for two weeks. On Monday it became worse and she became jaundiced. Her physician saw her on Wednesday, when her temperature was 102, pulse 110. A mass was felt on the right side which he diagnosed "appendicular abscess." He advised her removal to the hospital but consent was not given until the morning of the operation, March 8th. I saw her in consultation at 11.15 with her physician, and, on examination, found a mass in the right hypochondrium as low as a line between the umbilicus and anterior superior spine. The lower margin was sharply defined and dulness extended up and continued with liver dulness; below this the rectus

muscle was not rigid and the abdomen was soft. The hardness extended forward within one inch of the middle line and back to the lateral side of the abdomen.

A diagnosis of acute suppurative cholecystitis was made, probably associated with gallstones. Advised immediate operation. Made an incision over the gallbladder and, as soon as the peritoneum was opened, bile was found free in the abdominal cavity. This was mopped up with sponges and the gallbladder found to be of a reddish-brown color, having a somewhat gangrenous appearance. The omentum was adherent along the lower margin. The general peritoneal cavity was carefully walled off, putting sponges around the gall bladder, which was punctured with a trocar. At first two ounces of opaque, glairy fluid came out, then one ounce of creamy pus. I then removed 50 gallstones, two or three of these were large and impacted in the cystic duct and one in the common duct.

4. Mr. W., age 48, patient of Dr. A. R. Gordon's. Operation March 10th, 1906. Two or three hours after returning home from a dinner party he was taken with colicky pains in the abdomen. Hot water bottles were applied and Dr. G. saw him at 7 o'clock in the morning. At this time the pain was diffused over the abdomen, temperature 99½, pulse 70. Later on, the pain settled down in the right iliac region. At 8 P.M. temperature 100, pulse 80, marked rigidity of the right rectus. I saw him at nine-thirty, when there was rigidity of the right rectus and very definite localized tenderness over the appendix. He said it pained him to move his leg up or down, but no pain was present when lying quiet and not touched. Sent him into the hospital and operated at twelve-thirty that night. The operation was 22 hours after the beginning of the attack. Some fluid, of a serous character, came out immediately on opening the peritoneum. The appendix was adherent to the brim of the pelvis; when separated it was found to be club-shaped, the terminal inch being covered with lymph. On separating this lymph, a patch the size of the end of one's finger was of a dark, reddish color and was evidently becoming gangrenous.

5. Mr. S., age 35, patient of Dr. John Noble's. Operation March 10th, 1906. He was taken ill at 1.30 P.M., with acute pain in the abdomen. Dr. Noble saw him and sent him home after giving him a hypo. of morphia. Patient said he had felt a little uncomfortable the night before. Dr. Noble saw him again at 8 P.M. and phoned me about 9 P.M., telling me the condition. I advised his removal to the hospital and said I would see him upon his arrival and, if necessary, we could operate at once. Temperature 100 4/5, pulse 110, the abdomen was rigid all over, but particularly hard over the appendix. There was some slight distention.

Operation, 1 A.M., 12½ hours after beginning of the attack. As soon as the peritoneum was cut through pus escaped. I then searched for the appendix and, in separating two coils of intestine below the appendix, one ounce of creamy pus escaped into the sponges I had placed around. The appendix was pointing towards the middle line, five inches in length and very much swollen. The terminal 1½ inch was as large as one's thumb, gangrenous and with a perforation. The base being healthy it was amputated in the usual way. Three strips of iodoform gauze were placed in for drainage. He made a good recovery.

6. Miss D., patient of Dr. Moorehouse, aet. 20. She had been ailing for four days, having all the usual symptoms of acute appendicitis. Pain was the prominent symptom with vomiting every few hours from the beginning of the attack. On examination I found tenderness and rigidity over the appendix, and some rigidity and tenderness over the whole abdomen. Temperature 101, pulse 120. I advised operation and she was sent into the General Hospital. Operation 3.30 P.M., March 17th, 1906.

On opening the abdomen we found miliary tubercles over the peritoneum and intestines. There was no fluid, the appendix was inflamed in common with the rest of the intestines, but there seemed to be more inflammation about the cæcum than elsewhere. The appendix was removed. The large intestine was distended and of a dark color and, on following it down into the pelvis, we found that it was held and constricted by a band of adhesions which prevented even gas passing. These were separated and the intestine withdrawn from the pelvis. Below the distended portion, which was about six inches in circumference, the bowel was collapsed. The band was evidently producing complete obstruction which accounted for the vomiting. The abdomen was flushed out with normal saline and closed with interrupted silk worm gut sutures. She made a nice recovery.

7. Mrs. N., age 35, Guelph. Complained that 18 months ago she had appendicitis, for 10 days. Before the attack was over she had severe uterine hæmorrhage, and was in bed seven weeks. Six months later had another attack of appendicitis (?), and since has had pain in the right side and for two months has had a yellowish discharge, one child dead, menses six days, getting more profuse. Operation, April 23rd, 1906.

A curettement was first done and a good deal of thickened endometrium removed. Then on examination we found the uterus enlarged and hard on the right side. I thought this might be due to a fibroid and therefore made a median incision. Nothing was found wrong with the right tube but the ovary was surrounded by inflammatory adhesions

binding it down to the rectum and uterus. The right tube was involved in these adhesions but not diseased. I separated the adhesions and removed a fibroid about the size of a walnut from the right cornu of the uterus. The wall of the uterus was sewn with cat-gut. The appendix was then removed although it seemed healthy. It was opened after removal and its lining membrane was quite healthy. It was evident that she had not had appendicitis or, if she had, the appendix had returned to normal since the attack.

8. Sir Wm. H., age 96, patient of Dr. John Caven. Patient had a typical attack two weeks ago, a mass gradually making its appearance in the region of the appendix, three inches long by two and one-half inches wide. It was thought that this might be carcinoma but as it was adherent to the anterior abdominal wall and made its appearance suddenly and enlarged rapidly we diagnosed "appendicular abscess." This case is simply mentioned on account of the age of the patient. Operation, April 25th, 1906.

The abscess was opened under cocaine and three ounces of offensive pus evacuated, and two small drainage tubes were put in. May 25th. Wound healed and patient has been out driving daily for last week.

9. J. M., patient of Dr. J. T. Clarke. I saw the patient in consultation with Dr. C. at 9 A.M., and he gave the following history: The day previous to this attack he had had a hearty meal at noon, eating a large quantity of lobster, etc. Two or three hours afterward he had pain in his stomach and indigestion. In the evening he took opening medicine and his bowels moved between midnight and two o'clock and, again, at four o'clock he went into the bathroom and fainted while there. His parents were aroused and found him in an agony of pain with cold perspiration standing out on his face. Dr. Clarke saw him at 6 A.M., pulse 160 and very weak, cold perspiration on face and neck, and complaining of severe abdominal pain and tenderness over the abdomen. Dr. C. gave him morphia, gr. ¼. When I saw him at 9 o'clock his temperature was 100 1-5, pulse 100, resp. 18, and he was complaining of pain in abdomen in region of the appendix. Abdomen was tender and quite rigid. He did not seem to be more tender on one side than the other, but was rigid over the appendix. His face was pale and pinched. The diagnosis of a perforated appendix with general septic peritonitis was made.

We had great difficulty in persuading him to have an operation done, although he had had two previous attacks in which Dr. C. had seen him and had diagnosed appendicitis. Another doctor had seen him two weeks after one of these attacks, and said the boy had never had appendicitis but that his symptoms were due to acute indigestion. On account of this opinion and the fact of this attack following a large

meal we had difficulty in persuading him and his parents that operation was necessary, and that it really was appendicitis.

Immediately on opening the peritoneum some thin pus escaped. I searched for the appendix and found it two and one-half inches in length, thickened, and with a perforation one and one-half inches from its tip. There was no attempt at walling off. After removing the appendix and mopping up the pus around it and putting in a tube, surrounded with iodoform gauze, suddenly a large quantity of seropurulent fluid came up into the wound. It was found that the pelvic cavity was filled with this. After mopping it out well with gauze, a drainage tube was passed down into the pelvis, a second one to the position of the stump, and a third up toward the liver. Gauze was placed down in similar positions and one piece into the general peritoneal cavity.

10. Mr. C., age 63, patient of Dr. MacDonald, Markham. Patient had a typical attack of appendicitis two weeks ago from which he made a good recovery, but the mass which was present on the third day remained. A mass could be felt in the right iliac region lying one inch to the inner side of the anterior sup. spine, and running parallel with Poupart's ligament. The mass was irregular and hard, two and one-half inches in length by one and one-quarter inches in width, and crossing at right angles the line extending from the anterior superior spine to the umbilicus. It did not seem to be attached to the anterior abdominal wall.

Operation May 1st, 1906. Made an incision three inches long through the right linea semi-lunaris. On opening the peritoneum I found the omentum attached to the perietal peritoneum on the right side and posteriorly, this being also attached to the cæcum, and a nodular mass apparently in the cæcal bowel wall. There seemed to be very little doubt on exposing it that it was malignant, and, if it was malignant it was impossible to remove it as it extended into the abdominal wall to the right and behind. A piece of omentum two inches square and three-quarter inches thick was removed. I could then feel a hard mass behind, running into the cæcum and apparently growing into the peritoneum posteriorly. The appendix could not be seen. I decided to try and separate the mass from the abdominal wall and this was done with considerable difficulty, but when got up it was found to be an enormously thickened appendix, with a perforation in its middle. It was about five inches in length and the size of two fingers in thickness. The mesentery was also enormously thickened. The appendix was removed by throwing a ligature of chromic-gut around its base, and inverted it into the cæcum by a purse-string suture of cat-gut. About one dram of pus was found around the appendix and a few drops around the thickened omentum. Iodoform gauze was put in for drainage and a

second piece to wall off the general peritoneal cavity. Abdomen was closed except for the opening for the gauze. Patient left hospital quite well, and with wound closed, May 26th.

11. W. W., age 17. Diagnosed by his physician, "colitis." History of two previous attacks like this one. The present one commenced with pain over the whole abdomen, settling down in a few hours to the region of the appendix. Vomiting, temperature 100 2-5, some diarrhœa with passage of mucus. When I saw him, tenderness was marked over the appendix, and a diagnosis of appendicitis made and an operation advised.

Operation, May 7th, 1906. Found the appendix three inches in length, very congested and having, about one inch from the base, a constriction with a good deal of thickening. A number of newly formed vessels ran up in the form of a leash from the mesentery of the appendix to the appendix at this situation. Around the base was another leash of newly formed vessels. On opening the appendix after its removal it was found to be filled with pus, and there was an ulcer at the site of the thickening.

In the treatment of diffuse septic peritonitis, one cannot do better than follow the technique of Murphy, which may be briefly summarized as follows:—

1. The rapid removal of the gangrenous appendix with the least possible handling of the peritoneal contents.

2. Drainage by tube of the lowest portion of the pelvis through a suprapubic opening, and free drainage through the operative incision.

3. The elimination of all time-consuming procedures at the time of operation.

4. The semi-sitting position of the patient after operation—the so-called Fowler posture.

5. The prevention of peristaltic movements of the intestines by withholding all foods or liquids by mouth, and perhaps by the administration of opium.

6. The absorption of large quantities of water through the rectum which reverses the current in the lymphatics of the peritoneum, making the surface of that membrane a secreting instead of an absorbing one, and also markedly increasing the secretion of urine.

Murphy's method of introducing large quantities of water into the rectum is novel. He inserts a nozzle containing three or four openings, into the anus, to which is attached a rubber tube leading to a bag. This bag is filled with water and elevated but a few inches above the plane of the rectum, the idea being that the water shall just trickle into the rectum not much faster than absorption takes place. In this way from a pint to a quart of water should be allowed to trickle in during an hour, the process being a continuous one and the flow so

regulated that no accumulation of fluid takes place in the bowel. In other words, an attempt is made to run the water in as fast as it is absorbed. The object of having more than one outlet in the nozzle is that in case flatus accumulates in the rectum it will pass out through one of the openings in the tube while the others continue to discharge the water into the rectum. By this method large quantities of water will be absorbed within the first few hours after operation.

THE DIAGNOSIS OF THE POSITION OF THE FŒTUS IN UTERO.*

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SIXTY years ago, Semmelweiss, then an assistant in Vienna Lying-in Hospital, began to study the cause of the frightful mortality attending the confinement of women in that hospital as compared with the small number of women succumbing to puerperal infection when delivered in their own homes. The students at that time were in the habit of coming directly from the dissecting to the maternity wards, and were allowed to make vaginal examination without taking any particular trouble to disinfect their hands. As a result of his observations he concluded that puerperal infection was a wound infection and was due to the introduction of septic material by the examining finger. He accordingly obliged everyone to disinfect his hands with chlorine water before examining the parturient woman, and had the pleasure of seeing the mortality falling from 10 per cent. or more to about 1 per cent. In spite of this apparently positive proof, his work was scoffed at by many of the most prominent men of his time, and as a result he died a few years later, a disappointed, heart-broken man, as it was not until after the discoveries of Lister that his services were thoroughly appreciated. Since that time, thanks to the bacteriologist and the surgeon, the obstetricians have been forced to admit that Semmelweiss was right. Gradually the most progressive men adopted the disinfecting of their hands and limited the number of their examinations. Recently a great number of obstetricians have adopted the wearing of gloves, and a very important question now before the profession is the advisability of depending almost entirely upon abdominal palpation as a means of obtaining the necessary information in conducting a confinement. He must make one vaginal examination to guard against such an accident as a prolapsed cord or limb, but to show that recent writers are beginning to appreciate the importance of abdominal palpation as a method of diagnosis I quote the following from Dr. Whitridge Williams' latest book on obstetrics: "Under ordinary circumstances external or abdominal palpation is the most reliable

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and valuable, and I should unhesitatingly choose it were I restricted to one single method of examination. In trained hands it enables one to make a satisfactory diagnosis without danger of infection and with the least possible discomfort to the patient, and it is not going too far to say that its ·· ·pularization forms one of the greatest advances in modern obstetrics."

Ninety-four years ago Wegand drew attention of the profession for the first time to this method of examination, and twenty years later Schmidt and Hohl published very complete papers upon the subject. In spite of these writings, however, abdominal palpation was not generally recognized to be of value until the last quarter of the nineteenth century, when Credé and Leopold, in Germany, Pinard, in France, and Macan, Neville and Smyly, in Dublin, drew the attention of obstetricians to its immense practical importance, not only as a diagnostic factor but also as a means of limiting, to a great extent, the chances of infection.

In using this method of examination for diagnostic purposes we should always bear in mind that the great majority of cases are normal. According to Shroeder's statistics, based upon several thousand cases for all periods of pregnancy, vertix presentations occur in 95, breech in 3.11, transverse in .56, and face in .6 per cent. Although the abnormal cases are comparatively few in number they are of very great importance, because it is in the handling of these cases that we make or mar our reputations.

Preparation of the Patient.

She should be lying in a horizontal position on a hard table or bed. The abdomen may be fully exposed or covered with a thin sheet. Care should be taken to have the bladder, and, if possible, the rectum, empty. The examiner, after carefully warming his hands, to make the tactile senses more acute, and to prevent reflex contraction of the abdominal and uterine muscles, takes up his position at the patient's right side so that he can palpate with his right hand, while his left controls the fundus. It is of the greatest importance to get the confidence of your patients, so that they will aid you as much as possible by allowing their abdominal muscles to become completely relaxed. As a clinical fact you will often find that they will give the best relaxation when asked "to let their stomachs fall in." (McIlwraith.) It is also important that you should use very light pressure in palpating until she becomes accustomed to the situation, because if once she becomes alarmed her muscles will immediately go on guard, and so defeat your purpose.

Let us now imagine that we have a patient ready to be examined, and I will endeavor to describe in a clinical way the various grips used, and enumerate the different points that we may expect to demonstrate as we proceed with the examination, so that we will be in a position to make a diagnosis by the process of exclusion.

I. In making an examination we seem to instinctively fall into the habit of trying to locate the back first, and as the great majority of cases are normal, we generally expect to find it on the left side. As the most prominent part of the back is opposite the umbilicus, we always start to palpate in this locality, and hence this is known as the umbilical grip. We first place one hand on either side of the uterus. Now move them synchronously, first toward one side and then towards the other. By this means it will be found that greater resistance is offered to the hand on the side against which the back is lying. If this is not satisfactory, place one hand flat upon the abdomen so as to be over the centre of the uterus. Now press directly backwards. This will have a tendency to displace the fœtus to one side of the amniotic sac, and the liquor amnii to the other. The free hand can now palpate both sides of the abdomen. On one side you will feel the firm resisting back, while on the other side you get a doughy sensation due to the fluctuations of the liquor amnii. If we are still in doubt, we grasp the upper fœtal pole with the left hand, and as the lower pole of the fœtus is fixed against the pelvic floor, if we press downwards towards the pelvis on the upper pole, we will produce a more marked flexion of the back, so that the right hand in palpating can easily detect the difference in the resistance on the two sides of the abdomen. As a result of palpating the central zone of the uterus by these different methods we can determine the following five points:—

1. As already described we can locate the back.

2. We can usually feel one or more small irregular prominences on the opposite side of the abdomen, and the mother will probably tell you that it is in the same part of the abdomen she feels the movements of the child's limbs. Except in twins, finding the small parts in one section of the abdomen confirms the location of the back in the other. Small parts, few and hard to find, suggest an anterior position of the child, especially if they are found at some distance from the middle line. Perhaps you may chance to feel the gentle tap of the feet against the mother's abdominal wall while you are palpating. If these movements and irregular nodules are felt near the middle line, it is pretty strong evdence that the child's back must be against the opposite side of the uterus, which means that we are dealing with an occipital posterior position.

3. In very rare cases we may find that the long axis of the child runs in a transverse direction, and then we feel either the round, hard head, or the broad, irregular breech at the side of the uterus, but this abnormality is so evident that one can usually recognize it at a glance.

4. Having determined upon which side the back is lying, we can go one step further and determine whether the occiput is probably in an anterior or posterior position. If the area of resistance corresponding to the back is followed upwards and downwards, and is found to present a uniform curve with a broad, smooth surface, which runs off smoothly on to the head, it is probable that the child is lying in the first or second position (L.O.A. or R.O.A.), but if the area of resistance is not so broad, is inclined to be straight instead of convex from end to end, and a distinct sulcus is felt where the hand passes over the anterior shoulder and on to the head, it is probable that you are feeling the side of the fœtus instead of the back, and this, of course, would mean that you have either a right or left posterior occiput position.

5. Occasionally you may be able to diagnose the presence of twins by noting that the woman has an unusually large and tense abdomen. Sometimes you can demonstrate a groove running along between the two bodies, and occasionally you can palpate two heads, etc.

II. We now proceed to make use of the fundal grip to ascertain which pole of the fœtus is occupying the upper zone of the uterus. Having located the back, we follow it upwards until both hands are placed over the upper pole of the fœtus, but not necessarily of the uterus, and then by pressing the palms of the hands firmly against the abdominal wall we are able to keep the body of the fœtus firmly fixed between them, while at the same time we can try for ballotment of the head with the tips of the fingers. If the head is occupying the upper zone of the uterus, we will be able to toss it from one side of the uterus to the other on account of the hinge movement at the neck, whereas in the case of a breech, the whole fœtus will move *en bloc* when we try this test. The head is more moveable than the breech for two reasons:—

1. On account of its globular shape it is not so completely invested by the uterus as the breech, but is only in contact with the uterus in certain places.

2. The articulations of the neck enable it to move from side to side independent of the trunk, while the breech being part of the trunk can only move *en bloc* with the latter. In consequence of this it is possible to ballot the head between the hands, a process which is impossible in case of a breech. If we do not get the ballotment of the head, and if the hand in following up the outline of the back seems to pass over a large, irregular, indefinite mass, and especially if we can

feel the fœtal small parts at the upper end of the fœtus we can be pretty sure that the breech is occupying the fundus.

Note.—Jellett says that the upper pole in difficult cases has a tendency to get back behind the ribs, and that you can often facilitate your examination in these cases by pressing the lower pole upwards and backwards towards the same side on which the back lies. This will have a tendency to displace the upper pole out from its position behind the ribs, towards the centre of the uterus, and at the same time a little forward, so that the examining hand can more easily recognize its distinctive features.

III. Having ascertained upon which side the back is lying, and which pole of the fœtus is occupying the fundus of the uterus, we can now turn our attention to the lower pole of the fœtus, and in studying its position we will first make use of the superficial pudic, or pawlic's grip. It is made by the fingers of the right hand. Place the thumb over the right Poupart's ligament, and the fingers over the left. Now gently sink them down and approximate them so as to grasp the lower pole of the fœtus. Sometimes the layer of fat in the abdominal wall will obscure what you are feeling, and in these cases you can often improve the condition, by trying to insert your fingers in the interval between the fat and the ligament so as to lift the pad of fat up out of the way. (McIlwraith.) In this locality you would either grasp the head or the breech. The breech is much larger, more indefinite, much softer, less movable and presents no sulcus as one would feel between the head and the anterior shoulder, while the head is much smaller, is more movable, and presents the characteristic cannon-ball feeling which is so easily learned and is so impossible to mistake for any other part of the fœtus. By using this grip we can determine thirteen diagnostic points:—

1. Whether it is a breech or head presentation, as already described.

2. It is especially useful to distinguish a normal from an abnormal head presentation, because by this means you can diagnose between vertex, brow and face presentations, by observing the relative position of the chin and the occiput above Poupart's ligament. By occiput is meant the prominence of the occipital protuberance. In a normal case the head being well flexed, the fingers will naturally sink deeper on the side of the occiput than they will on the side of the flexed chin. However, if the chin becomes extended you will get a brow presentation, the occiput will be thrown back, and it will be equally easy for you to sink your fingers on either side. Exaggerate this a little more and you get a face presentation, and this time the chin being fully extended, the fingers sink more easily on its side than they do upon

the side which is now mostly occupied by the occiput, or, according to Jewett, "If the chin lies higher than the occiput it is a vertex; if both are at the same level, it is a brow, and if the chin is l ver than the occiput it is a face presentation." (By "higher" Jewett means nearer to the fundus uteri.)

3. If the chin can be felt anteriorly the case must be an occipital posterior, because the back of the head is against the posterior wall of the uterus.

4. If the patient is not in labor, and if the presenting part fills the brim, it can only be a vertex. (Pinard.) Normal primiparæ are generally engaged for three or four weeks before labor, while multiparæ are sometimes not engaged until the membranes rupture.

5. If the patient is in labor, and the head is past the brim, the resistance experienced by the fingers may also be due to some portion of the fœtal trunk, which has become, or is becoming impacted within the pelvis. In such a case, the part of the fœtus which is most usually felt is formed by the shoulder and a part of the back, and the head, or presenting part, would be on or near the perineum.

6. As a general rule, we may say that in primiparæ the head is generally fixed during the last three or four weeks of pregnancy, while in mutliparæ it may not be fixed until the beginning of labor, owing to the greater relaxation in the bladder of the abdominal muscles. "So that, if we meet a case in which the head ballots freely above the brim at a time at which it should be fixed, pelvic contraction is the first condition to be thought of." (Jellett.) Other conditions which tend to prevent fixation of the head are: Pendulous abdomen, placenta previa, face or brow presentation, occipital posterior presentation, or a hydrocephalic head.

7. In using the superficial pelvic grip the most prominent part of the head is on the same side as the small part in a normal case, and on the same side as the back in abnormal or face presentation.

8. The degree of ease with which the prominence is felt indicates the extent to which descent has occurred, but only an abnormal or face presentation.

9. Sometimes the relative size of the child and its head can be roughly estimated, *e.g.*, hydrosephalic head.

10. You can often locate the anterior shoulder while using this grip, the shoulder on the left side of the median line indicating a left position of the fœtus. The anterior shoulder, when near the median position of the fœtus. The anterior shoulder, when near the median line, indicates an anterior position, and a distance from the median line an occipital posterior position.

11. During uterine contractions, on careful palpation in the region of the internal abdominal ring, one can often distinguish a round cord on either side (the round ligament), from which important information may be obtained. In the first place the intensity of the contraction gives us some idea as to the manner in which the uterus is acting, and secondly, by noting their course as pointed out by Palm and Leopold, we are enabled to diagnose the position of the placenta in about 88 per cent. of all cases. When the round ligaments are found converging towards the fundus of the uterus, the placenta is usually situated in its normal position upon the posterior wall, whereas, when they are parallel or diverging, the placenta is situated between them on the anterior wall.

12. During labor palpation also gives us valuable information concerning the lower uterine segment, when there exists some obstruction to the passage of the child, or some malposition of the fœtus. You can sometimes notice in these cases that the retraction ring (the junction of the lower dilating part and the upper retracting part of the uterus) will be felt as a transverse ridge extending across the lower portion of the uterus. When it rises one and one-half inches above the symphysis it constitutes one of the signs of threatened rupture of the uterus, but here we must always exclude a distended bladder.

13. The location of the placenta, when implanted anteriorly, can sometimes be determined in external examination. The convex margin can occasionally be felt as a resisting ring, or you may notice that within the placental area the fœtal parts are obscured to the touch.

Just here I might mention that I do not assume that the beginner will make out all these points, nor even that an expert can make them *all* out in *every case,* but if one will only take the trouble to examine every case that comes under his observation, he will soon become very expert, and by summing up all the points that he can demonstrate in each particular case under observation, he will rarely fail to make a correct diagnosis.

Deep Pubic.—To make this grip the examiner must turn around and face the patient's feet. He then places his hands over the abdomen so that the finger tips are just above Poupart's ligament. Wait for a moment or two, to catch the muscles off their guard; in the meantime ask the patient to take a full breath and then let it out. As the diaphragm ascends and the abdominal muscles relax, gently but firmly sink your fingers downwards and backwards under the pubic arch. This grip is only to be used after the presenting part has engaged, so your fingers will either come in contact with a large, soft, irregular mass corresponding to the breech, or the tipes of your fingers will come in contact with a smooth, round, globular mass corresponding to the head.

In my small experience, when once I could feel that hard cannonball with the tips of my fingers, I felt as if I had progressed a long way in the diagnosis, because you are sure that you have a head presentation, and if it is engaged so well that you require the deep pelvic grip to feel it, you may be comparatively safe in thinking that you have either a normal presentation, or else you have a sufficiently roomy pelvis to accommodate the head in its malposition. The same rule applies here as in the superficial pelvic grip as regards the relative position of the occiput and chin, and is concisely stated in the following phrase: "That side on which the hand descends furthest is the side to which the back is directed, in a normal presentation, because the chin will be flexed and the hand will go down further on the side of the occiput."

Auscultation.—Auscultation of the uterus as a means of diagnosis is entirely a product of the nineteenth century. In 1818, Mayor, of Geneva, announced that the pulsations of the fœtal heart could be heard in advanced pregnancy, by the ear applied to the abdomen of the mother. His discovery did not at first attract any great attention, and it was not until 1847 that Depaul described the practice of auscultation as a means of diagnosing the presentation of the fœtus.

From the time of Depaul onwards the practice of auscultation has steadily increased in popularity, as a means of diagnosing, first, the *existence;* second, the *life;* third, the *presentation and position* of the fœtus; fourth, the *probable situation of the placenta*, and fifth, *twin pregnancy*. It can be carried out in three ways:—

1. By placing the ear upon the abdomen. This sometimes enables you to hear heart sounds that you would not be able to catch with the stethoscope, but I have always found that I could not localize them very satisfactorily by this method.

2. By using a stethoscope. This I have always found to be the most satisfactory, especially if you press rather firmly against the abdominal wall, as it then makes a solid medium which is better for conduction. With this method you can localize the sounds, and this is very important in diagnosing the position of the fœtus.

3. I believe that Dr. Fenton prefers the phonendoscope, and that it should only be placed lightly upon the surface of the abdomen. He claims that he can hear sounds by employing this method that would not be detected by the other methods.

Fœtal Heart Sounds.—These are sounds exactly similar to the maternal heart sounds, with the exception that the rate is twice as fast and the sound is not so loud. They very closely resemble the ticking of a watch. Their average rate is 140, and the highest and lowest rate in the case of infants who have been healthy at birth is, respectively, 160 and 120 (Depaul), but in pathological cases they may be

much lower, or so high that they can scarcely be counted. Some men claim that a slow heart count indicates a male child, while a rapid count indicates a female child.

I do not know just how much reliance most men put upon heart sounds for diagnostic purposes, but in the cases that I have seen during this year I have placed great reliance upon them, and have rarely seen them fail if their significance is properly appreciated. One should always remember the following rules:—

1. In a normal primipara, if the case is a head presentation the heart sounds will be below the umbilicus, on the left side in an L.O.A. and on the right side in an R.O.A.

2. If the case is an occipito anterior the heart sounds will have their site of maximum intensity close to the middle line—that is to say, about one or two inches from the middle line; while if it is an occipito posterior position the site of maximum intensity will be away out in the flank.

3, In breech cases, before the lower pole has started its descent the heart sounds will be heard at the level of or above the umbilicus on the right or left side according to the position.

Exceptions to these Rules.—1. In multiparæ the head may not engage until after dilatation has taken place, so you cannot put much dependence upon their position as regards their height in the abdomen; but, of course, their significance as to right and left is unchanged.

2. On account of the rectum being on the left side it is only natural that there is more room in the right oblique diameter, hence the great majority of cases start in this diameter, either as a left occipito anterior, or as a right occipito posterior. It is this right occipito posterior position of the fœtus that is the stumbling-block to so many men, as so many say that they have had cases where they could hear the heart sounds quite distinctly upon the left side, and yet they found later on that they had an R.O.P. In these cases we have three facts to bear in mind:—

(*a*) If the pelvis is large, and the head well placed, although the heart sounds are heard in the flank at the beginning of labor later on they may be heard near the middle line, because a great many of these cases rotate to the second position and are delivered as occipito anteriors.

(*b*) As a rule the heart sounds are heard through that part of the fœtus which is nearest to the abdominal wall. This is generally the posterior part of the anterior shoulder in an occipito anterior position. In an ordinary occipito posterior position the heart sounds are heard through the posterior shoulder, and hence will be found out in the flank.

(c) We may have the fœtus in the same position, but if the head is extended instead of flexed it will cause the chest to be thrown forward and then it becomes the part of the fœtus which is nearest the abdominal wall, and hence the heart sounds will be heard upon the opposite side of the abdomen. These cases might also be called face presentations.

3. The funic souffle is a blowing sound which is heard in certain cases on listening over the fœtus, and which is synchronous with the fœtal heart. It, as well as a very rapid or a very slow fœtal pulse rate, is supposed to indicate a bad condition of the fœtus.

4. Heart sounds heard in more than one position, especially if there is an interval between them where they are very indistinct or die away altogether, is the most important diagnostic sign we possess of the existence of twin pregnancy.

Vaginal Examination.—Internal examinaation is advisable in all cases as a part of the preliminary examination in women pregnant for the first time, and in others whose obstetrical history leads to a suspicion of pelvic deformity it is imperative. For my own part I think that we should depend almost entirely upon abdominal examinations for our diagnosis. The obstetrician must make one vaginal examination to guard against such an accident as a prolapsed cord or limb, and at the same time to secure confirmatory evidence of the correctness of his diagnosis by external palpation. By it can be determined.—

1. The size and condition of the vulva and perineum. If you are examining a primipara try to estimate the probability of having a tear, and the amount of time it will require to prevent it. In multiparæ notice whether you have a relaxed outlet, or perhaps the presence of scar tissue indicating old tears. Perhaps you may chance to notice muconium upon your examining finger, or it may be noticed upon the aseptic pads covering the vulva. As a rule when we see meconium in the discharge we at once conclude that the child is alive and that we have a breech, but this is not always the case. We may get meconium in vertex presentations, but it is always a sign for rapid delivery, as there must be some undue pressure upon the fœtus.

2. As your hand enters the vagina you can estimate the size and condition of it, also the presence of a prolapsed cord or limb is such a condition should happen to exist in the case under examination.

3. Now hunt with your examining finger for the cervix. If it is readily found you can, as a rule, assume that you have a normal position, but if the cervix is placed far back in the vagina so that it is hard to find with the examining finger, beware, as you will often meet this condition in malpositions of the fœtus, especially occipito posterior

positions. Having found your cervix, notice the amount of dilatation that exists, and whether the cervix itself is soft and dilatable, or hard and rigid. At the same time run your finger around the edge to see if there are any old tears in it. Another point to be noticed is the presence of a placenta previa, either marginal, partial, or complete. Always be prepared for trouble when the head begins to descend through the canal and pushes the undilated cervix before it.

4. If the cervix isc dilated, notice the condition of the membranes. Does the probable stage of the labor, the amount of dilatation of the cervix, and pouching of the membranes seem to correspond, or does there seem to be something irregular about them? In a primipara, in a breech case, or, in fact, in any malposition, the presenting part will not fit accurately into the cervix. This allows the whole force of the uterine contraction to come upon the liquor amnii, and it, of course, tries to escape at the point of least resistance, which is the cervix. If the one is rigid you will notice that the membranes will protrude like the finger of a glove, and they will break early, but if the case is a multiparæ the cervix dilates easily, and you may find a large, wide pouch of membranes, which sometimes descends to the external os before it breaks. I many case, if you have the waters coming away with a rush in the early part of labor, suspect a breech or a malposition of the fœtus.

5. Having ascertained the condition of the cervix and the membranes we have yet to determine which pole of the fœtus is occupying the cervix, the amount of advance that it has made, and if there is sufficient room for it to pass through the bony pelvis. If the presenting part is not fixed, we endeavor to touch the promontory of the sacrum with our middle finger, while the base of the thumb is pressed against the subpubic ligament. If we cannot touch the promontory of the sacrum, we are pretty sure that we have plenty of room. If we can touch it, we mark the position of the subpubic ligament upon our first finger, and then measure the distance between this point and the end of the second finger. A measurement of four inches indicates a dangerously contracted pelvis, while three and one-half inches is generally taken to be too small for delivery of a live child per vaginam.

6. As to the nature of the presenting part and its fixity this should be determined by external examination; however, vaginal examination sometimes gives valuable aid. The first circumstance to excite suspicion on examination, even with the os undilated, is the absence of a hard, globular mass felt through the lower segment of the uterus, so characteristic of the head. Personally, I never bother with the fontanelles and sutures, except to note their presence and that marked separation of the head bones indicates a hydrocephalic head, as they are so often unreliable. In a breech case you get a much softer pre-

senting part, offering three point of bony resistance formed by the tuberosities of the ischium and the tip of the coccyx. Its surface markings are the aperture of the anus and the external genitals. It must be diagnosed from a face presentation, but here you have the characteristic aperture of the mouth with its bony ridges for the teeth, and the fact that the anus does bite or grip your finger. (Dr. Adam Wright.) Lastly, in cases of doubt, where the cervix is well dilated, you can make sure of your diagnosis by introducing your hand into the cervix and feeling for an ear, etc. Be careful that the ear is not doubled upon itself.

The Course and Progress of Labor.—1. The progress of labor is best determined by noting the descent of the presenting part. In the early stages this can be determined by measuring in finger breadths its height above the pelvic brim.

2. After the chin has disappeared below the pelvic brim the rate of advance can then be determined by the deep pelvic grip until it has descended almost to the perineum, and by that time you can ascertain the amount of descent by noticing the amount of the bulging of the perineum until you feel the resistance of the presenting part.

Jellett says that this is a very much more reliable method of determining the advance of the head than is a vaginal examination, because in all cases of delayed labor with strong uterine contractions the caput succedaneum hourly increases in size and bulges downwards more and more; consequently we may be led when making a vaginal examination to attribute the diminished distances between the caput and the perineum to the descent of the presenting part instead of, as may be the case, to the increasing size of the caput.

In conclusion. I will briefly state the advantages of external palpation over repeated vaginal examinations:—

1. It can be performed at any time before the beginning of labor without the use of an anesthetic. You can send your patient word that you will call upon her at a certain date, and request her to save a specimen of urine.

2. No patient can object to it on the ground of indecency. In fact it is an excellent procedure to overcome the extreme bashfulness of some patients. In these cases you can start with your hands under a thin sheet, or even an undercover, because you are intending to gradually work it off anyway.

4. It makes a good beginning for a complete physical diagnosis for the purpose of detecting heart murmurs, diseased breasts, etc.

5. Some men say that this is not practical, because, even if you do diagnose the position of the child during the last month of pregnancy, the position may be different at labor. In answer to this argu-

ment I say that it is practical because, in the first place, if you go at some convenient time and make sure that you have a normal position, you can rest assured that everything will come along in a natural way at the confinement. To be sure of this is worth something to a man if he happens to be engaged so that he cannot leave at once when he is called for the confinement. Secondly, although I do not dispute the argument that the child often changes its position during the last month of pregnancy, still on inquiry I have found out from men of large experience that although they have often noted that an abnormal may change to a normal, they have never seen a normal case change to an abnormal. So if we diagnose an abnormal position we will be prepared to deal with it, knowing that if there is any change in the position it will be towards the normal.

6. It must be acknowledged that its value is greater before than during labor. Before labor it is ten times more certain than vaginal examination, and even in labor, especially at the first of it, you can generally make a correct diagnosis by this method.

7. It practically eliminates the danger of infection through the vagina, owing to germs being carried upon your hands during some of the repeated examinations. It is now an acknowledged fact that we cannot completely sterilize our hands. Of course, we can wear gloves which can be boiled, but the great source of infection is the vulvæ, and the insurmountable barrier is that women will not consent to have them boiled. (McIlwraith.)

8. The progress of labor can be judged just as accurately after a little practice by this method as it can by repeated vaginal examinations.

9. It compels a man to study the different positions of the child and their relations to the birth canal before he can use this method, and thus it makes him a more intelligent obstetrician.

DIET IN DYSPEPSIAS.

In all forms of stomach disease the patient should be impressed with the importance of the following points:—

1. The food must be simple; the mixing of all kinds of things in a single meal, as in the ordinary course dinner, is a digestive danger.

2. Frugality. Overeating is the source of most of our bodily ailments.

3. Thorough mastication. And this means that the patient must take time to eat—must make a serious business of it—while aiming to get the utmost satisfaction out of the function.—Burdick, *American Journal of Clinical Medicine.*

QUEBEC MEDICAL NEWS

Conducted by MALCOLM MacKAY, B.A., M.D., Windsor Mills, Que.

After considerable delay in building operations, caused by strikes and lack of material, the Alexandra Hospital is now completed, and the consulting and attending staffs have been appointed. The appointments are most excellent and thoroughness and efficiency are assured in all departments. The consulting board is composed of three representatives from the General Hospital, Dr. Blackader, Dr. Lafleur, and Dr. H. D. Hamilton; three from the Royal Victoria, Dr. Martin, Dr. W. F. Hamilton, and Dr. Birkett, and two from the Western Hospital, Drs. McConnell and Grant Stewart. The attending physicians are as follows: for measles, Dr. Peters; diphtheria, Dr. A. H. Gordon; scarlet fever, Dr. McCrae. These will act with Dr. J. C. Fyshe, the medical superintendent, who has just returned from a special course in the Boston City Hospital. Dr. Klotz and Dr. Duval have been secured as pathologists, and power has been given the medical board to engage the services of specialists in surgical emergencies.

The gift of an additional $25,000 by Lord Strathcona carries the amounts subscribed to within $75,000 of the total required to extinguish the debt completely, and it is expected that in a short time this amount will be raised.

The resignation of Dr. E. P. Lachapelle from the position of superintendent of Notre Dame Hospital has been accepted by the board of management. At the same meeting the board was informed that Mr. Rodolphe Forget, M.P., had consented to withdraw his resignation, and would remain vice-president of the hospital. Dr. Lachapelle still remains medical superintendent of the institution, however, but it is understood that he will withdraw from that position within a short time. The medical superintendent is elected by the members of the medical board, and the other members of the medical council are likewise elected by their confreres. Dr. Lachapelle, since the inception of the hospital has held the dual position of superintendent appointed by the board of management, and medical superintendent, elected by the doctors. The superintendent is appointed from among the directors of the institution, and no choice has yet been made by the board to replace Dr. Lachapelle. For the position of medical superintendent, which will be vacant within a short time, the names of Drs. Harwood, Mercier, Foucher and others are mentioned as possible successors to Dr. Lachapelle.

At the annual meeting of the Montreal Dispensary Corporation an increase of 1,500 consultations over last year were reported. In all the number of patients for the past year was 19,195, classified as follows: general diseases, 9,077; diseases of eye and ear, 2,366; diseases of women, 1,333; diseases of nose and throat, 671; diseases of skin, 2,771; diseases of children, 2,827; dentistry cases, 210.

The treasurer's report showed a surplus of $150 over all expenditures. Dr. J. J. McGovern was elected assistant physician, and the following officers were unanimously elected:—President, Dr. J. M. Jack; First Vice, G. Esplin; Second Vice, G. F. C. Smith; Hon. Treasurer, Dr. Kerry; Hon. Secretary, Dr. Carmichael; Committee, Drs. H. D. Hamilton, Brown, and Westley, Messrs. Phillips, Stearns, Rothwell and Kerry.

The resignations of Dr. T. D. McGregor, as dentist, and Mr. Gourley, as apothecary, were accepted, and Dr. Ship was appointed to the former position while the latter was left vacant for the time being.

At the Montreal Medico-Chirurgical Society, Dr. Royal Whitman, of Columbia University, New York, read a paper on "The Weak Foot, Commonly Known as the Flat Foot, with especial reference to the principles of curative treatment."

The District of St. Francis Medical Society held the regular meeting on May 16th, in Sherbrooke. The attendance was small and the regular business was not carried through, remarks on cases in practice with exhibition of pathological specimens being the only part of the programme attempted. Dr. Williams reported a case of ectopic gestation with rupture. The patient, a woman aet. 24, married, with four children, had her last menstrual period about the first of April, and it lasted eight days. On the first of May the flow began again, but ceased immediately. She felt a little pain on Monday, May 7th, referred to the lower part of the abdomen, but this disappeared shortly. On May 12th she got up at 6 a.m. feeling quite well, but while doing her work she suddenly felt a severe pain in the abdomen, low down and about in the middle line. This continued to increase in severity, and at 8 a.m. she called in her doctor, who found extreme tenderness all over the abdomen, which was distended and tympanitic throughout; there was no definite rigidity, but the patient remained on the right side and would not permit anything more than very moderate pressure on the abdominal wall. Hot applications gave some relief, but the patient began to breathe more rapidly and the pulse, which had been 100 in the morning, ran up to 120 at noon. By this time dulness on percussion was noticeable on the right flank, and a soft mass palpable

in the right vaginal fornix, and a diagnosis of internal hæmorrhage from a ruptured tubal pregnancy was made. The patient was removed to the hospital and operated upon, the left tube and ovary being removed. The blood and clots were taken from the peritoneal cavity and saline solution introduced. Although the pulse could not be felt at the radial when the patient was placed on the table and the heart beating 150-160 to the minute, the pulse came down to 108 within twelve hours and the patient's condition continued to improve steadily. On examination the tubal pregnancy was seen to have ruptured through the point of anastomosis of the uterine with the ovarian artery, the swelling being about one inch from the uterine end of the tube and not more than half an inch in length. A probe could not be passed through the uterine end of the tube although the upper portion was patent.

Dr. Mackay showed a specimen of urine of a bright red tint, similar in appearance to a strong solution of eosin. This was obtained from a child who had eaten three or four biscuits with a coating of red sugar on top of them. Two other sisters of the child, who had eaten but one biscuit, had a similar condition of the urine. The doctor took half a biscuit himself, and within eight hours the urine assumed a pink tinge, which persisted for four or five days.

A curious symptom in the case of the child was the one for which the doctor had been called out, namely, the pigmentation of the whole skin surface of the little girl. It turned a bright pink color, not with capillary flush, but a dead pink, as if the child had been dipped in red ink and powdered. One other child in the same town had been affected in a similar way.

Dr. Mackay stopped the sale of the biscuits in the town and called the attention of the health officer in Montreal to the fact that the biscuits were made in that city, and requesting an analysis to be made to find out what the pigment was and to prevent its use. In reply, Dr. J. J. McCarrey, chief inspector, stated that he had secured samples of the biscuits and of the dyes used in the manufacture, and on analysis "nothing injurious to health was found in the biscuits and that the dyes contained no metallic salts or other poisonous substances." No mention was made of the sale being prevented, and one might infer that it was considered quite legitimate for the manufacture to continue. Dr. Mackay had written protesting against this decision, if such had been made, but had not received any reply, although he mentioned that the case would be published. Several of the members present expressed the opinion that any substance which produced such marked changes should be excluded from use in the manufacture of articles for human food.

CURRENT CANADIAN MEDICAL LITERATURE.

The Canadian Practitioner, May, 1906.

THE ORIGIN OF THE HUMAN MIND.

James Baugh, of Hamilton, offers some interesting speculations upon this subject. He states that the faculty of choosing is peculiar to all forms of cell life. It is distinctly thoughtful, purposive and methodical. It is the first indications of mind *in embryo*. Motion in the cell does not give rise to this cell intelligence, but the reverse. Matter and energy appear to be always associated, and life and intelligence must go hand in hand in the production of the phenomena of the animal and vegetable world. The most minute particle of living matter has the power of propagating itself and also of power of evolving some specific organism.

In the case of the human ovum and spermatozoon their cell intelligence brings them together, evolving a new being much more complex than the ovum and spermatozoon from which it took its origin. The intelligence of the ovum in like manner and that of the spermatozoon blend and produce an intelligence greatly in advance of either, as the human body is vastly more complex than either the ovum or the spermatozoon. From the union of these embryonic minds springs the human mind. The writer contends that *in utero* the prenatal and atavistic impressions through the mother influence the fœtus until its birth. At This time the embryonic mind becomes conscious of its being, and may be passively influenced by its environments, or actively select for itself and modify these.

It is then assumed that life is a continuous force possessing intelligence or mind, filling all space and time. The intelligence from which the human mind is derived is infinite and eternal. The human is but one form of this intelligence, which is found in the flower, the fruit, the tree, and the blade of grass. Being, life and intelligence depend on the presence of a ubiquitous intelligent life, filling all forms of life. The infinite mind is manifested in the human mind, which becomes conscious of its existence after a period in an objective environment. If it would dominate it must strive. As a social unit it is responsible to organized society. It is, in essence, eternal; but, whether as a separate existence, or as part of the infinite ocean of intelligence, no opinion is expressed.

THE FŒTUS IN UTERO AND ABDOMINAL PALPATION.

Dr. R. G. Snyder, in opening this paper, contends that it is only second in importance to obstetrical asepsis. Attention is directed to the fact that 94 years ago Wigand recommended abdominal palpation in pregnant women. Schmidt, Hohl, Credé, Leopold, Pinard, Macan, Neville and Smyly have also spoken of the value of abdominal examinations in obstetric practice. It is of recent years, however, that the subject has attracted real attention.

The patient should be on her back on a table or firm bed. The examiner should warm his hands. The patient should be induced to relax the abdominal muscles. The examiner should take up his position on the right side of the patient.

The palpation should be commenced in the region of the umbilicus. One hand is placed on either side of the uterus, and by carefully moving them the most prominent part of the fœtus is located, which is usually the back. By pressing the palm of one hand on the centre of the uterus the liquor amnii is forced to one side and the fœtus to the other. This aids in making out the real position. By these manipulations we can determine:—The position of the back, the position of the limbs may be located on the opposite side, the long axis may be found to be transverse, may determine whether the occiput is anterior or posterior, right or left, and it may be possible to diagnose twins by the shape and tenseness of the abdomen, or by the presence of a space between the fœti.

The Dominion Medical Monthly, April, 1906.

RELAXED ABDOMINAL WALLS AND DISEASE OF THE DIGESTIVE ORGANS.

Dr. Joseph Gibbs, of Victoria, B.C., contributes an exhaustive paper upon this subject. He takes up the position that infection is the exciting cause of pancreatitis, pancreatic calculi, cholecystitis, gallstones, disease of the liver, gastric and duodenal catarrh and ulcers, etc.

He goes on to show that the duodenum is the starting point of the infection. This infection is due to an obstruction in the duodenum, and that this in turn is caused by the sperior mesenteric vessels where they cross the third portion of the duodenum. If the abdominal walls are relaxed the weight of the intestines renders these vessels tense and cause pressure on the duodenum. In this way it becomes obstructed and an infection ensues. He quotes from Deaver, Ochsner, Robson, Moynihan, Robinson, Osler, and others, to establish this position. He reports some observations of his own on the confirmation of the view that the real cause of these diseases is pressure on the duodenum by the superior mesenteric vessels.

The Montreal Medical Journal. April. 1896.

IODINE IN THE TREATMENT OF TUBERCULOSIS.

Dr. George A. Brown reports his experience with the iodine treatment of tuberculosis. His formula is precipitated iodoform, 100 grains, acacia powder, 25 grains, glycerine, 200 minims, carbolic acid, 5 minims, boiled distilled water, 300 minims.

The injections are made under the most strict antiseptic precautions. The site chosen is the space between the acromion process and the capsule of the shoulder joints. The needle should be a fine one. The skin is cleansed and frozen with ethyl chloride. The vessels and the syringe are rendered sterile by hot water.

The amount used at each injection is 48 grains of the solution in laryngeal cases, 12 to 24 grains in non-pulmonary cases, and 8 to 12 grains in pulmonary cases. If there be much disease the doses should be small. In most cases about 12 grains every two weeks are given.

In the intervals the patients are prescribed some tonic, such as Easton's syrup, or acid phos. dil., and strych. phos. The following mixture is given every four hours between meals in water: iodine, gr. $\frac{1}{2}$; potass. iodide, gr. $\frac{1}{4}$; sp. vini rect., m.xv.

A number of cases are reported showing the satisfactory results of this method of treatment.

THE TREATMENT OF OSTEOMYELITIS.

In this paper Dr. A. E. Garrow reviews the literature and gives an account of the pathology and treatment. Osteomyelitis is an infective inflammation of the marrow of the long bones, or the concellous tissue of the irregular bones. It is an acute suppurative process due to an infective organism. It is most common in childhood and adolescence. Bruises, sprains, wet, cold are predisposing causes. The streptococci and staphylococci are the principal organisms found, but the bacillus of typhoid fever and the pneumococcus are pathogenic to osteomyelitis.

The writer refers to the works of Frankel, Bloodgood and Keen to the effect that during the progress of the various infectious diseases foci of infection may take place in the bone marrow, but these may not break down at the time. Long afterwards, as the result of trauma or cold, these foci may become active, causing acute osteomyelitis.

In some of these cases there is so much destruction of endosteal and periosteal tissue that the repair of the parts is very slow and the cavity may persist for a long time.

The symptoms of infective osteomyelitis are sudden local pain of throbbing character, the situation is near the end of the affected bone, the pain is increased on jarring the limb, swelling of the soft parts occur,

pitting is noticed, the adjoining joint is swollen and contains extra fluid which may become purulent.

In operating upon such cases the utmost care should be taken over the endosteum and periosteum. In closing old cavities, efforts must be made to secure an aseptic condition in them. Various materials have been employed, as Senn's decalcified bone, Schede's blood clot, Neuber's skin flaps, Hamilton's sponge grafts, iodoform wax and paraffin preparations.

He recommends Mosetig-Moorhof's method. The roof of the cavity is thoroughly removed, the periosteum is preserved, endosteal bone is chiselled out, the cavity swabbed with carbolic and alcohol, and thoroughly dried. The cavity is then filled with melted sterilized iodoform, cetaceum and oil of sesame. When the mixture is firm the periosteum is closed down, the soft parts sutured, and drainage used. This treatment is very useful in tuberculous cases.

DEVELOPMENT OF KNOWLEDGE OF CIRCULATION.

In this paper Dr. A. H. Gordon gives a historical study of our knowledge on the circulation. Even yet we do not know the why or the wherefor of the heart's action.

Hippocrates had some knowledge of the heart and its valves. He attributed life to the heat generated in it, and the air breathed.

Aristotle regarded the heart as the organ that made the blood and gave it heat, but he had no knowledge of the movement of the blood. According to him the pulmonary vessels carried to the heart vital spirits.. The cause of the heart's action was thought to be due to ebullition or generation of heat.

Praxagoras taught the difference between the veins and the arteries; but, according to him, the former carried blood and the latter air.

The Alexandrian School made some important discoveries by means of dissections. Erasistratus considered that there was one vital spirit obtained from the inspired air and carried to the left ventricle through the arteries. This caused the heart's beat and the pulse, and was the agent of heat and nutrition. The other vital spirit was generated in the brain and was carried by the nerves. It was the cause of consciousness, perception and motion.

The Alexandrians knew of the heart's valves, but not of a circulation in the true sense. According to them the body was supplied by blood through the veins and by spirit through the arteries. The diastolé of the heart sucked up blood for the nourishment of the lungs.

Galen described the valves carefully. He regarded both diastolé and septolé as active processes. The liver was the main blood making organ, and the arteries contained lighter or more spirituous blood than did the

veins. He was aware of the anastomoses between arteries and veins. From the vessels going to the skin there escaped excrementitious products, while from those going to the lungs fuligenous vapours like the smoke of combustion. According to Galen the heart drew in blood from both directions and sent it forth both ways.

Andreas Vesalius was a good anatomist, and cleared away many of the false views existing in his day. He pointed out the absurdity of Galen's teachings on many points, especially the passage of blood through interventricular septum.

Realdus Calumbus pointed out in 1559 that the blood got its bright color in the lungs, and the pulmonary vessels carried blood and not air.

Servetus, who was burned at the stake by the ordar of Calvin, clearly pointed out the nature of the pulmonary circulation.

Fabricius, an Italian, discovered the valves in the veins. While he was teaching at Padua Harvey became his pupil. In 1616 he delivered his Lumleian lecture in which he announced his doctrine of the circulation. Some twelve years later he published his little book of 72 pages.

In 1622 Aselli discovered the lacteals, and, a little later, Pecquet, of Paris, the thoracic duct. Four years after Harvey's death Malpighi discovered the capillary circulation.

Haller, the Webers, Bidder, Remak and Gaskell have added something to our knowledge of the heart's rhythm.

CORNEAL ULCERATION FROM DIPLO-BACILLUS OF MORAX-AXENFELD.

A case is reported by Hanford McKee, M.D., of ulceration of the cornea caused by the Morax-Axenfeld diplo-bacillus. This is not a common form of disease from this organism. Out of 70 cases of conjunctivitis due to this bacillus, the author only saw two with ulceration of the cornea. The treatment was instillations of scopalamine, solution of sulphate of zinc and frequent irrigations with warm boracic solution.

STONE IN THE URETER.

Dr. R. P. Campbell gives the report of a case and a good skiagraph of a calculus in the ureter. The Röentgengraph shows the calculus to be half an inch from border of the spine, and one and a half inches above the crest of the ilium. The calculus was removed successfully.

The Maritime Medical News, April, 1906.

THE HEALTH ACT OF NEW BRUNSWICK.

Dr. J. W. Daniels discusses at length the Health Act of New Brunswick. The Board of Health consists of seven persons, one of whom is secretary. The board is vested with very full powers in health matters.

It may act in all cases where the health of the people demands such action. It can advise in the management of contagious diseases, sanitation, drainage, etc. The board or any of its members may visit any part of the Province and investigate and take charge of matters of public health. The Province is divided in districts with local boards, which may appoint a local health officer. These boards have power to deal with stations, houses, hotels, clothing, disinfection, etc. The expenses of the board are paid, but the positions on it are honorary.

The following improvements in the Act are suggested:—

1. Paying the chief officer a living salary, so that he may give his whole time to his duties.

2. He should be appointed by the board, and be under its control.

3. There should be on the central board a member from the district local boards.

4. Practising physicians should be paid for reporting cases requiring such.

5. Money should be placed in the hands of the board and its local branches to deal with contagious diseases or emergencies.

SUBDIAPHRAGMATIC ABSCESS FOLLOWING OPERATION FOR APPENDICITIS.

W. Rockwell, M.D., gives the history of a cases of appendicitis which was operated upon. There were many adhesions and about two ounces of pus.

Seventeen days later there was large accumulation of pus in the right hypochondrium. An aspirator was used and 50 ounces of pus withdrawn. The case required a second aspiration. The abscess refilled and a portion of the 8th rib was removed. There was a very free discharge of pus. The patient died after protracted suppuration.

A considerable percentage of pus appendix cases are complicated with subdiaphragmatic abscess. These abscesses may occur in three ways:—

(1) As the localization of a general infection, the infection being carried by the blood.

(2) As the result of a general purulent peritonitis.

(3) As an extension through the lymph channels from disease in or around the appendix.

The subdiaphragmatic abscess may come on within a few days after the acute symptoms of the appendicitis have been relieved. Or, again, before the acute symptoms have entirely disappeared, though the local symptoms are much improved; but the patient looks ill and the temperature is remittent. Or, after having recovered the patient again becomes ill with symptoms of chills, fever and pain.

Between this condition and abscess of the liver and pleurisy with effusion, a careful diagnosis should be attempted, though it may be difficult. The final test for presence of pus is the aspirating needle. If the needle enters an abscess cavity, it should be used as a guide to cut down upon.

DIAGNOSIS AND TREATMENT OF SYPHILIS.

In this paper by Dr. James Ross a few interesting points are brought out. One of these is the possibility of two hard chancres being present as initial sores. Another is that there may be well-marked herpes, and may give rise to some doubt as to whether the case is one of chancroids or not. On the matter of treatment mention is made of the fact that very large doses of the iodides may be required in some ulcerative lesions. In one case he gave daily 6 drams of a saturated solution. His favorite is that of Gottheil, or the injection into the glutei once a week for two or three months of one-half to one grain of salicylate of mercury in sterile albolene. Subsequently it may be given less frequently. In some cases it may be necessary to give it in larger or more frequent doses.

ATMOSPHERIC HUMIDITY IN RELATIONSHIP TO HEALTH.

In this article Dr. A. P. Reid points out the leading features of this subject. First, at the freezing point the absorbing power of the air for moisture is almost nil; and increases as the temperature rises. The normal humidity runs from 60 to 70 per cent. Marked departure from this causes discomfort. The skin and the lungs give off a large amount of moisture. In the open air the average humidity is well regulated, but in houses this may be quite different, and the proper amount of moisture be lacking. This has much to do with the frequency of respiratory diseases. When the atmosphere contains the proper amount of moisture chills and wettings are not likely to cause sickness.

If the house air becomes very dry there is a desire to raise the temperature; for an atmosphere containing 60 to 70 per cent. moisture feels warmer at 60°F. than a dry air at 75°F. or 80°F. Attention is directed to the importance of securing the proper amount of moisture along with the heating of houses, schools, etc. The amount of moisture that would do in an atmosphere at 40° F. would be quite inadequate when raised to 70°F.

White muslin soaked in a mixture made of calcium chloride, 34 parts; sodium chloride, 15; cobalt chloride, 30; gum arabic, 9; and water, 90, wrung dry and cut in strips, make a good test. If the moisture is 70 per cent. or over strips of this muslin hung up become red-

dish; if the moisture is 60 per cent. or under they become blue; if the moisture is normal they are of a greyish color when hung up in the room.

FRACTURE OF THE CLAVICLE TREATED BY WIRING.

Dr. J. W. T. Patton reports the case of a man of 56 with an oblique fracture of the clavicle. The fracture was cut down upon, and the fragments were encircled by three strands of silver wire. The wound was closed by sutures which were removed on the fourth day. The arm was fixed to the chest for two weeks by a Velpeau bandage, and kept in a sling for another week. Movements were then permitted. The case did very well.

THE PATENT MEDICINE BILL.

At a recent meeting of the Halifax and Nova Scotia Branch of the British Medical Association, a committee was appointed to arrange, if possible, to secure legislation to control the sale of patent medicines. Acting in conjunction with Dr. Ellis, M.P.P., of Guysboro', a bill was prepared substantially upon the same lines as the Ontario bill, and submitted to the Nova Scotia Legislature.

The introduction of the bill was the signal for instant and well organized activity on the part of the proprietary medicine people. As was expected, the lay press, so heavily subsidized by various patent medicine concerns, thundered out against the medical profession and showed intimate acquaintance with the arguments of the patent medicine vendors, with seemingly a complete misconception of the motives which inspired the introduction of the bill. The *Morning Chronicle* published a violent editorial entitled "Kill This Bill," the *Acadian Recorder* also charged strongly against it, and the *Halifax Herald* likewise did the bidding of its subsidizers. In the case of the latter journal, carelessness in the mechanical department permitted delay in the publication of the editorial until the day after the bill was killed in the legislature, and an apology to the patent medicine people became necessary. All three journals intimated that the bill was solely in the interests of the medical profession, and the doctors were charged with organization for purely selfish purposes.

Of course the bill was killed. We have no special comment to make. From the pecuniary point of view, the medical profession are distinctly the gainers. No measure has ever been advocated for the general weal by physicians, which has not been opposed by the laity until, after years of preachment and demonstration, the advantage has become so conspicuous that the dullest have been able to appreciate it.

CURRENT MEDICAL LITERATURE

MEDICINE.

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

SALINE BEVERAGES IN TYPHOID FEVER.

In the *Medical Record*, April 14th, Todd discusses the use of saline beverages in typhoid fever, and their effects on heat dissipation. In the large proportion of cases the germ can be cultivated from the blood before the Widal reaction can be obtained. It has reached the blood from the intestinal lymphatics, and they have a tendency to congregate in the lymphatics, especially the Peyer's patches, which soon become impaired in their function, the function of leucocyte multiplication is thus impaired and there ensues a hypoleucocytosis in this disease.

Hyperpyrexia represents an increased heat production, a temperature of 104.8°F. in a person weighing 140 pounds, represents an increase of 125,000 heat units in a day; this can be reduced by various means. The writer advises diuresis, as cold baths stimpulate heat production. The diminution in the excretion of chlorides in febrile diseases indicates that the system is living on its body salts, and is being starved in process. The starvation is caused by the increased use and the decreased ingestion. Hatcher and Sollman in their study of salt retention in febrile diseases recognize these facts, and recommend the addition of 15 grams of sodium chloride to the milk taken per day.

There is a lack of agreement as to the manner in which the germicidal power of the blood is exercised, but there is no difference of opinion as to the necessity of the presence of the alkaline salts in the blood, in order that it may maintain its activity, so the blood should be supplied with these constituents from the first, as it is in the first stages that the work has to be done.

As to method, the writer does not see any need in these cases for using any but the natural method; the method of hypodermoclysis is too serious an undertaking, while the rectal method may result in assisting the entrance into the system of intestinal bacilli. In giving the saline beverages, ten grains of sodium chloride and five grains of potassium bicarbonate are added to eight ounces of water, a teaspoonful of lemon juice is added, which produces a mild effervescence and gives added palatibility.

TYPHOID FEVER CARRIED IN DUST.

The question whether typhoid fever may not be a "dust borne" fever has been agitating the surgeons in the English army for years, and the late Boer war has brought forward the subject again. Statistics are accumulating to show that it is not entirely a water carried disease, but may be spread in other methods. Firth and Horrocks, of the Netley Hospital, which has done fine work, and the Army Medical Department, have published important experiments, from which they draw the following conclusions: (1) The germ of typhoid, when placed in soil, does not appear to grow, but can be washed by water through at least eighteen inches of soil. (2) The germ is able to assume a vegetative or saprophytic existence in ordinary and sewage polluted soil, and survive therein as long as seventy-four days—the nature of the soil not being important, organically polluted, virgin, receiving dilute sewage or rainwater, but the presence of water prolonging the period of infection. Typhoid polluted soil (when dry) may be the means of spreading the disease by being blown about as dust by winds and air currents, dust storms in South Africa. (4) The germs can be carried by house flies (heads, legs, wings, or bodies). (5) Typhoid infected khaki drill or serge, blue serge, etc., when dried may retain active infection for upwards of seventy days. (6) The germs, though exposed to direct sunlight, in surface soil may survive as long as 122 hours, or even for twenty-one consecutive days' intermittent exposure. (7) The germs are not destroyed by any biological process, nor are they retained in the ærobic filters, so that an effluent from a septic tank, or biological filter, may prove a danger to health by the presence therein of actual typhoid germs, if allowed to pass into a drinking water supply, unless such drinking supply is subjected afterwards to careful sand filtration on a large scale.—*Medical Times*, April, 1906.

SURGERY.

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

RECENT SURGICAL METHODS IN THE TREATMENT OF CERTAIN FORMS OF PARALYSIS.

Tubby, in his Hunterian lecture, *British Medical Journal* Mar. 3rd, discusses tendon and muscle transplantation, arthrodesis and nerve anastomosis.

By tendon transplantation is meant the reinforcement of a paralyzed muscle by attaching to its tendon either a part or the whole of a tendon of a healthy muscle. As a preliminary it is essential that all secondary

deformities be corrected. The reinforcing muscles or tendons are as far as possible to be taken from synergic muscles. A reinforcing tendon should not be bent round at an angle. As a rule opponents of the paralyzed muscle are not to be selected, because if that is done the action of the reinforcing muscle is neutralized. Lastly, cases of extensive paralysis are totally unfit for any form of this operation. In the treatment of the results of infantile paralysis, most of the tendon grafting work has been done on the foot. The best results have been obtained in the removal of talipes varus and valgus. In talipes equinus better results are obtained by section of the tendo Achillis than by grafting. On patients affected with infantile and traumatic paralysis in the upper extremity the amount of operative work performed has not been so great. Spastic paraplegia, and cerebral diplegia have been attacked by surgeons, but not so much can be expected from tendon trans-plantation as in infantile and other forms of paralysis. But simple tenotomies and tendon lengthening, provided the position of the limb is guarded for a time, result in benefit. In all these cases an immense amount of after education is necessary. In estimating the success of these operations it is necessary to consider how far an apparently paralyzed muscle is capable of recovery if aided by removing the harmful effects of constant stretching, and by reinforcing its tendon. Looking at the question of tendon transplantation as a whole, much more successful results are obtained by insertion into the periosteum of reinforcing tendons than by anastomosis. Among the causes of want of success are: (*a*) Too great expectations; (*b*) failure to correct secondary deformities; (*c*) deficiencies in technique, and defects in asepsis; (*d*) cicatrization at the point of division of the tendon slip; (*e*) yielding of the new attachment of the tendon; and (*f*) not keeping the part immobile sufficiently long after the operation. Artherodesis finds its place in the treatment of infantile paralysis when a joint is hoplessly flail like, and it has the effect of making the part stable, lessening the amount and weight of apparatus, and affording a position of steadiness, as in the ankle, for the finer movements of the front part of the foot. Arthrodesis is not so suitable for the knee as for the ankle. Nerve anastomosis and transplantation are well within the range of operative therapeutics. It seems a bold procedure to cut a paralyzed nerve, and implant its peripheral end into a sound nerve, and a still bolder procedure to cut a slip from a healthy and important nerve. The chance of injuring a sound nerve must be carefully weighed. We must also know whether the muscle which has been again brought to life by this operation can learn to functionate independently. Great care should be taken to ascertain in any nerve the exact position of the nerve bundles supplying certain muscles and groups of muscles.

GYNÆCOLOGY.

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

CONSERVATISM IN POST-OPERATIVE TREATMENT.

Dr. S. C. Beede, David City, Nebraska, writes a strong article on this subject in the May number of the *American Journal of Surgery*. He refers to the increasing tendency among surgeons to hasten their patients out of bed and hospital after grave operations. This haste frequently results in late suppuration which keeps the patient off duty for weeks, thus defeating the very object aimed at. And an abdominal wall that has suppurated is likely to be a weak one.

Reference to the basic principles, he says, should remind us of the folly of this haste. From the beginning of surgical teaching, rest has been the first requirement of treatment. To secure rest is nature's first requirement in the reparative process. We hope to improve upon nature, but we must do it by aiding her processes—not by acting contrary to her plain teaching. By means of sutures, we approximate the separated parts in their natural position, tissue to tissue, without undue tension, obliterating as far as possbile all dead spaces. We use bandages and splints to aid in securing local rest and we put the whole body as nearly as possible at absolute rest, that all the vital energy available may be directed to the reparative work. We limit the diet to avoid the strain and toxins of indigestion. Now when this work is but well begun is it wise to put the patient on his feet and thus help undo what we have been so assiduously endeavoring to do?

The writer asks the question: is the average patient any sooner able to resume his duties by hurrying him from the hospital at the end of a week or ten days before the firm union can have occurred? He certainly is not, if his occupation is active. Irritating a healthy wound will not make it heal any faster. If it retards it the period of disability is lengthened. The actual value of time to the average patient, as represented by his average daily earnings, is very small, and the amount lost by an extra week's detention in hospital is insignificant.

A GENERAL SURGEON'S VIEWS ON SOME PELVIC CONDITIONS IN WOMEN.

In the *American Journal of Obstetrics, etc.*, May, 1906, Dr. Robert T. Morris, of New York, writes an interesting article on this subject. He says that in a certain group of cases of young women who come for gynecological treatment, many cases are not suitable for operative

treatment at all. Among these are many young women with flexions, malpositions, with certain ovarian neuralgias. In a young woman presenting herself with a flexion, he assumes that it is but a symptom, as a cough or sneeze would be, and proceeds to examine the peripheral irritators. And first among the group of peripheral irritators he places eye-strain. Here you should note whether one eyebrow is elevated above the other, whether the eyebrows are flattened or highly arched. Note also wrinkles or corrugations of the skin of the forehead. Notice the external evidences of eye-strain, and have this factor eliminated by a competent specialist, have him report, not only as to sight, but as to whether there be any muscular insufficiency which might serve as a peripheral irritator.

Normal involution of the appendix is, he says, another producer of pelvic symptoms. In regard to involution change which the appendix undergoes, it is to be noted that the mucosa is replaced by connective tissue, and that the contracting connective tissue pinches the terminal filiments of sensory nerves.

Another group of cases is formed by enteroptosis, or loose kidney cases. In making a diagnosis of the possible symptoms of any one of these groups of peripheral irritators, we must have a clue for making our elimination. On either side of the navel we find the lumbar plexus, and upon making pressure with a finger upon a lumbar plexus we find it more tender than surrounding tissue. If we have irritation proceeding from eye-strain, neither one of the lumbar plexuses will be hypersensitive. If we have pelvic symptoms arising from an involution of the appendix, the right lumbar plexus will be extremely tender on pressure, *always and all the time;* on the right side only and not on the left. If the irritation proceeds from the pelvis, it makes no difference whether it proceeds from the right or the left side, both lumbar plexuses will be tender *always and all the time;* both, not one. In gall bladder cases with adhesions, we usually find that neither of the lumbar plexuses is sensitive. Rule out the lumbar plexuses for eye-strain and gall bladder affections, rule in both for any special irritation arising from the uterus or the adnexa; rule in right lumbar plexus tenderness in normal appendix involution cases.

THE IMPORTANCE OF EXAMINATION OF MYOMATOUS TUMORS DURING HYSTERECTOMY.

Dr. T. S. Cullen, in *Jour. Amer. Med. Asso.*, vol. 46, 695, reports a case of a supravaginal hysterectomy for interstital and subperitonal myomata in which there developed in the stump of the cervix two

years after operation a sarcoma, which caused an alarming hemorrhage, and death in eight months. In this case the myomatous tumor was examined superficially at the time of the operation. The uterine cavity showed nothing unusual on being laid open. After the development of the sarcoma the tumor was examined with more care and then there were found in the myoma, not only areas of hyaline degeneration, but also round and irregular areas of typical sarcoma.

Cullen urges the importance of examining, at the time of operation, not only the uterine mucosa but the structure of the myoma as well. He prefers a supravaginal hysterectomy to a complete hysterectomy because the former is easier, it leaves a better support to the pelvic floor, there is less danger of tying the ureters, and, as the blood supply of the bladder is little interfered with, there is less likelihood of a post-operative cystitis.

DISPLACEMENT OF THE FALLOPIAN TUBES TO PRODUCE STERILITY.

In *The Medical Record*, Mar. 17th, A. E. Rockey reports five cases which required the production of sterility, and makes the following suggestions :—

There are conditions in which the possible occurrence of pregnancy would expose the patient to danger which it is most desirable to avoid. As ordinary measures unhesitatingly and very properly recommended under such circumstances are not infallible, a method of safety and positively insuring sterility should have, in the author's opinion, a proper place in gynæcological surgery. The method he proposes is the displacement of the uterine end of the falloppian tubes. It may be done either through anterior vaginal or a very short suprapubic incision. He describes his technics as follows : When the cornu of the uterus is brought into the field of incision, the tube should be seized near its uterine end with the forceps. The sharp point of the scissors is thrust into the cornu, and the uterine end of the tube is cut out by a V-shaped incision. The wedge-shaped point of the excised end of the tube is then cut off so that the severed end of the tube will slip into the peritoneal sheath and be completely covered by it. Through this cuff is then passed one catgut stitch, then through the fundus posterior to the inner end of the V-shaped incision from behind forward, and is tied, thus fastening the closed end of the tube back of its original position. Two more stitches are passed around the tube and through the cornu to close the V. The tube is fastened to the outside of the closed cornu.

OBSTETRICS AND DISEASES OF CHILDREN.

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

STATUS LYMPHATICUS COMPLICATING DELIVERY.

An interesting case of unexpected death during delivery, in which an autopsy was obtained, is reported by Dr. Furrer, in *The Cleveland Med. Jour.*, March, 1906.

The patient, colored, aged 28, IIpara, was admitted to hospital with hæmorrhage, from the vagina. She was at term, the foetus in M.L.A. position, F.H. of 136.

Forty-eight hours after admission ether was administered and, the os being almost completely dilated, the uterus was entered and version performed. Before delivery was accomplished the patient gave evidence of respiratory difficulty, the ether was stopped and artificial respiration resorted to. A nine pound healthy baby was extracted before respiration had entirely ceased, but the mother failed to respond to treatment and died a few moments later. The autopsy revealed nothing abnormal in any of the organs, with the exception of the following anatomical complex: Enlarged thymus, hyperplasia of the lymphatic glands and the follicles of the spleen, with slight hypertrophy of the thyroid gland and slight hypoplasia of the aorta.

The diagnosis of status lymphaticus was made. The paper concludes with a short review of this subject.

With regard to treatment the author states that, where the condition is suspected, all precaution to combat shock should be taken, including hypodermic injection of digitalis and morphia before operation. Infra mammary salines may be employed even in the presence of but a moderate hæmorrhage.

He recommends the instant intravenous injection of a fresh solution of suprarenal extract the moment cardiac or respiratory embarrassment is noticed.

INFANTILE DIGESTIVE DISORDERS.

A series of valuable and seasonable contributions in various journals show the wide spread interest in this subject.

It is interesting to note that whether in the "cultured east" or in the "rude and rugged west" the problem is identical. The chief difficulties to be overcome being the ignorance and carelessness of parents as to the diet and hygiene of early childhood, and the difficulty of preventing the contamination of cows' milk in its transportation and purification for use. Dr. Young, in the *Buffalo Med. Jour.*, No. 8, 1906, in discussing the subject of infantile indigestion, relates many instances of almost criminal ignorance as to the feeding of infants which he has

encountered, and suggests the necessity of training parents by means of careful instruction and verbal directions. There exists a universal tendency to give food in too great quantities and at too frequent intervals. In treatment he urges lavage of stomach and bowels, and employs five grain tablets composed of equal parts of manna and lactose to remove irritating food products.

Water diet for a few hours to rest the intestinal tract is then followed by a careful return to a properly regulated diet.

In *North-West Medicine* for March, 1906, appears a series of papers, read before the Washington State Medical Association at Tacoma in Sept., 1905, by Drs. McLulloch, Hastings, Genoway and Nelson on the subjects of infant feeding, digestive disturbances, clean milk and the care of dairies, etc. That great and intelligent interest in taken in these subjects is evidenced by the high quality of the papers read, and the active discussion which followed their presentation. All who took part in the discussion agreed with the authors that education of parents as to the proper care and feeding of infants, would greatly reduce the high rate of infantile mortality. Another important factor is the pure milk question. The care of cattle, stables, milking and the transportation of milk are all subjects with which the physician should be familiar, and in all communities the control of the dairy interests should be vested in the sanitary boards. Much has been done but much remains yet to be accomplished, not only as regards the education of the public, but the medical profession must be roused to a general and active interest in these subjects if practical results are to be obtained.

We cannot but be impressed with the keen practical wisdom of the authors of the papers mentioned above, and the State of Washington is to be congratulated on the intelligent public spirit of its medical profession, whose efforts will we trust receive official support and recognition.

EXAMINATION ON THE URINE OF INFANTS.

The study here reported by R. D. Chapin, M.D., in *Arch. Ped.*, May, 1906, was made from the author's services at the Babies Wards of the New York Post-Graduate Hospital. The first series includes 86 cases in which some disturbance of the gastro-intestinal tract was present, such as simple indigestion, fermentative diarrhœas, catarrhal inflammation and marasmus. Albumin was present in 75 of these cases, noted as hyaline, granular, epithelial casts and mucus. 16 of the cases died, and of these 14 had albumin present and ten both albumin and casts. In 32 cases an examination was made for indican which was found in 22 of them.

The second series of 57 cases suffering from pulmonary diseases, such as bronchitis, pleurisy, and pneumonia, 49 had albumin in the

urine: trace, 13; faint trace, 30; heavy trace, 6. 32 had casts present. Of the 17 deaths in this series, 15 had albumin and 10 both albumin and casts. Indican was present in 16 of the cases of this series.

In the third series of 45 cases of general illness, other than pulmonary and gastro-intestinal, albumin was present in 31 cases: trace, 9; faint trace, 11; heavy trace, 11.

In another series of 11 cases of cerebro-spinal meningitis, nine showed heavy traces of albumin and casts. The author concludes that any disturbance of the bodily functions during infancy will often be attended by the presence of albumin and casts in the urine. He is inclined to favor the view that this condition is the result simply of an irritation of the renal tubules accompanying a slight congestion, and having no special significance. He mentions Koplik's study of 25 consecutive cases of gastro-enteritis in which all the cases showed more or less severe involvement of the kidney. In these cases as there is usually a great loss of fluid from the system, the toxins circulating in the different organs are thus placed in contact with the delicate cell structures in concentrated form. Recovery rapidly follows when the fluid lost has been replaced and the poisons washed from the organs, which thus have an opportunity to resume their functions. The moral drawn is not to employ irritating antiseptics in the treatment of intestinal diseases and to give a full and free supply of water.

He considers that we are justified in concluding that the urine of infants may contain traces of albumin and even casts without any very grave results.

The writer suggests that the exceedingly fine tests now often employed in examination for albumin accounts for its frequent discovery. As small amounts of nucleoproteid are always present in albumin, probably derived from the disintegration of the epithelial cells from some part of the urinary tract, fine traces of albumin may come from such a source. The author then describes a small apparatus for collecting the urine of infants for examination.

In the discussion which followed the reading of this paper before the Am. Ped. Soc., Dr. Morse, of Boston, stated that he had not found albumin, by the heat and nitric acid tests, in as large a number of cases as Dr. Chapin reports. Dr. McCollom thought that Dr. Chapin had brought out the point, that a child's kidney will recover much more quickly from such diseases as scarlet fever than will the adults. Koplik made the point of the very frequent occurrence of faint traces of albumin without formed elements in children suffering from gastric and intestinal diseases; but, on the other hand, albumin with casts belongs to a distinct set of cases. Chapin's tests were made by the Esbach method.

OPHTHALMOLOGY AND OTOLOGY.

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

EYE-STRAIN AS A CAUSE OF DISEASES OF THE DIGESTIVE ORGANS.

George M. Gould, M.D., of Philadelphia, (*Jour. A.M.A.*, March 24, 1906) before the Section on Practice of Medicine of the American Medical Association, in 1905, the then president of the association, the professor of medicine in the medical department of an old university, read these words: The subject is familiar to all. Who has not seen correction of errors of refraction relieve so-called "bilious attacks," periodical vomiting, anorexia, indigestion and other gastric symptoms? The cure of grave organic ocular defects relieves similar gastric conditions.

Herschel, 1895, "Indigestion," under Reflex Causes, p. 44. He writes:

"A considerable amount of attention has been paid of late to the possibility of gastric affections being set up reflexly by eye-strain. George M. Gould, in a paper published in 1890 in the *International Journal of the Medical Sciences*," stated that he had found in the young of either sex eye-strain, to a considerable extent, often interfered with the digestive process. My own experience bears this out, as I have had in my own practice several cases in which digestive troubles appeared to depend on astigmatism. One patient in particular, a chemist in the city (London), a highly neurotic individual, used to suffer from great flatulence during the morning hours. I discovered that he was astigmatic, that he lived out of town and read a paper coming up in the train. He informed me that the flatulence invariably came on as soon as he commenced to read the paper in question. The gastric troubles promptly disappeared as soon as he discontinued reading on his way up to town."

Eighteen out of twenty recent systematic treatises on diseases of the digestive organs completely ignore what a great authority says is a well-known and highly important cause and cure of such diseases.

How is it with the systematic practices of medicine? A highly important cause, known to all, of a vast number of cases of disease, and the means of speedy cure, should, of course, be extensively and minutely set forth and emphatically urged on the attention of the students and practitioners who receive the teachings of the great scientists and instructors. I have examined carefully the following "Systems," and "Practices," and "Manuals," and "Text-Books": Leo, Allbutt, Mathieu, Ewald, Nothnagel, Debove and Achard, Anders, Bain, Bouchard and Brisseau, Brouardel, Hare, Bartholow, Hughes, Klemperer, von

Mering, Monro, Osler, Salinger and Kalteyer, Tyson, Gibson, Butler, Hare, Kuhneman, Lyon, Cohen and Eshner and others.

Why do they entirely fail, even in that old foolish allusion, that is meant to be illusion, in the reference that refers nowhere, the indexing that demonstrates the author's omniscience, but also his total unconcern?

Loomis-Johnson, 1898, "System of Practical Medicine," under "Intestinal Neuroses," vol. iii, p. 111, article contributed by Stockton and Jones, say:

"One of the most prolific causes of functional gastric disturbances is eye-strain, and almost any neuroses may be induced by it. Gastric hyperesthesia, accompanied by hyperchlorhydria, to be followed later by more or less anesthesia and achlorhydria, seems to bear a definite relation to astigmatism of high degree. Without attempting to refer the condition to any special form of eye-strain, we have, nevertheless, been impressed with the frequency of the association of astigmatism and muscular imbalance with painful sensory conditions of the stomach, especially taking the form of distress and pain accompanied by belching after meals, with a good appetite, but voluntary starvation through dread of pain induced by eating. These patients suffer for years and are made rather worse than better by restricted diet."

Stockton, 1903, in "Nothnagel's System," American edition, article on "Diseases of the Stomach" (not in the original), comments, p. 163, as follows:

"Cases of so-called typical gastric vertigo not infrequently depend on uncorrected eye-strain, especially on anisometropia. It is true that the attacks are often precipitated by transient disturbances in digestion, and these digestive derangements in turn may be occasioned by some eye-strain that predisposes to the vertigo. In several instances I have seen the disappearance of both vertiginous and gastric symptoms follow a careful and painstaking correction of the refractive error."

Again, under "Gastric Neuroses," p. 256, he says:

"As earlier stated, eye-strain has been found a frequent cause of functional stomach trouble, especially among those who are living an indoor life and are accustomed to the close use of the eyes. This is particularly true in cases of mixed astigmatism and anisometropia, and is often associated with muscular imbalance."

In 1891, I reported on 277 cases of digestive and assimilative disorders (anorexia, fickle appetite, constipation, dyspepsia, nausea, vomiting—not sick headache—car-sickness, etc.), and I wrote thereon:

"For a long time I have been begging my friends, the general practitioners, to heed the fact that digestion and assimilation may be directly and profoundly disordered by eye-strain. Nothing seems more true in medical science than this."

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EDITORIAL.

THE HOUSING OF THE WORKING CLASSES.

It is a well-known fact that most of the houses in which the working classes live are rented. This fact makes it necessary that there should be some public supervision taken over their construction.

We learn with much satisfaction that in both Halifax and Montreal active steps are being taken to control the erection of houses for the working people, and to see that these houses come up to a reasonable standard. In Winnipeg an act has come into force that will enable the proper officers to compel the installation of proper plumbing connections, etc.

The privilege cannot be taken away too soon from certain builders of putting up houses that are unsanitary in every way. In Montreal large rows are found full of dark rooms. Every city which permits such buildings to be erected must pay the penalty in a heavy sickness and death rate. When the expense of these cannot be borne by the poor themselves, it falls back upon the public treasury. Hence, the disbursements through charities, reliefs, and hospitals are numerous and large.

In this matter, Toronto is making fairly satisfactory progress.

MEDICAL COUNCIL EXAMINATIONS IN LONDON.

An amendment has been passed to the Ontario Medical Act giving the medical council power to hold examinations in London. This is as it ought to be. We have repeatedly advocated that the council should accord to the medical college in London the same privileges as to those in Kingston and Toronto. We congratulate the medical college in London on the convenience this change will prove to the students of that institution.

THE HOSPITAL FOR EPILEPTICS.

A long felt want has been met at last. At the recent session of the Legislature a bill was placed on the statute book providing for the maintenance of an institution for the care of epileptics at Woodstock, Ontario.

The objects of the institution are set forth as "to secure the curative and economical care and treatment of epileptics, exclusive of insane epileptics."

The inspection of the institution is placed under the inspector of prisons and asylums.

The officers are to be appointed, as occasion demands, by the Lieutenant-Governor in Council.

The inspector of prisons and asylums shall make rules and regulations for the institution.

No person shall be received into the hospital without a certificate from a legally qualified medical practitioner, setting forth the facts of the case.

It is the intention to make use of the out door treatment to the fullest extent possible, and that the inmates will be engaged on the attached farm. This plan of treatment has been fairly successful in some places.

THE WESTERN UNIVERSITY, LONDON.

The Western University of London has just secured some important legislation. Among the things it is provided that "the senate may create a faculty of medicine and confer degrees in medicine."

Authority is also given to the City of London to make provision for the payment of the salaries of the arts professors. Should the ratepayers of London approve of this, the Western University may soon be in possession of a strong teaching staff, and the arts department be placed on a sound footing. The medical department is already doing excellent work.

THE TORONTO HOSPITAL FOR CONSUMPTIVES.

This institution is near Weston. The following gentlemen have secured incorporation by a special Act, namely, Messrs. W. J. Gage, W. A. Charlton, H. P. Dwight, H. C. Hammond, J. L. Hughes, R. H. Davies, Ambrose Kent and W. L. Wood, all of Toronto.

The corporation is granted the usual powers to acquire land, rent buildings, receive donations, and conduct places for the cure and treatment of consumptive patients. Plans for buildings must be submitted to the Provincial Secretary for approval. The institution is under the rules governing such institutions as laid down in the Act for "municipal sanatoria for consumptives."

The persons named in the Act shall be the first trustees of the corporation. In the event of a vacancy occurring on the board of trustees, "the remaining trustees may forthwith appoint from among the persons possessing the necessary qualifications a trustee to fill such vacancy."

Another clause in the bill states that "by-laws may be made from time to time for determining and regulating the number, qualification, mode of appointment, and terms of service of such trustees."

We are not finding fault with the bill, but merely pointing out that it is a close corporation, self created, and permanent in tenure of office.

THE CUSTODY OF THE INSANE.

During the recent session of the Ontario Legislature the Act respecting asylums and the custody of the insane underwent some important amendments.

In the first place when information is laid before a justice of the peace that a person is insane and dangerous, he may issue a warrant for the arrest of such person, and cause him to be brought before such justice of the peace or any other justice for the same territorial division. Enquiry shall be made into the sanity of the said person in order that he may be properly dealt with.

Any person apparently insane and conducting himself in a manner which in a sane person would be disorderly, may be apprehended without warrant by any constable or peace officer and detained in some safe and comfortable place until the question of his sanity be determined as prescribed by the Act.

If a person be arrested in either of the foregoing ways, he shall be brought before a justice of the peace who shall enquire into the case and order his safe custody, but he shall not be committed to a room along with a criminal, nor sent to a gaol or prison unless he be violent and dangerous, or in the event of there being no other suitable place.

The justice of the peace shall notify two medical men to report upon the case. If there be a medical man in the district who has been appointed for such purpose, he shall be one of the two to make the required examination.

In addition to the medical evidence the justice of the peace may take other evidence under oath from friends or others to elicit all the facts in the case. The justice may adjourn the enquiry from time to time.

In the event of a disagreement between the medical examiners, they, or any of them, may examine the person again within one week and may grant a new certificate.

If after full enquiry the justice is satisfied that the person is insane and that the two medical examiners agree, the justice shall issue a certificate for his committment and shall forward the certificate to the inspector.

The expenses of the investigation shall be charged against the county, city or town, or charged against the place from which such person had recently come. The medical examiners are allowed a fee of $5.00 for each examination. If the person is not in indigent circumstances, the expenses may be charged against his estate, or the person legally liable for his maintenance.

The foregoing regulations have long been much needed, and both simplify and expedite the arrangement for the custody of an alleged or really insane person, and make certain the fees of the examining physician.

THE UNIVERSITY OF TORONTO COMMISSION AND BILL.

The report of the University Commission was an exhaustive one, and contained many important recommendations. Most of these have been crystallized into the form of a statute.

Provision is made for the senate passing a by-law approving of the name from that of the University of Toronto to the University of Ontario, and that when the said by-law shall have been passed the Lieutenant-Governor may issue a proclamation announcing the change of name.

The School of Practical Science is united more closely with the university and it is now called the Faculty of Applied Science and Engineering.

All the federated universities and colleges and affiliated colleges are confirmed in their relationship to each other. Provision is made for the federation of other universities and colleges, and also for the discontinuance of any federation should the federated body become united with another university .

Graduates and undergraduates in arts, science and law of a federated university, and such graduates and undergraduates thereof in medicine as have passed their examinations in Ontario from and after the date when such university became federated with the university, and so long as such federation shall continue, shall have and enjoy the same degrees, honors and status in the university as they hold and enjoyed in the federated university.

There are a number of sections of the Act dealing with the lands of the university, how they are to be used, or disposed of, and their exemption from all forms of taxation.

A Board of Governors is created, consisting of the Chancellor and the President of the University, and eighteen members appointed by the Lieutenant-Governor in Council. This board is the successor to the Board of Trustees of the University, and not a new corporation.

The chairman of the Board of Governors is named by the Lieutenant-Governor in Council, and the board may elect a vice-chairman. The members of the board shall hold office for six years, and may be removed from office by Lieutenant-Governor in Council. Heads of federated universities or colleges are not eligible for appointment and the acceptance of such position by a member of the board would vacate his seat. The government, conduct, management and control of the university and university college, and of the property, revenues, business and affairs thereof, shall be vested in the board.

The powers vested in the board are very extensive and include the appointment of president, deans, professors, etc., the making of regulations respecting superannuations, the making of investments, the acquiring and holding lands, the expropriation of land where required, the providing for the physical training of the students, the expenditure of funds, the maintenance of residences and dining halls, and the control of these, the establishing of faculties and departments, the federation of colleges and the affiliation of colleges and the dissolution of such, the fixing of the fees to be paid, and the arranging with secondary schools where the interests of the university require such.

Provision is made for the appointment of a committee of students which shall be the medium of communication between the students and the board.

The board shall not impair the endowment of the university, nor incur any liability which cannot be met out of income without the consent of the Lieutenant-Governor in Council.

The senate is composed of the chancellor, the president of the university, the principal of university college, the head of any federated university or college, the deans of the faculties, and those who have held the offices of chancellor or vice-chancellor; the various faculties are entitled to representation thus: medicine 5, applied science 5, university college 3, arts of Victoria 3, arts of Trinity 3, arts of any college yet to be federated 3, federated universities by 1, federated colleges by 2, and the law society by 1. The elected members are: graduates in arts 12, Victoria arts 5, Trinity arts 5, graduates in medicine 4, applied science graduates 2, graduates in law 2, graduates in agriculture 2, principals and assistants in collegiate institutes 4. It is provided that members of the teaching staff of the university, university college, federated universities and colleges are not eligible for election to the senate. Elected and appointed members shall hold office for four years.

The senate has the following powers: regulating proceedings, granting degrees, the establishment of scholarships, etc., providing for the affiliation of colleges in Canada, cancelling degrees, the establishment of faculties, chairs, etc., conduct of elections, considering of appeals, the preparation of calendars, the management of the library, appointment of examiners and the holding of examinations, the hearing and making recommendations to the Board of Governors.

Convocation consists of all the graduates of the university and federated universities. The graduates elect the chancellor for a term of four years. He presides at all meetings and confers degrees. The graduates may make recommendations to the senate or Board of Governors.

The council of the faculty of arts is composed of the president, the principal of university college, the head of federated universities, the dean of the faculty of arts, the teaching staffs of arts in the University, University College, Victoria University and Trinity University. The powers of the council are to fix the course of study, to appoint examiners, to deal with appeals, etc., subject to the approval of the senate.

The other faculties have councils with similar powers.

A new committee is created by the Act known as the Caput. It is composed of the president, the principal of University College, the heads of federated universities and colleges, and the deans of the faculties of the university. This committee shall fix the time tables for lectures, authorize lectures or teaching by persons duly appointed on the staff, exercise disciplinary powers, and to deal with such matters as may be assigned to it by the board or senate. The Caput may advise the president.

The president of the university is the chief executive officer. He shall be a member of all faculty councils, act as chairman of the senate, in absence of chancellor confer degrees, may suspend any member of the teaching staff, officer, or servant, subject to the board, shall make recommendations on all appointments, promotions or removals, may call meetings of the council or joint meetings of the councils, and shall report to the board on the progress of the university.

The bill deals with some further powers of the president, the vice-president if there be one, the principal of University College, the registrar, the disciplinary powers of the various councils and faculties, and the Caput.

Provision is made for the election of the senate, the government of college societies, the hearing of appeals, etc.

One of the most important sections deals with the income of the university and university college. For the purpose of maintenance

there shall be paid yearly a sum equal to one-half of the average income from succession duties. In the event of this proving larger in any year than is necessary, the balance is to be transferred to the endowment, or used in some future year when the amount might prove insufficient. The sum due the university under the foregoing arrangements is to be paid on the first of January and July.

Provision is made for the affiliation of colleges that may be established in the future.

The foregoing synopsis of the Act gives a general idea of its main features. It is a very important measure, and it would be well if every graduate of the university procured a copy of the Act for his own use and reference.

MEDICAL RESEARCH AND EXPERIMENTS UPON ANIMALS.

From time to time we hear from those who are opposed to medical research and the investigation of physiological laws and the discovery of the action of drugs by the making of experiments upon the lower animals. The following statements from Presidents Eliot, of Harvard University, and President Butler, of Columbia University, are very timely and appropriate. These words were delivered at the dedication of the Rockefeller Institute for Medical Research on 11th May:—

"In spite of the fact that medical research involves the suffering and death of many of the lower animals used for purposes of study," said President Eliot in the course of his address, "the work of medical research is in reality the most humane work now done in the world, for its secondary objects are to prevent disease in men and animals. The primary object in medical research, as indeed in all research, is the ascertaining of truth.

"No people are more in need than our own of learning the all-important lesson that the modern Germans and the modern Japanese have to teach," said Dr. Butler in his address. "Respect for the man who knows and loyalty to the demonstrated truth are the characteristics of civilization that is founded on rock. Our American happy-go-lucky, wasteful way of approaching a serious problem; our naive egotism, and our exaltation of the man who does things, no matter how, must sooner or later give way to more patient study, to more respect for the experience nad wisdom of other countries than our own, and to more regard for correctness and sound principle than for a superficial, costly efficiency if we are to hold the place in the world's esteem for which we are rightfully ambitious."

DR. W. B. GEIKIE HONORED.

The friends of Dr. Geikie—and they are many—will learn with pleasure that he was so kindly remembered by the graduating class of medical students at Trinity University who paid a graceful tribute to him at the last final examination of Trinity University, Toronto, recently closed. The Dean was examiner in medicine of the class of '06, consisting of forty young gentlemen who had registered just before amalgamation, and who had not even had lectures from the veteran educationist. He was the most surprised man in Toronto when the class presented to him a beautiful ebony walking stick, gold-mounted and inscribed, "Semi-centenary, W. B. Geikie, Dean of Trinity, '06." It is just 50 years since Dean Geikie became identified with medical education in Toronto. The address accompanying the presentation expressed in the kindliest terms the appreciation by the students of Dean Geikie's services to medical education, and of the intensity of his devotion to Trinity Medical College. No class that had ever left the college had been more loyal to Trinity or more in sympathy with the Dean's attitude.

In a brief heartfelt reply Dr. Geikie expressed pleasure that the students of Trinity Medical College should remember him so warmly, and added that he had seen no reason to change his belief that amalgamation was a most serious mistake.

The presentation took place in the Convocation Hall of Trinity University.

There are few men now living who have done more for medical education than Dr. W. B. Geikie. He took an active part in the formation of a medical college when the country was young, comparatively poor, and sparsely settled, and when Toronto was a small place. He looked the future in the face, and thousands of his students all over the world know the story of his life.

SANATORIA FOR CONSUMPTIVES.

The sanatorium for consumptives in Toronto received a set-back by the action of the Private Bills Committee of the Ontario Legislature. When the request of the city council came before the committee asking for power to issue debentures for $50,000 to aid in the securing of a municipal sanatorium for consumptives for Toronto, the committee took the view that the Act governing municipal sanatoria demanded that the plans and details of cost should have been submitted to the ratepayers for approval, before it came to Legislature for approval. It would appear that this was sound law, but it had a most unfortunate

parctical effect, for the will of the people and the council that $50,000 should be given for this purpose was rendered inoperative.

We regret this action of the committee of the Legislature. For the present the securing of a municipal sanatorium remains in *statu quo;* but it cannot always remain in an unseated condition. We have no unkind words to say of the sanatorium at Weston, but the needs of a great city, like Toronto, should not be dependent upon the accommodation furnished by a privately conducted institution. Some 400 consumptives die annually in Toronto, and there are constantly at least 1,200 to 1,500 ill with tuberculosis. The incipient cases require treatment, and the advanced cases require isolation. This cannot be done by an institution with accommodation at present for about 50, and the expectation of increasing this to 75 at an early date.

The management of the consumptives of Toronto is a matter of great importance and magnitude, and must be handled by the whole people for the good of the public. It has been argued that the establishment of a municipal sanatorium might lead the city into future heavy expenses. This is the strongest argument that could be put forward in its favor. If the expense is required it should be borne by the public, as a justifiable expenditure in the interest of the community. Too much has been said on this aspect of the case. There would be many pay patients, who would help to defray the general expenses. Then the avoidance of sickness by means of isolation, and the cure of early cases, would yield a handsome return to the people for the outlay. Consumption is a disease, like ague, the plague, smallpox, etc., that should be managed by the public as the nation, the province, or the municipality.

While Toronto has not yet taken the position on this subject which we would wish, it is a matter for congratulation that other places are moving onwards. Hamilton has taken steps to secure a city sanatorium. Some other municipalities throughout Ontario have done likewise. The Province of Manitoba is going to establish a sanatorium; and so are New Brunswick, British Columbia, and the new provinces. We wish them all success in their efforts to control this disease. That a preventable disease should cause the death of 8,000 citizens of this young country is a crying shame, and most of these young and useful lives. In the past it has been a case of Prometheus *devinctus,* let us now have it for the future a case of Prometheus *vinctus*. That the Prometheus of consumption can be bound is admitted. Leprosy has been chained, ague is being chained, so is typhoid fever. The Private Bills Committee may yet have many deaths and much sickness to answer for in its desire to live up to the letter of the law. We hope it did not act as it did because of the strenuous opposition raised by those interested in Weston sanatorium.

THE AMENDMENT TO THE PHARMACY ACT.

During the recent session of the Ontario Legislature, Mr. Downey succeeded in carrying into effect the following amendment to the Pharmacy Act:—

"And no company incorporated under any of the Acts in force regulating Joint Stock Companies shall sell or keep open shop for retailing, dispensing or compounding poisons, drugs or medicines, as aforesaid, or sell or attempt to sell any of the articles mentioned in Schedule 'A' to this Act, unless a majority of the directors thereof are duly registered as phamaceutical chemists or chemists and druggists under this Act, and unless one of such directors shall personally manage and conduct such shop, and shall have his name and certificate posted up in a conspicuous position in the shop, and no person not so registered as a pharmaceutical chemist or chemist and druggist shall in any way interfere with or take part in the management and conduct of such shop, and anything which would be an offence under this Act if committed by an individual shall be an offence by each of such registered directors, and by such company, and the prosecution of either of them shall not be a bar to the prosecution of the other."

We imagine there will be no great difficulty in evading the above amendment by such concerns as the large departmental stores. They will form subsidiary companies of some persons who can qualify under the above amendment and go on as usual. These large concerns can assign a few shares in the capital stock of such a subsidiary company to these persons, put them on the board, and have one of them to manage the department. This system of *imperium in imperio* has been able to accomplish wonders in the past and it has not lost its cunning. It is very hard to make people just do what you want by acts of parliament.

THE TORONTO GENERAL HOSPITAL BILL.

With regard to the trustees the bill provides that there shall be "twenty-five, eight of whom shall be appointed by the Lieutenant-Governor in Council, five by the trustees of the University of Toronto, five by the municipal council of the Corporation of the City of Toronto, and of whom seven shall be elected by the subscribers (as hereinafter provided) shall together be a body corporate by the name of The Trustees of the Toronto General Hospital."

It is provided that no member of the staff can hold a position on the board of trustees. If a member of the board accepts a position on the staff, becomes incapable of acting, or goes to reside out of

the province, his place becomes vacant. Should vacancy occur in the board it shall be filled by the body having the power to appoint or elect under the Act. The elections and appointments are to become effective within six months from the passing of the bill.

The board of trustees shall have power to acquire lands and receive donations, to sell the present site, and to do all acts necessary in the management of the institution, including the power to expropriate land for a site, making compensation therefor. The power to borrow or invest money is also conferred upon the board. Power is also given to erect, equip and maintain a new building, and to merge with it the Burnside Lying-in Hospital. Special mention is made in the Act of the site on the corner of College street and University avenue.

With regard to the admission of students to the hospital the following clause of the Act will govern :—

"20. The trustees shall allow any medical student of the University of Toronto to visit the wards of the hospital and attend them for the purpose of receiving instruction from the members of the Faculty of Medicine of the University of Toronto, upon the payment of such fees and under such regulations and restrictions as the trustees shall by any by-law or resolution from time to time appoint. Provided, also, that the Lieutenant-Governor in Council may from time to time frame regulations and conditions under which the trustees shall admit other students in medicine, including post-graduate students, to receive medical instruction from the said Faculty as hereinbefore provided."

On the matter of the privileges of paying patients we find the following clauses :—

"21.—(1) The trustees shall allow or permit all patients paying sufficient to cover all the cost to the trustees of their maintenance and support while in the hospital the right of employing their own surgeon or physician, subject to the regulations of the trustees.

"(2) The words 'paying their way' where they occur in the 7th section of By-law No. 4579 of the City of Toronto shall mean 'paying sufficient to cover all the costs to the trustees of their maintenance and support while in the hospital, and the hospital shall be the hospital to which the grant is authorized to be made by the said by-law'."

The present corporation is continued and the Act distinctly states that no new corporation is created. It would appear from this that the new hospital shall receive government grant only upon patients paying $3.50 per week or less, and not upon all the patients in the institution as is the rule in new hospitals for the first ten years of their existence.

There appears to be a clear breach of good faith with the City of Toronto. The by-law granting the $200,000 was given on the

strength of Mr. Flavelle's letter to the council that some accommodation would be furnished at $7.00 per week, which would secure the right of selection of medical attendant. There is no mention of this in the Act. Such a privilege at $7.00 a week, is, therefore, purely optional with the board of trustees, and might be withdrawn at any time.

THE ASYLUM CIVIL SERVICE.

We have always contended that in our asylums there should be a system of regular promotion, in accordance with length of service and efficiency. From time to time this sound principle is departed from and some one appointed to an important position in the care of the insane, as the reward of political services, and not because of any special fitness on the grounds of lengthy study of, or experience with, mental diseases. This should not be the case. We trust that the day is not far distant when the governments of this province will set an example in this matter by adopting the principle of promotion. Appoint competent young doctors to begin with, pay them a proper salary, hold out the clear expectation of promotion as a reward for good work, try to make the service both permanent and efficient by these means, and the results will more than repay the province for any extra outlay. After all, what is a few dollars on the one hand as compared with efficiency on the other.

On the whole our asylums have been very fortunate in those who have been charged with their management. But, good as the results have been, there is no reason why they should not be made better. We hope to see the medical profession of this province press this view upon the governments of to-day and the future. We believe that governments in such matters desire to do what is right, but continue in a routine sort of way. If it can be clearly shown that some other way is better it will strengthen the hands of public men to withstand the claims of political friends. The opinion could be referred to that "this is expert work and requires experts to do it."

MEDICAL MATTERS IN ALBERTA AND SASKATCHEWAN.

A well attended meeting of the medical men of these western provinces was held a short time ago. At that meeting a number of important topics were considered.

Among those was the advisability of taking steps to secure in these provinces suitable sanatoria for consumptives. A resolution was carried to this effect, and steps will be taken to induce the legislatures of

these provinces to establish such sanatoria. Another resolution was adopted asking that power be given to municipalities to issue debenteurs for the erection of hospitals where required.

When these two provinces constituted the Northwest Territories, there was a medical council. Now that the "Territories" have been divided into two provinces it becomes necessary to reorganize the status of the profession. It is more than likely that there will be formed in each province a college of physicians and surgeons to take the place of the one which has done duty for the Northwest Territories. A movement is on foot to bring this about.

We hope these new provinces will exert their influence along the lines of Dominion registration. We hope to see the Roddick bill yet bear much fruit; and we look for help from the West.

ARTERIOSCLEROSIS.

There are few conditions of greater importance to the physician than that of arteriosclerosis. Its insidious onset and its far-reaching effects on the brain, heart and kidneys render a knowledge of its causes, diagnosis, prognosis, and treatment of much interest from the standpoint of both the physician and the patient.

Arteriosclerosis may be a local or a general disease. It is in the latter sense that it is of most importance and its effects most complicated. In its general form it is the small vessels that suffer earliest and to the greatest extent, though the entire arterial system is more or less involved.

In the first place it may be said that as time and the wear and tear of life have exhausted the reparative powers of nature, there is a tendency for involutionary changes to appear in the vascular system. It is now being recognized that the conditions of modern life are increasing the frequency of those diseases that depend upen arterial degenerations.

Nervous strain is a potent factor in the production of arteriosclerosis. It lessens the nutrition of the tissues, increases arterial tension, and quickens the heart beats. Sudden nervous shock may cause a rapid increase in this condition, if it has already commenced.

The infectious diseases are now admitted to be factors in the etiology of arteriosclerosis. The toxines generated in the system by these diseases lay the foundation for important changes later in life in the blood vessels. Among infectious diseases, syphilis has earned a preeminence in this respect.

Lead and other metallic poisoning, over-feeding, abuse of alcoholic stimulants, and laborious work are now placed among the principal causes of the morbid changes met with in hardening of the arteries.

Perhaps no cause stands more closely related to this state as cause and effect than over-feeding. The persons' lives may be correct in every other regard, but are found to be victims of hardened arteries because of this one indulgence.

Then again, heredity must not be lost sight of. To die of cerebral hæmorrhage, or heart disease, or chronic Bright's disease, runs in some families. The meaning is clear in most instances. It is the law of heredity showing itself in a tendency to early degeneracy of the blood vessels, a state of abiotrophy of the vascular organs.

It is of the utmost importance that this condition should be recognized at the earliest possible moment. It may be said that to all who live to a fairly advanced age this condition is sure to come. It is not at all uncommon now to meet with pronounced cases at or under mid-life.

Among the earlier symptoms may be noticed evidences of reduced vitality, or failing color. The first symptoms may appear after some extra exertion or shock. It is men of affairs that often suffer in this way. With these changes in vigor and color, there usually appears some changes in the disposition. The person shows an ever increasing irritability and some tendency to loss of memory or forgetfulness.

Early in the disease there are changes in the functions of the kidneys. The urinary flow is usually increased. Its morning specific gravity may be 1025 and that for the evening 1005. The person may occasionally have to rise during the night. At a later stage there may be an occasional slight albuminuria. Casts are not found until the kidneys are considerably affected.

The cardiac symptoms are of much importance and should be carefully looked for. At first there may be more or less accentuation of the second sound. This lasts usually throughout the entire disease. If the coronary circulation is impaired the cardiac muscle may suffer in nutrition causing arrhythmia, increased apical impulse, and some dyspnœa.

The ophthalmoscope may detect the thickening of the retinal vessels and prove a valuable aid in the diagnosis.

As the vessels begin to harden there are impaired nutrition of the body, an impeded circulation, an increase in blood pressure, and extra work for the heart to do. During the progress of the disease there may be sometimes a lowered blood pressure. As the condition advances there is usually serious changes in the myocardium, leading to many distressing symptoms.

It must be borne in mind that the early clinical symptoms of arteriosclerosis are manifested differently in the different tissues of the body. In one case the skin may become dry and its glands inactive, it shows marked pallor, becomes thin and tends to become loose and wrinkled. There are other cases in which the digestive organs first manifest trouble. There is a failure of appetite and digestive activity. The brain, with its complex sensori-motor functions, may be the first to put out the signal of distress. Sleeplessness, mental fatigue, change of temper, and failing memory may early show themselves, and in some cases a feeling that cannot be better described than by calling it mental anxiety or pain on making over exertion, or after business toils.

Viewed in its widest aspects, arteriosclerosis is a disease that the members of the medical profession should make themselves familiar with.

BACTERIOLOGY OF SUMMER DIARRHŒA OF INFANTS.

This is a very important subject, and one which has occupied the attention of investigators for some years. There is considerable ground for the belief that there are several bacilli associated with the acute diarrhœas of infancy.

Under the auspices of the Science Committee of the British Medical Association, Dr. Morgan has been studying this subject, and has reported his findings in the *British Medical Journal,* for 21st April. He refers to the work of Shiga, of Japan, and the relationship of the bacillus bearing his name to the severe form of infantile diarrhœa. These investigations of Shiga have been confirmed, in the main, by Escherich, Booker, Flexner, and Krusé.

Dr. Morgan's researches seem to show that there are three forms of bacilli which stand rather closely in the relationship of cause and effect to the disease. This is revealed both by the culture study of these bacilli and the agglutination tests applied to them.

One bacillus was found in the stools of 28 out of 58 cases, and cultures of this bacillus given to young animals caused death with the presence of diarrhœa and the bacillus in the spleens of the animals.

With regard to another bacillus which was found in 5 out of the 58 cases, the evidence is very strong that it was a cause of diarrhœa. The patient's blood agglutinated this bacillus.

Another bacillus was found in some cases which proved pathogenic to rats when they were fed upon it.

With regard to the toxines obtained from the culture of these bacilli the first was decidedly pathogenic and so was the third in large doses, while the second did not appear to generate a specific toxine.

EPILEPTICS AND MARRIAGE.

The Supreme Court of Errors of Connecticut has handed out a very exhaustive statement regarding the marriage rights of certain classes, among these the epileptics.

In some of the States in the United States there are stringent laws against the marriage of epileptics, either male or female, unless the latter be over 45 years of age. Among those states may be mentioned Connecticut, Michigan, Minnesota, Kansas, Ohio and New York.

The clause in the Act in those states is somewhat as follows: "No man or woman, either of whom is epileptic, imbecile, or feeble-minded, shall inter-marry, or live together as husband and wife, when the woman is under 45 years of age."

The Court of Connecticut lays it down that the state can prohibit the marriage of persons under a certain age, or within a certain degree of consanguinity. It is held that the state has an equal right to interpose in the case of other undesirable marriages, the result of which would likely be a degenerate offspring. The firm interdicting of the marriage of epileptics, imbeciles, or feeble-minded persons is a wise course.

The court just referred to claims that the existence of epilepsy is a ground for divorce if it existed before marriage and was concealed from the other party.

It is well to be careful of the rights of the subject, but legislatures in this respect may go too far. The right of the individual must yield to that of the body politic. It is in the interests of all that the mental perverts of every kind should be denied the right of marriage, except after mid-life.

THE PREVENTION OF TUBERCULOSIS.

Dr. Bernheim, of Paris, in a paper which he read at the recent meeting of the International Medical Congress, contended that active steps should be taken to prevent the spread of tuberculosis. He held that the prevention of this disease should be an international matter. No one cuntry could prevent the spread of the disease, as there was so much interstate communication. There should be an international commission on this subject. Rules should be adopted by all the countries and acted upon in unison. Tuberculosis should be made a matter of international hygiene as much so as in the case of cholera, yellow fever, or the plague.

PERSONAL AND NEWS ITEMS.

Dr. Wm. Bentley, of Sarnia, has gone on a trip to Calgary.

Dr. and Mrs. Macdonald, of Wingham, sailed on 31st May for Britain, where they intend spending some weeks.

Dr. A. E. Gammage, of Chicago, an old Chatham boy, paid a visit to his parents at the latter place.

Dr. Gustin, of St. Thomas, who has been seriously ill, is improving steadily.

Dr. J. A. Grant, of Ottawa, has left for Victoria, B.C. Mrs. Grant and children will join him about the end of next month.

Dr. R. W. Rutherford has returned to Chatham, and he will resume his practice at once.

Dr. A. M. Rosebrugh has located his office at 76 Prince Arthur avenue, Toronto. He has closed his office on Shuter street.

Dr. Allen Baines, of Toronto, recently had a severe attack of gallstones and cholecystitis. He has now recovered and is about again.

Dr. H. G. Arnott, of Hamilton, was very ill with an attack of blood poisoning, but is now around again.

Dr. E. A. Haist, of Crediton, has removed with his family to Hamilton, where he will practice.

Dr. Stewart, of Fort William, who has been laid up with typhoid fever, is able to be about again.

Dr. Arthur Voaden has returned from Kingston, and will resume his duties in St. Thomas.

Dr. B. S. Bailey, of Gladstone, Man., and Miss Florence Passmore, of Winnipeg, were married 18th April.

Hamilton proposes establishing a sanatorium for consumptives, towards which the Ontario Government will give $4,000.

Drs. Deveber, of Lethbridge, Roy, of Edmonton, and Douglas, of Assinboia, have been added to the list of senators.

Oscar Margolese, M.D., of Edinburgh, has decided to start practice in Winnipeg, and has taken rooms on Jarvis street. Dr. Margolese came from the old country but recently.

Dr. Charles O'Reilly, formerly medical superintendent of the Toronto General Hospital, has returned from his lengthened trip to Britain and has located at 52 College street, Toronto.

The marriage of Dr. John J. Gardner, of Montreal, to Miss Catherine Josephine Macleod, eldest daughter of the late Mr. William Macleod, of Summerstown, Ont., took place in New York a couple of weeks ago.

Dr. Sutherland, of Springhill, N.S., who is well known in Amherst, expects to leave about the first of May for a four months' visit to the hospitals in London.

Dr. F. C. Douglas, who had charge of the typhoid fever epidemic at Fort William, has returned to Montreal, after completing his duties in connection with the epidemic.

The position of medical assistant at the Epileptic Hospital, Woodstock, has been filled by the appointment of Dr. H. A. Clare, formerly third medical assistant at the Brockville asylum.

Dr. W. H. Godfrey, formerly of Mallorytown, but recently of Grace Hospital, Toronto, has left for Russell, North Dakota, to take charge of Dr. Dunn's practice there for five or six months.

Prior to her departure from Leamington to Windsor, Mrs. Elliott, wife of Dr. Elliott, was presented with an address and gold watch by the congregation of St. Paul's Episcopal church.

The government of British Columbia has granted $5,000 towards a sanatorium for consumptives, and work on it will be commenced at an early date.

The government of Manitoba is acting wisely in its decision to erect a sanatorium for consumptives. This work should be done by governments and not in a spasmodic manner by individuals.

Dr. A. P. Reid, medical health officer for Nova Scotia, has been rendering good public service by giving instruction on health topics throughout the schools.

Dr. John Hutchinson has been seriously ill at St. Joseph's hospital, London. Dr. Hutchinson was hurt in an accident at the Maitland street crossing of the Grand Trunk Railway in London some time ago, and has not been in good health since.

The marriage of Dr. C. T. Ballantyne, Ottawa, and Miss Ritchie, formerly superintendent of the Isolation Hospital there, was celebrated on 18th April. A few days later Mrs. Ballantyne was removed to the Protestant Hospital to be operated on for an attack of appendicitis.

Dr. Barrett has been appointed health officer for the Yukon and Dawson. Dr. Barrett's appointment will meet with the approval of everyone. He is popular, has a large practice, and is at the head of his profession in Dawson.

Dr. Charles Leeming, Mrs. Leeming and four children, of Chicago, have arrived in Brantford to take up their residence there. They will be a welcome addition to the city. They will be the guests of Mr. and Mrs. F. Leeming until their new house is completed.

Dr. Bell, provincial bacteriologist for Manitoba, while conducting some experiments with the brain of a rabid dog, accidentally wounded his finger. He went to the Pasteur Institute in Chicago for treatment. So far no symptoms have developed.

Dr. W. H. B. Aikens, of Toronto, after the close of the International Congress, at Lisbon, paid a visit to Madrid and then left for Vienna. On a picture post card from him there is an excellent illustration of a bull fight.

Owing to the increased demands for admission to the Woodstock Hospital for Epileptics, the Department of Public Works is asking for tenders for the erection of two more cottages there. The estimated aggregate cost is $48,000.

A medical association has been formed at Alberta. The following officers have been elected: Dr. Kennedy, of McLeod, Hon. President; Dr. Britt, of Banff, President; Drs. Braithwaite, of Edmonton, and Lafferty, of Calgary, Vice-presidents, and Dr. Cumming, of Calgary, Secretary.

Dr. S. Ritter Ickes, promoter and builder of the Woodstock, Thames Valley and Ingersoll Electric Railway, and the Grand Valley Electric Railway, died, 25th April, at Seattle, Wash. The late Dr. Ickes was a man of tireless energy and great executive ability. He was a physician, but gave up his profession and entered commercial life as a promoter.

The Hospital for Epileptics, at Woodstock, is now opened and receiving patients. It has a capacity for 82 cases. Patients are charged $3.00 per week and are not admitted unless there is some reasonable hope of curing them. They are employed at out-door work in the attached farm. It is intended to keep on enlarging the institution until it will accommodate about 1,000 patients.

At the meeting of the Toronto Pathological Society, held on Saturday, April 28th, it was decided to change the night of meeting for the next year to the last Wednesday in the month. The following officers were elected for the coming year: President, Dr. J. A. Amyot; vice-president, Dr. W. H. Pepler; treasurer, Dr. C. J. Wagner; corresponding secretary, Dr. E. S. Ryerson; recording secretary, Dr. H. S. Hutchison.

The special committee of the Federal House to which has been referred the question of deleterious or fraudulent medicines, met and appointed Hon. Mr. Templeman chairman. The committee decided to gather information regarding legislation enacted or proposed on the subject in the several Provinces and the States. The proprietary medicine men submitted a draft bill to the effect that the formula be furnished the Inland Revenue Department. The Department may prohibit the sale in certain cases.

Members of the Ontario Medical Association are again reminded of the annual meeting to be held Monday evening, August 20th, in Toronto. As heretofore announced it will this year be simply an executive session.

The following are chairmen of committees for the current year:—Dr. C. J. C. O. Hastings, Toronto, committee on credentials; Dr. R. J. Trimble, Queenston, committee on public health; D. A. H. Perfect, West Toronto Junction, committee on legislation; Dr. John Ferguson, Toronto, committee on publication; Dr. W. R. Walters, East Toronto, committee on by-laws; Dr. Bruce L. Riordan, Toronto, committee on ethics; Dr. D. J. Gibb Wishart, Toronto, committee on papers and business; and Dr. H. J. Hamilton, Toronto, committee on arrangements.

The Ottawa teachers held their very interesting beneficial annual convention, with papers and live discussions upon school subjects. Dr. D. M. King came forward with an address upon "Medical Inspection of the Schools," repeating more fully the arguments he urged recently before the board of public school trustees. The doctor outlined a plan for Ottawa, suggesting that the work of inspection be divided among five physicians, at a salary of $300 per year each. These would advise on special cases of disease, and in addition make a thorough inspection of healthy children, noting predispositions to disease or hereditary weakness. These would be noted on a card that would constitute a guide to parents, teacher, and drill master as to the course to be taken with the pupil.

Some of the consequences of modern haste are seen in the report of railway accidents issued by the Interstate Commerce Commission for the concluding three months of the past year. This report shows 18,227 casualties to railway passengers and employees, of whom 1,109 were killed and 17,118 injured. This is an increase of 56 killed and 732 injured over those reported in the preceding three months, and an increase of 158 killed and 3,091 injured as compared with the same quarter of 1904. The number of passengers and employees killed in train accidents was 320, against 272 in the preceding three months and 242 in the same quarter one year ago. The injured numbered 3,797, against 3,455 in the preceding three months and 3,298 in the corresponding quarter of the previous year. There were 2,077 collisions and 1,645 derailments, a total of 3,722, of which 267 collisions and 133 derailments affected passenger trains. The number of employees killed in coupling and uncoupling cars and engines was 85, as against 74 in the preceding quarter and 71 in the same quarter one year ago. The injuries to employees from this cause numbered 886, as against 817 in the preceding quarter and 832 for the same quarter one year ago. In the most disastrous accident reported, a collision, 17 persons were killed. The leading causes for this state of affairs are too great speed, too few employees for the work to be done, and too long hours on duty. This latter cause is regarded as the most important. Beyond a certain point of endurance the brain refuses to act with certainty.

OBITUARY.

WILLIAM HOLDEN, M.D.

Many citizens of St. John, N.B., will sincerely mourn the death of Dr. Holden. He was a man of gentle mould and kindly instincts, sympathetic, a student, and an ideal family physician. He was devoted to his profession, and took a personal interest in his patients' welfare. Never obtrusive, but rather of a retiring disposition, he sought to do good, rather than to achieve distinction. This is the tribute of his friends, and it is a tribute such as any man might well desire to have paid to his memory.

JOHN BRUCE M'CALLUM, B.A., M.D.

Dr. John Bruce MacCallum, B.A., Toronto, '96, and associate professor of physiology, University of California, and son of Dr. and Mrs. G. A. MacCallum, Asylum, London, Ont., died on April 6, 1906, in Berkeley, Cal.

J. K. MITCHELL, M.D.

Dr. J. K. Mitchell, of Perth, Ont., one of that town's most popular citizens, and well known in Ontario fraternal circles, died in hospital at Montreal on 23rd April. For some days he had been very ill with appendicitis. Some hope of ultimate recovery was entertained at first, but he sank rapidly towards the end of his illness.

W. H. KYLE, M.D.

Dr. W. H. Kyle, of Detroit, aged 30 years, died on April 7, 1906, at Chesley, Ont. He was a graduate of Trinity Medical College, Toronto.

JOHN C. STINSON, M.D.

Dr. Stinson was killed in the earthquake in San Francisco. He received his medical education at Trinity Medical College and graduated at the University of Toronto in 1893. He was a Brantford boy, to which place his remains were brought for interment.

JOHN W. MOKE, M.D.

Dr. Moke died 10th April in his 31st year. He was a graduate of the class of 1901 of the University of Toronto. He practised at McGregor, Essex County.

S. B. SMALE, M.D.

Dr. Smale was one of the best known physicians in Western Ontario. He had practised in Wroxeter, Huron County, for over thirty years. He died of pneumonia.

ALEXANDER A. HENDERSON, M.D.

Dr. Alexander Allan Henderson, one of the oldest and best known medical practitioners of Ottawa, died at his home, 414 Albert street. The cause of death was heart trouble. He had been confined to his room for about six months and had been ailing seriously for more than a year.

For many years Dr. Henderson has been a highly respected resident of the city and enjoyed unusual success in his profession and esteem amongst all who knew him. Dr. Henderson, besides a wife, leaves one son and one daughter to mourn his demise. The son, Smith Henderson, is fourth year McGill student, and the daughter, Miss Jessie Henderson, resides at home.

The late Dr. Henderson was born in Dunblane, Scotland, April 14, 1845, being the son of Rev. Alex. Henderson, who for twenty years was in charge of the United Presbyterian church in Dunblane. He came to Canada in 1849 with his parents, who settled at Fitzroy Harbor. He was educated at home, and later at McGill University, Montreal, where he was graduated in medicine with honors in 1870, winning the Holmes gold medal and a special prize in clinical surgery. Shorty afterwards he located in Ottawa. He originated the idea of and was the first in Canada to apply successfully the plaster of paris jacket for the immediate relief and subsequent cure of spinal irritation. He was attached to the staff of the Protestant Hospital, and was one of the most highly respected physicians in the city. Dr. Henderson was of genial disposition and had a large circle of friends. He had travelled extensively in Canada and the States, and was a great lover of nature. He was connected with many prominent local societies.

J. W. DIGBY, M.D.

The death occurred, very suddenly, on 29th May, of Dr. J. W. Digby, the most prominent physician in Brantford, and one of the best known residents of western Ontario.

Deceased was born in Brantford in 1842. He was educated at Dr. Tassie's School in Galt, matriculated at Toronto University and graduated at McGill in 1862.

During the American rebellion he received the appointment of acting assistant surgeon and was stationed at the hospital at Point Lookout, Md. After the battle of Stone river, he participated in the campaign through the western states as hospital surgeon until the battle of Chickamauga, when he was stationed in the field hospital at Chattanooga in charge of several wards. Later he received the appointment of regimental surgeon of the 16th U. S. Infantry, and with that regiment took part in the campaign through the South. He returned to Brantford in 1866. Dr. Digby was vice-president of the hospital and surgeon of the G.T.R. He was three times mayor of the city and had held nearly every position in the gift of the citizens. He leaves a widow and three children.

BOOK REVIEWS.

THE TREATMENT OF GONORRHŒA IN THE MALE.

By Charles Leedham-Green, M.B., F.R.C.S., Senior Surgeon to Out-Patients, Queen's Hospital, Birmingham; Surgeon to the Birmingham and Midland Hospital for Children; Assistant Lecturer on Bacteriology, University of Birmingham. London: Bailiere, Tindall & Cox, 8 Henrietta St., Covent Garden, 1906. Toronto, J. A. Carveth & Co. Price $1.50.

This is a truly handsome little volume, and is printed on the best of coated paper, is well illustrated, and strongly bound. The disease itself, its many complications, and the bearing of its cure on marriage, are all fully discussed. The author is particularly interesting on the subject of treatment, and we think sound in his views also. The main stress in treatment must be placed upon local measures. Suitable regulation of the diet is of importance, and, among the many internal remedies, the author gives the highest praise to sandal oil, though the balsamic preparations are helpful, but might be said never to be curative. In the local treatment of the acute stage of the disease most favor is shown for protargol, largin, and argyrol. In the treatment of chronic urethritis every attention must be paid the existence of stricture or not. The author advises dilatation once a week in chronic urethritis and the use of Janet's injections. We recommend the book highly.

THE SCIENCE AND ART OF PRESCRIBING.

By E. H. Colbeck, B.A., M.D., F.R.C.S., and Arnold Chaplin, B.A., M.D., F.R.C.S., both physicians to the out-patients at the City of London Hospital for Diseases of the Chest, and to the Metropolian Dispensary. Second revised and enlarged edition. London: Henry Kimpton, 13 Furnival St., Holborn, E.C., 1906. Price, 3/6 net.

When we reviewed the first edition of this book we took occasion to recommend it to our readers as a safe guide in the science of prescribing. The present edition strengthens us in our conviction of the merits of this little book. We think that every practitioner would do well to procure a copy, and carefully study its many admirable formulæ, and ponder well the excellent advice given on the whole subject of writing prescriptions. It is of convenient size for the pocket; but much of it should find a place in the head. There is some useful formula for almost every ailment.

ESSENTIALS OF MEDICAL ELECTRICITY.

By Edward Reginald Morton, M.D., C.M., Trinity University, Toronto; D.P.H.; Fellow of the Royal College of Surgeons, Edinburgh; Medical Officer in charge of the Electrical Department, London Hospital, Honorary Secretary of the British Electrotherapeutic Society, etc. With eleven photos and seventy illustrations. London: Henry Kimptan, 13 Furnival Street, Holborn, G. C.; 1905. Price, 4s. 6d., net.

Nearly every medical practitioner in Great Britain, and a goodly number in this country, are familiar with "Kimpton's Essential Series." These volumes contain much useful information in very compact form. The present volume is got up in very neat form, the binding, paper and typography being all that could be desired. The work is both scientific and practical, setting forth the general principles and then the applications of electricity to various diseases. Even though a doctor may not employ electricity in his own practice, it is well to study such a book, in order that he may properly instruct his patients on the subject. We very cordially commend the book.

ROENTGEN RAY SOCIETY.

Transactions of the American Roentgen Ray Society, Sixth Annual Meeting. Johns Hopkins Hospital, Baltimore, September, 1905. Press Murdoch, Kerr & Co., Pittsburg, Pa., 1905.

This volume contains twenty papers on various subjects in which the x-rays were employed, either for diagnostic or therapeutic purposes. The book is got up in a neat form and illustrated. The publication committee was composed of Drs. H. Hulst, G. C. Johnston, W. B. Ewing, J. M. Thorne, and G. E. Pfahler. The list of membership contains over 200 names. The volume is a very useful one and goes to show what progress is being made in this field of work.

INTERNATIONAL CLINICS.

A quarterly of Illustrated Clinical Lectures a d especially prepared original articles on the leading topics of medicine, surgery, obstetrics, etc. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U.S.A. Vol. I, sixteenth series, 1906. Philadelphia and London: J. B. Lippincott Company. C n-adian agent, Charles Roberts, Montreal. Price $2.25.

As usual this volume is one of high merit. It contains five articles on treatment, four on medicine, five on surgery, two on obstetrics, one on pathology, and three specially prepared articles on the progress of treatment, medicine and surgery during 1905. The volume is also well illustrated, there being eight colored plates, twenty plates, and twenty figures. The subjects discussed in the volume are many, but none of them are lacking in interest. Indeed, they are all selected with special care on account of their importance. We can recommend very highly this excellent series.

CABOT'S CASE TEACHING.

Case in Medicine. A series of graduated exercises in the differential diagnosis, prognosis and treatment of actual cases of disease. By Richard C. Cabot, A.B., M.D. (Harvard), instructor in medicine in the Har ard Medical School and physician to out-patients at the Massachusetts General Hospital. Boston, U.S.A. D. C. Heath & Co., publishers, 1906.

There are the roport of 78 cases in the author's own practice. Every second page is blank for the purpose of making notes. These 78 typical cases cover a wide range of subjects, and very well reported. The method of reporting these cases is short and complete. For the student this book will prove of very great assistance. The busy practitioner could find much in it to enjoy and profit by. The way of arriving at a diagnosis in these is suggestive. There are many excellent hints thrown out on the prognosis and treatment.

MISCELLANEOUS.

TORONTO GENERAL HOSPITAL RE-ORGANIZATION.

At a meeting of the Staff (Physicians) of the Toronto General Hospital, held on the 4th of January, 1906, a committee was appointed for the purpose of procuring information from various sources which would be of service in advising the Board of Trustees as to the proper lines to be followed in the re-organization of the Medical Staff of the Toronto General Hospital.

With a view to obtaining opinions of those whose experience enables them to advise, not only with authority, but from an outside rather than a local view-point, the committee in pursuance of its duty submitted a list of questions to leading authorities in Great Britain, the United States and Canada, hoping that the climination of local or personal considerations, which might tend to obscure the opinions of those close at hand, would make more possible the formulation of a broad plan for the establishment of a great hospital in a university centre.

Recognizing also the importance of profiting by the experience of institutions that stand in the fore front of medical progress, a list of questions was submitted to leading hospitals in order to ascertain certain details of their organization.

The answers which have been received from these sources have been tabulated and submitted for your consideration.

At an adjourned meeting held on the 3rd of March, 1906, the committee was further instructed to bring in a report based on the information thus received and to make recommendations for the consideration of the Medical Staff in connection with the proposed re-organization of the hospital.

In the organization of a hospital along advanced scientific lines, there are three principal objects which must be kept in view:—

(1) The best possible treatment of the patients.

(2) The most approved training of medical students.

(3) The fullest development, consistent with the primary object, of scientific and clinical research by the members of the staff as a contribution of the sum total of medical knowledge.

It has been found that these objects are to be obtained only by the most efficient organization and the recommendations which the committee submit are based upon the rules and methods in vogue in those institutions which occupy foremost positions among the hospitals of the world.

In the opinion of the committee, it can be fairly asserted that in the past, the first of these objects has been realized in a manner to compare favorably with the results obtained in the best hospitals elsewhere, and that in this regard the Toronto General Hospital has reason to be proud of its record.

While labouring under many disadvantages incident to poor organization, lack of sufficient financial support, deficiency of equipment and proper hospital facilities, it can equally be shown that the training of our medical under-graduates has fitted them to undertake the responsibilities of their profession in hospital, laboratory and private practice, on equal footing with the students of the best institutions in other centres. The positions obtained by many of our graduates in the field of scientific medicine in various parts of the world, in itself, bears testimony to the truth of this statement.

From essential defects in organization, however, owing chiefly to the existence of more than one medical school, and the consequent division of the clinical material of the hospital among inco-ordinated groups of teachers, ununited by common interests or ideals, the prosecution of systematic scientific work and clinical research has heretofore been impossible in the Toronto General Hospital. The results along these lines have consequently been disappointing and not at all commensurate with the capabilities of the profession of the city nor with the importance of Toronto as a university centre.

Now that these divisions have disappeared and the units have become merged into one of the largest medical schools in the world, difficulties formerly insurmountable no longer exist, and with the assistance and encouragement of the Hospital Board, and the united interest and support of the Legislative Assembly, the city, the University, the press and the general public, the profession look forward with confidence to a brighter era in the history of scientific medicine in this city and Province.

It seems at this time only just and right that we, the Medical Staff of the Hospital, should pay our tribute of respect to those whose efforts have contributed to bring about this better order of things and, following the example they have set and sacrificing personal interests, if need be, unite in tendering the fullest assistance and support to the Board in establishing the Toronto General Hospital on the broadest scientific basis.

Effects are not obtained without causes, and only by securing the conditions that have made the prosecution of scientific work successful in other places can correspondingly satisfactory results be hoped for here.

Your committee, therefore, begs leave respectfully but in the most emphatic way to urge that a poor organization will paralyze the efforts of the most efficient staff, and if the objects mentioned are to be realized, the proper conditions must obtain. No amount of individual enthusiasm or effort can compensate for a bad system or secure good results from it.

The committee recommend that in the proposed re-organization of the Staff, the Board should consider the matter purely from the view-point of the objects of the hospital before mentioned and of the university, and that the interests of the two institutions should be co-ordinated as far as possible; all other interests being considered as of secondary importance.

We therefore beg leave to submit the following recommendations:—

(1) That in the administration of the affairs of the hospital every endeavor be made to safe-guard and promote the educational interests and clinical facilities of the University Medical Faculty.

(2) That the Board consider all positions on the Medical Staff vacant and proceed to the organization of the various services on as ideal lines as possible, having regard only to the efficiency of the hospital and to the attainments of the objects before mentioned.

(3). That the present Medical Staff, submerging all personal interests assure the Board of their fullest co-operation and active assistance in establishing the hospital on the most approved scientific basis.

(4) That a Medical Board, consisting of the chiefs and assistants of all the departments, be appointed, and that this body be held responsible for the advising of the Board upon all matters relating to appointments, and to the more purely professional matters of the hospital.

(5) That vacancies and positions on the Staff be thrown open to the whole medical profession and all applications be considered on equal terms.

(6) That applicants submit their credentials to the Board, and that appointments be made purely on a basis of merit, and of fitness for the position sought.

(7) That in making appointments the Board regard especially the previous training and record of the applicant, his scientific attainments, his teaching capacity, and the promise he gives of future work.

(8) That each medical service consist of at least fifty patients under the control of a physician-in-chief, who shall be directly responsible to the Board.

On the basis of the present number of medical beds, two physicians-in-chief of equal rank should be appointed in charge of the medical service. That such physician-in-chief have attached to his service an assitant physician, whose duty it shall be to render such assistance to his superior as is necessary for the proper management and control of the interne service and to take charge of the service in the absence of the physician-in-chief.

(9) That in view of the large amount of time which will be required of the assistant physicians, that they be paid an honorarium of at least $1,000 a year on condition of their devoting a definite time daily to their hospital duties.

(10) That the out-patient department be under the general supervision of the physicians-in-chief and the assistant physicians, the work being under the immediate directions of three out-patient physicians each attending twice weekly.

(11) That as many other clinical assistants be attached to the medical services as may be required for the proper performance of the work connected therewith.

(12) That teachers appointed by the university who are not members of the hospital staff be accorded such facilities of the hospital as are necessary for the purposes of clinical teaching and research, and that others may at the discretion of the physicians-in-chief be attached to the services for the purposes of clinical study and research.

(13) That the physicians-in-chief be required to devote their time entirely to teaching and consultation work and the care of their wards.

(14) That members of the staff shall make their visits to the hospital at stated hours and devote such time to the duties connected with their positions as is necessary for the proper study, management and records of the patients.

(15) That members of the staff be not allowed td serve on the staff of another General Hospital.

(16) That for senior members of the Active Medical Staff an age limit of sixty years be fixed, and a service limit of ten years with the privilege of a further appointment (under exceptional circumstances), for a period of not more than five years.

(17) That in completion of their term of service on the Active Staff, physicians be placed on the Consulting Staff of the Hospital.

(18) That the heads of the various services be held responsible for the accuracy and completeness of the clinical records, and that the Medical Superintendent of the Hospital be the custodian of the same.

(19) That there shall be a medical registrar whose duty it shall be to properly index and file the records, compile statistics and submit a yearly report of the cases in the Hospital.

(20) That a sufficient amount of clerical assistance be furnished the clinicians to enable them to keep the records in proper condition, and that for this purpose at least one stenographer be employed for the medical services.

(21) That the services of competent artists, photographers and other extra-professional assistants be obtained for properly carrying out the hospital work.

(22) That at least $10,000 be appropriated annually by the Board for the maintenance of the scientific departments of the hospital.

(23) That this appropriation provide for the services of a pathologist and assistants, a pathological chemist and other laboratory assistants and servants, and that these be provided with requisite facilities and supplies, as furnished in similar institutions elsewhere.

(24) That for the present Dermatology and Neurology be sub-departments of the Department of Medicine.

(25) That the members of the general profession have full and unrestricted privileges of the semi-private and private wards, subject to the regulations of the hospital, and that the courtesy of visiting their patients in the public wards be extended to them, this privilege not to include the right of undertaking the treatment of patients in public wards.

(26) That steps be taken to establish a good working library and journal room in connection with the Hospital.

ADDENDUM

Herein the Committee desire to set forth the considerations that have especially appealed to them in determining the recommendations made.

I. It is recommended that the Members of the Staff resign, in order that the Board may have a perfectly free hand, unembarrassed by previous conditions to organize on the most approved lines and select the most efficient staff. An opportunity such as this, allowed the Trustees of the Johns Hopkins Hospital to organize and select a staff, which in a few years placed that institution in the front rank for teaching, and clinical and scientific research.

Dr. Osler says: "The first thing necessary is the passing of a self denying ordinance on the part of the profession of the city."

II. The contributions to the hospital scheme by the Province, the City and the University, places the Toronto General Hospital on a different footing from that of a local or private charity. It has therefore, with reason, been contended that all members of the profession should be accorded equal rights and privileges in connection with such an institution. To concede the right to every practitioner to treat patients in the public wards would be to grant privileges not allowed in any properly organized hospital and would with certainty defeat the objects in view in the establishment of a modern hospital in Toronto.

By the resignation of the staff and the opening of appointments on equal terms, purely on a basis of merit and to every practitioner in the city and Province, the best staff can be chosen, the rights of the whole profession recognized and the interests of the hospital conserved.

III. In recommending two physicians-in-chief, or one to every fifty patients, the committee were influenced by the following reasons:—

(*a*) This is about the average number of patients alloted to each physician-in-chief in the various hospitals communicated with. (See answers to Question I and II, Appendix I.)

(*b*) Dr. Osler says: "In a hospital of 400 beds, there should be two medical services of 90 beds each or three of 60.

(*c*) As the policy of confining a physician to one general hospital has been recommended, it is necessary that he should be supplied with a sufficient amount of clinical material.

(*d*) If the physicians-in-chief are to be purely consultants, the number of services must be limited, as the City of Toronto is not large enough to support more than two medical consultants in connection with the General Hospital.

IV. In recommending that the physicians-in-chief be limited to teaching and consultation work, the following reasons may be adduced:—

(*a*) This is the custom which obtaines in the foremost hospitals in other parts of the world.

(*b*) Dr. Osler, who is conversant with our local conditions, recommends that they be so limited.

(*c*) It is practically impossible for physicians in general practice to devote the time and attention requisite for the proper performance of the onerous duties of such a position, and to prosecute and direct the clinical and scientific research and publication expected of the occupants of these positions.

(*d*) It would greatly minimize or practically remove the objection on the part of the general profession, to competing practitioners being placed by the hospital in control of the class of patients which, while not paupers, are unable to pay in full their expense to the hospital.

(*e*) We believe it would tend to the ultimate advantage of the hospital, the university, the public and the medical profession in general.

V. That members of the staff should visit the hospital at stated hours seems necessary for the proper administration of the hospital work :—

(*a*) By this means only will the resident and externe physicians, nurses, students and others be able to systematize and arrange their hospital work.

(*b*) It will tend to the least loss of time and disarrangement of the work of all connected with the services, by allowing of everything being in readiness for the physicians' visit.

(*c*) By the adoption of such a plan only will it be possible for the resident staff and others to have certain hours set apart for the study and research, without interruption by the physicians' visits.

(*d*) Dr. Osler says: "The physicians should not only make their visits at stated hours but *stay* stated hours."

VI. An age and service limit have been adopted by many of the leading hospitals. By such an arrangement provision is made for men to be given an opportunity for active hospital work during their years of greatest energy and enthusiasm. By being relieved of his active duties at 60 years of age, time is allowed the physician to be devoted to collecting and publishing from the data accumulated during his period of active service. Moreover, the knowledge on the part of the physician, that his period as head of the service is limited, will be a stimulus to more strenuous effort to accomplish all that is possible within that time.

VII. The committee, recognizing the essential importance of full and accurate clinical records, not only in connection with the proper treatment of the patients, but for purposes of clinical study, research and publication, believe that the heads of the services should be made responsible to the Board and the Medical Staff for the character of the same. The preparation of proper clinical records requires the highest degree of skill

and knowledge, for which the services of externe and interne assistants and clerks are available only to record data dictated by the clinician or obtained under his immediate direction. These data being the record of the clinical and scientific research of the hospital reflect in the fullest measure the character of the work, and serve as the best available index to the efficiency of the services performed by members of the staff. Their accuracy and completeness will test the efficiency and smoothness of the whole hospital machine, organization, co-ordination of departments, equipment, clinical skill and scientific attainment of the medical staff, faithfullness to duty and harmony of work, for in so far as any of these are deficient, the result will be reflected in the character of the records. On these along future reports and publications, and consequently the scientific status of the hospital depends. By indicating the character of the work performed by the various members of the staff, they furnish valuable documentary evidence of the claims of such for promotion.

These records in a few years should represent a collection of reliable data, from which material could be obtained for the publication of reports, a journal, treatise on various subjects, text-books, etc., and thus there would be placed before the profession opportunities for the prosecution of medical research hitherto unavailable in Toronto. Access to such material for purposes of research and study on the part of younger men, would keep them busy, improving themselves and consequently contented, in the leisure hours of early practice, and would furnish an outlet for restless energy, beneficial alike to the hospital, the individual, the profession and the interests of scientific medicine.

With reference to the importance of clinical records, we would refer you to the opinions of Drs. Osler, Byron Bramwell, Stockton, Barker, Dock and others in the answer to Question 6, Appendix No. 2.

VIII. Clerical assistance for the proper compiling and typewriting these records is now furnished by some of the best hospitals and is especially recommended by Drs. Osler and Barker.

IX. For the best results in hospital work, well equipped pathological and clinical laboratories, manned by a sufficient number of competent workers, are essential. The maintenance of these laboratories of the best type costs from $10,000 to $15,000 annually. See answers to Question 12, Appendix No. 2.

X. The services of a competent artist, photographers, etc., has proved of great advantage in those institutions where proper records are kept and publications made.

All of which is respectfully submitted.

BRITISH MEDICAL ASSOCIATION, AUG. 21-25.

Prominent British Members who will Attend.

Allbutt, Prof. Clifford, F.R.S., St. Radegund's, Cambridge, Regius Professor of Medicine, Cambridge; Armour, Donald, Esq., F. R.C.S., 89 Harley St. W., son of Judge Armour; Ashby, Dr. Henry, 13 St. John St., Manchester, an authority on Diseases of Children, Barbour, Dr. A. H. F., 4 Charlotte Sq., Edinburgh, son-in-law of the late Hon. Geo. Brown, an authority on Obstetrics; Barlow, Sir Thomas, Bart., K.C.V.O., M.D., 10 Wimpole St. W., the King's Physician; Barnes, Dr. Henry, LL.D., 6 Portland Place, Carlisle, Ex-President and an authority in Obstetrics; Barr, Sir James, M.D., 72 Rodney St., Liverpool, President of Section in Medicine; Bradford, Prof. J. Rose, M.D., F.R.S., 8 Manchester Sq. W., an authority in Medicine; Broadbent, Sir William, Bart., K.C.V.O., M.D., 84 Brock St. W., an eminent authority on the Heart; Browne, Dr. Langley, Moore House, West Bromwich, President of Council of British Medical Association; Buzzard, Dr. E. Farquhar, National Hospital, Queen Sq., W. C., an authority on Nervous Diseases; Cameron, Sir Hector Clare, M.D., 200 Bath St., Glasgow, one of Scotland's famous surgeons; Gibson, Dr. G. A., 3 Drumsheugh Gardens, Edinburgh, a representative of the Royal College of Physicians, Edinburgh; Griffith, Dr. W. S. A., 96 Harley St. W., an authority on Obstetrics; Halliburton, Prof. W. Dobinson, M.D., F.R.S., 17 Marlebone Road, N. W., one of the world's most able Physiologists; Horsley, Sir Victor, F.R.S., 25 Cavendish Sq. W., whose name is famous in Brain Surgery; Lawford, Dr. J. B., 99 Harley St. W., a noted Oculist; MacAlister, Dr. Donald, D.C.L., Barrmore, Lady Margaret Road, Cambridge, the eminent Cambridge Professor; Manby, Sir Alan Reeve, M.V.O., M.D., East Rudham, Norfolk, already well known to some Toronto people; Mickle, Dr. W. J., Grove Hall Asylum, Bow E., a Toronto boy who has become an authority as an Alienist; Osler, Prof. W., M.D., F.R.S., 7 Norham Gardens, Oxford, too well known here to need description; Roaf, Dr. Herbert E., Bio-Chemical Department, the University, Liverpool, one of Toronto's sons doing good work in Liverpool; Robinson, Prof. Arthur, M.D., The University, Liverpool, a well known Anatomist; Sherrington, Prof. C.S., M.D., F.R.S., Physiological Laboratory, The University, Liverpool, already well known in Toronto; Woodhead, Prof. G. Sims, M.D., F.R.C.S.E., 6 Scroops Terrace, Cambridge, an eminent Pathologist.

Distinguished Foreigners Who Will be Present.

M le Docteur Delezenne, Directeur du Laboratorie de Physiologie de l'Institut Pasteur, 25 Rue Dutot, 15e Arrondissement, Paris; M le

Docteur L. Lapicque, 6 Rue Dante, 5e Arrodissement, Paris; M. le Docteur M. Nicloux, 107 Rue Mouge, Paris; Professor Justus Gaule, University of Zurich; Professor Max V. Frey, University of Würzburg.

Fares and Excursions.

1. *Fares, Going Dates and Limits.*—(*a*) Domestic Business, Certificate Plan Arrangements; free return regardless of number in attendance. Passengers going rail, returning R. & O. Navigation Co., or vice versa, rate to be one and one-half fare.

(*b*) *European Business.*—On presentation of certificate, to be prepared and signed by the Secretary of the Eastern Canadian Passenger Association, and countersigned by the Secretary of the Canadian Committee, or the Secretary of the British Medical Association, one-way tickets to be issued at one-half lowest one-way first-class rail fare; round trip tickets at lowest one-way first-class rail fare between all points in Canada. Rates to the Pacific Coast subject to concurrence of Transcontinental Passenger Association. Steamship lines to advise Secretary what, if any, additional arbitraries are required.

Dates of sale, July 1st to September 30th, 1906, inclusive. Final return date, September 30th, 1906.

2. *Extension of Time Limit.*—On deposit with Joint Agent of Standard Convention certificates issued from points in the Maritime Provinces, points west of Port Arthur and from points in the United States, on or before August 28th, 1906, and on payment of fee of $1.00 at time of deposit, an extension of time until September 30th to be granted. Joint Agency to be conducted in the name of G. H. Webster, Secretary, Eastern Canadian Passenger Association, will be kept open from August 21st to September 15th, 1906.

3. *Side Trips.*—(*a*) Side trip tickets to be sold from Toronto to delegates from the Maritime Provinces, from points west of Port Arthur and from the United States, on presentation of validated certificate, or deposit receipt, at lowest one-way first-class fare for the round trip, to all points in Canada.

Dates of sale, August 23rd, to September 1st, 1906, inclusive. Return limit, September 30th, 1906.

(*b*) Side trip tickets also to be sold to delegates from Ontario and Quebec to stations west of and including Sudbury, and east of and including Montreal, on presentation of validated certificate or deposit receipt, at lowest one-way first-class fare for the round trip. It being understood also that the arrangements authorized for the extension of time limit from points in the Maritime Provinces, from points west of Port Arthur and from points in the United States will also apply for delegates from Ontario and Quebec.

Usual additional arbitraries via Upper Lake Steamships to apply, viz.: Going lake, returning same, $8.50, additional to be collected. Going lake, returning rail, or going rail, returning lake, $4.25, additional to be collected. Also usual arbitraries via St. Lawrence route, for delegates desiring to return by steamer, on presentation of tickets to purser, viz.: $6.50 Toronto to Montreal; $3.50 Kingston to Montreal.

Via Northern Navigation Company on lines where meals and berth are not included the rail rate will apply; on lines where meals and berth are included, rate to be single fare plus meal and berth arbitrary.

Ocean Transportation.—The "lines" will grant the minimum rates named in the circulars published by the respective lines.

PROGRAMME.

Considerable progress has been made with the arrangements for that notable event, the meeting of the British Medical Association, in this city in the closing part of August. From the inquiries that are being received from every part of the continent, as well as from the British Isles, it is evident that a very large attendance will be recorded at this meeting. Over 200 members resident in the British Isles have already asked for accommodation, and in many cases they will be accompanied by members of their families. The Association will be convened under thirteen sections, which will meet daily from 9.30 to 1 o'clock. The afternoons and evenings will be devoted to general meetings, public addresses and various entertainments. There will be three public addresses delivered. Sir James Barr will present the address in Medicine, his topic being, "The Circulation viewed from the Peripheral Standpoint." Dr. W. S. A. Griffith will deliver the address in Obstetrics, Sir Victor Horsley the address in Surgery, and it is just possible that a public address will be delivered by Dr. Marie of Paris. It is intended that clinics shall be held each morning at 8.30, when interesting cases will be reviewed by some of the prominent physicians and surgeons in attendance. Considerable advance has already been made in arranging for the work of the sections.

Anatomy: The section of Anatomy will be under the presidency of Dr. Arthur Robinson of Birmingham. Papers have been promised by the following:—Dr. C. R. Bardeen, University of Wisconsin, Madison, Wis.; Prof. G. C. Huber, University of Michigan, Ann Arbor, Mich.; Prof. J. P. McMurrich, University of Michigan, Ann Arbor, Mich.; Dr. Ross E. Harrison, Johns Hopkins, Baltimore, Md.; Dr. H. Knower, Johns Hopkins, Baltimore, Md.; D. G. L. Streeter, John Hopkins, Baltimore, Md.

It is also possible that Prof. Mall, of Johns Hopkins, Baltimore: Prof. C. S. Minot, Harvard Medical School, Boston; Dr. E. A. Spitzka, New York, and Dr. R. R. Bensley, of Chicago, may communicate papers.

Laryngology and Otology: The section of Laryngology and Otology will be under the presidency of Dr. J. Dundas Grant, of London, and will have three or four principal topics for discussion:—(1) "Operations for the correction of deviations of the Nasal Septum" (discussion to be opened by Dr. St. Clair Thompson of London; (2) "Laryngeal disturbances produced by voice use;" (3) "The indication for ligation of the Jugular Vein in Otitic Pyæmia;" (4) "The diagnosis and treatment of Ethmoidal Disease."

Each discussion will occupy about two and a half hours, the remainder of the day being devoted to papers. It is just possible that Or. Logan Turner will open the discussion on Ethmoidal Disease.

Medicine: Tuesday, Aug. 21st—"Blood Pressure in its relation to Disease." (*a*) Physiological Introduction (Dawson of Baltimore); (*b*) Clinical Methods of Determining Blood Pressure, their uses and limitations (Geo. Gibson, Edin.); (*c*) Pathology and Therapeutics of Blood Pressure (Sir Wr. Broadbent), Also possibly a paper on the subject by Clifford Allbutt, and one or two others, including one Canadian.

Wednesday, Aug. 22nd—Discussion in junction with the section of Physiology upon, over and under Nutrition, with special reference to Proteid Metabolism (introduced by Crittenden). Other special speakers: Herter, Starling, Hutchison, Francis Hare, A. Haig and others.

Thursday, Aug. 23rd—Papers from William Osler, J. MacKenzie and Erlanger on Heart Block. Other papers: L. F. Barker, A. Stengel, A. McPhedran.

Friday, Aug 24th—Papers devoted to Neurological subjects, W. G. Spiller, "Syringomyelia;" J. J. Putman.

The following gentlemen have signified their intention to contribute to the section: D. J. J. Putman, Boston, Mass.; Dr. W. G. Spiller, Philadelphia, Pa.; Dr. Alfred Stengel, Philadelphia, Pa.; Dr. Barber, Baltimore, Md.

Obstetrics and Gynæcology: The section of Obstetrics and Gynæcology is under the presidency of Dr. A. H. Freeland Barbour, of Edinburgh. The following is the programme suggested:—

Tuesday—Discussion on "Hyperemesis Gravidarium" (opened by Dr. J. C. Cameron, Montreal).

Wednesday—"The changes in Uterine Fibroids after the Menopause, with special reference to operations."

Thursday—Subject for discussion and opened to be selected by Dr. Barbour.

Papers—"Uterine Myomata and their degenerative changes" (T. S. Cullen). "Sectional Anatomy of Labour," lantern demonstration, (A. H. F. Barbour). "Condition of Ovaries in normal and abnormal Pregnancy" (C. Lockyer), lantern demonstration.

Surgery: The section of Surgery is under the presidency of Sir Hector Clare Cameron, M.D., Glasgow. The following is the programme suggested :—

Tuesday—"Enucleation of the Prostate Gland." Reader, Dr. Bingham, Toronto.

Wednesday—"Treatment of Ascites secondary to Chronic Hepatitis."

Thursday—"Surgical Treatment of Ulcer of the Duodenum." Reader, Dr. W. J. Mayo, Rochester, Minn.

Friday—"Treatment of Acute Septic Peritonitis."

Paediatrics: The section of Paediatrics is under the presidency of George A. Sutherland, M.D., London. The following is the programme suggested :—

Tuesday—Discussion on "Congenital Pyloric Stenosis." The medical aspect of the subject will be introduced by Dr. Edmund Cautley, London, and the surgical aspect by Dr. Harold Stiles, Edin.

Wednesday—Discussion on "Pneumoccal Infection." The medical aspect will be introduced by Dr. Henry Ashby, Manchester.

Thursday—A Symposium on Entero-colitis. The subject will be taken up under the following headings: (*a*) Etiology; (*b*) Pathology; (*c*) Symptoms; (*d*) Diagnosis and Prognosis; (*e*) Medical Treatment; (*f*) Dietetic Treatment.

Friday—A discussion on Rheumatism.

Psychology: The section of Psychology is under the presidency of Wm. Julius Mickle, M.D., London. It has been arranged to have four discussions, one each day, of the sectional meetings. The subjects are :—

Tuesday—General Paresis.

Wednesday—Classification of Insanity.

Thursday—So-called Mental Degeneracy.

Friday—Dementia Praecox.

The leaders and those chosen to discuss these subjects will be eminent British, American and Canadian Psychologists and the President, Dr. Mickle, is expected to present the first paper, as he is a recognized authority on General Paresis. The second subject chosen will be one

of great interest to both countries, as it is a question now under general discussion.

A series of papers will also be presented by eminent men and the following Canadians have already signified their intention to take part:—

Dr. C. K. Clark, Toronto; Dr. Ryan, Kingston, Dr. Moher, Brockville; Dr. Shirres, Montreal; Dr. Daniel Clark, Toronto.

State Medicine: The section of State Medicine is under the presidency of Dr. F. Montizambert, of Ottawa. The following programme has been arranged:—

Tuesday—"The Preventation of Tuberculosis."

Wednesday—"Water Supplies."

Thursday—"The Hygiene of Homes and Educational and Industrial Institutions."

Friday—"International Sanitary Protection."

Guests: Prof. Brouardel, member of the Institute and the Academy Medicine of France; Dr. Martin, City Health Officer, of Paris, France: Dr. Letulle, Professor of the Medical Faculty, of Paris; Dr. Liceaga, Sanitary Adviser of the Government of Mexico, Mexico; Dr. Wyman, Surgeon-General of the United States Public Health and Marine Hospital Service, Washington.

Therapeutics: The section of Therapeutics is under the presidency of Donald MacAlister, M.D., Cambridge. The following is the programme arranged:—

Tuesday—The Study of the Kidney: (*a*) Its Physiology and Pharmacology; (*b*) The Therapeutics of Acute Nephritis; (*c*) The Treatment of Chronic Nephritis; (*d*) The Treatment of Uraemia.

Wednesday—"Serum Therapy."

Thursday—"The place of Materia Medica and Therapeutics in the Medical Curriculum."

Friday—"The Value of Alcohol in Therapeutics" (Dr. A. D. Blackader, Montreal); "The Teaching of Pharmacology;" "The Teaching of Therapeutics."

Pathology and Bacteriology: The section of Pathology and Bacteriology, under the presidency of Prof. J. G. Adami, M.D., F.R.S., Montreal, have made the following preliminary arrangements:—

Tuesday—"Nuclear Physiology and Pathology." To be opened by Prof. Adami and Dr. Macallum.

Wednesday—"Etiology and Life-History of Maligant New Growths.'

Thursday—'The Forms of Arteriosclerosis, their classification and experimental production."

Friday—Papers upon "Pathogenic Protozoa" by various workers. Papers have been promised by: Prof. Aschoff, Marburg, Germany; Prof. Novy, Ann Arbor; Dr. Pearce, Bender Laboratory, Albany; Dr. Bush-

nell; Prof. Grunbaum; Prof. Calder Leith; Dr. Oskar Koltz, Montreal; Prof. J. J. MacKenzie, Toronto.

The American Association of Pathologists and Bacteriologists have been formally invited to be present and a number of the members will likely attend.

Dermatology: This section will meet under the presidency of Dr. Norman Walker of Edinburgh, who will open the section by an address on "The Teaching of Dermatology." During one of the days of the meeting there will be a discussion on the subject of "Eczema," to be opened by Dr. A. J. Hall of Sheffield, Eng. A paper on "Psoriasis and Light" has been promised by Dr. J. N. Hyde of Chicago. Papers will also be given by:—Dr. Gilchrist, Baltimore; Dr. A. R. Robinson, New York; Dr. Elliott, New York.

Physiology: The section of Physiology will meet under the presidency of Professor W. D. Halliburton, M.D., F.R.S., London. The following programme has been arranged:—

Discussions—(1) Discussion in junction with the section of Medicine on, "Over Nutrition and Under Nutrition, with special reference to Proteid Metabolism in Health and Disease;" (2) Discussion in junction with the section of Pathology on, "The Role of the Nucleus in Nutrition."

Papers:—Dr. S. P. Beebe, New York, on "Serum under the Influence of injected Nucleo-proteid;" Prof. T. G. Bordie, F.R.S., London, on "The Functions of the Renal Tubules and Glomeruli;" Prof. F. Gotch, F.R.S., Oxford, on "Demonstration of the Sphinthariscope;" Prof. W. B. Hall, Chicago, on "New Apparatus:" Prof. W. D. Halliburton, F.R.S., London, on "Proteid Nomenclature;" Prof. C. F. Hodge, Worcester, Mass., on "Structures and Physiological Functions of Amoeba Proteus;" Profs. C. F. Hodge and M. F. Duncan, Worcester, Mass., on "Differentiation of Contractile Protoplasm;" Prof. W. H. Howell, New York, on "Physiology of Heart;" Prof. G. C. Huber, Ann Arbor, on "Physiology of Renal Tubules;" Dr. G. T. Kemp, Champaign, Ill., on "Blood-platelets;" Dr. Louis Lapicque, Paris, on "Electrical Excitation of Nerves and Muscles;" Prof. J. S. Macdonald, Sheffield, on "Structure and Functions of Nerve Fibres;" Prof. J. J. R. MacLeod, Cleveland, on "Experimental Glycosuria;" Dr. Gustav Mann, Oxford, on "A Plea for Microphysiology;" Prof. B. Moore, Dr. M. Edie, Dr. Spence, and Dr. H. E. Roaf, Liverpool, on "Experimental Glycosuria;" Prof. B. Moore, E. Whitley, and Dr. H. E. Roaf, Liverpool, on "Effect of Ions on Growth and Cell Division;" Dr. F. W. Mott, F.R.S., London, on "The Functional Significance of the Convolutional Pattern in the Primates;" Dr. Maurice Nicloux, Paris, on "Chloroform Anæs-

thesia and a Simple Method of Estimating Chloroform;" Prof. C. S. Sherrington, F.R.S., and Dr. H. E. Roaf, Liverpool, on "Lock-jaw."

Papers are also promised by the following: Dr. Harvey Cushing, Baltimore; Dr. P. T. Herring, Edinburgh; Dr. F. G. Hopkins, F.R.S., Cambridge; Prof. Waldemar Koch, Columbia, Mo.; Dr. S. J. Meltzer, New York; Dr. Sutherland Simpson, Edinburgh; Prof. L. B. Mendel, New Haven; Prof. Porter, Boston; Prof. Jacques Loeb, Berkeley, Cal.

Paper by Prof. F. S. Lee, New York, on "The Causes of Fatigue in Certain Pathological States."

Ophthalmology: The section of Ophthalmology will meet under the presidency of Robert Marcus Gunn, F.R.C.S., London. The following provisional programme has been arranged:—

Tuesday—"Rare Forms of Choroiditis."

Wednesday—"Sympathetic Ophthalmia."

Thursday—"Affections of the Lacrimal Passages."

Friday—"Visual Tests for Marine and Railroad Service."

Most of the buildings of the University will be utilized in connection with the meeting. On the ground floor of the Main Building, in addition to the Post Office and Reception Rooms, there will be rooms for the regular meetings of some six or eight sections. The second floor, in addition to special offices for the Secretariat and the Editor of the British Medical Journal, will be devoted almost entirely to the Museum, which will afford some 12,000 square feet for exhibitors. Already a large amount of this space has been disposed of to leading manufacturers of instruments and drugs in Great Britain, the United States and Canada. This alone will be one of the most interesting parts of the Association to Canadian visitors. Accommodation for other sections will be provided in rooms closely adjoining the Main Building. It is expected that the new Convocation Hall will be completed in sufficient time to enable the ceremonies of the official reception, on the evening of the 21st of August, and the public addresses to take place there. Already the committee is actively engaged in providing accommodation for the host of visitors that is expected. Queen's Hall, Wycliffe College, Annesley Hall, the Fraternity houses and other buildings adjacent to the University will probably be utilized, and many of the citizens are already offering their hospitality. The Committee on Entertainment have a most excellent programme prepared. One of the interesting features of which will be an excursion to Niagara Falls, at the invitation of Sir Henry Pellatt. Owing to the exceptionally favourable travelling rates, which have been obtained over the Canadian lines of steam and rail, the attendance will be made very easy, and physicians wishing to avail themselves of the privileges of this meeting should communicate with the Secretaries at an early date, in order to obtain accommodation.