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THE CANADA LANCET.

A MONTHLY JOURNAL OF
MEDICAL AND SURGICAL SCIENCE,
CRITICISM AND NEWS.

Original Communications.

FLAP SPLITTING OPERATION FOR VENTRAL HERNIA.

BY H. MEEK, M.D., LONDON, ONT.

What I have to say on the subject of ventral hernia, will be principally with reference to that form of hernia occurring in cicatrix following abdominal section, and, as a forerunner, I shall report a case on which I operated some months ago.

In December, 1890, I removed uterine appendages from a patient suffering from chronic oöphoritis and prolapse of ovaries; abdominal walls were thick and fat, no drainage tube was used, recovery from operation was somewhat retarded by supuration in track of a couple of sutures on left side. She was in hospital about three weeks after operation, and then went home, but did not move about much for some time. An abdominal belt was worn after wound healed, though not continuously; always wearing a bandage, however when not wearing a belt.

About following June, she noticed a bulging at lower end, and to left of cicatrix. The protrusion increased in size slowly. On my return from Europe in November last, she called on me, and on examination I found a ventral hernia in line of cicatrix, and to left of it about two and a half inches, in both linear and transverse diameters. The recti had separated along line of incision, for a distance of about two and a half inches. The left rectus appeared to be separated from median line a greater distance than right. The cicatrix had not widened out much. The mass could be pushed back into general peritoneal cavity, but could not be retained in place by any kind of support, owing to wide separation of recti muscles low down. After trying to keep protrusion back, by means of supporter for a time, and failing, I advised operation, to which the patient readily consented.

On January the 7th, 1892, after preparation as for laparotomy, I operated in the following way: I made linear incision in line of cicatrix down to sac; after carefully opening sac, adhesions were separated sufficiently to return contents, which were chiefly omental, into general cavity. I then clipped away superfluous sac, and with scissors split inner border of each rectus along whole length of separation to a depth of about half an inch, making an anterior, and posterior flap; then by means of a Tait perineum needle I passed a row of buried silk worm gut sutures in such a way as to separate the flaps, and bring together the broad raw surfaces of muscle thus made, taking care to have the wound perfectly dry and no clots between flaps thus brought together; then carefully drying superficial wound, I united skin and superficial fascia by a superficial row of silk worm gut sutures, thus closing the whole wound completely without drainage.

The operation was performed in as thoroughly an aseptic manner as possible. The dressings, and after-treatment were the same as after abdominal section for other purposes. Bowels were moved on the fourth day by salines and enema. Patient made a rapid recovery. Temperature never rising a half a degree above normal. I removed superficial sutures on eighth day, the wound having completely healed by first intention. The deep buried sutures were left to take care of themselves. Patient was up at the end of the third week with a thick solid wall in place of the hole which had marked the site of the hernial protrusion.

It is now nearly six months since the operation. I examined the patient but a short time since, and found the support as one would naturally expect a more firm and solid one than that which nature had originally given her.

Eddebohls in a paper published in the *American Journal of Obstetrics*, May, 1891, has pretty thoroughly ransacked the literature on the subject of ventral hernia. The literature on this subject up to that date was found to be rather scanty.

Very little is said on the subject in the ordinary text books on surgery, either general or special. Most of the literature being obtained from the published transactions of gynæcological societies. I suppose the scantiness of the literature on the subject may be accounted for by the fact that the vast

majority of cases met with, have followed abdominal section, and prior to the last ten or fifteen years, abdominal section was not a frequent operation.

Statistics as to the frequency of hernia following abdominal section are not easily obtained owing to the difficulty of following cases after operation. Eddebohls puts the frequency in his own cases at about one in thirteen where diastasis of muscles followed, about one in twenty where protrusion followed. This corresponds pretty closely with statistics of my friend Mr. Christopher Martin, assistant to Prof. Lawson Tait, who puts it at about 5% where small hernia, and about 1% where large, bad hernia follows.

I think, taking the same class of cases, hernia will follow less frequently as the experience of the operator increases.

CAUSES.

Line of Incision.—Goodell (*American Syst. of Gynecol.*, page 803) says: "I am by no means sure that the subsequent cicatrix would not be firmer, and less liable to thin out into a ventral hernia, were the recti muscles incised instead of being avoided."

Tait usually makes his incision down along side of linea alba opening sheath of rectus, but does not attach very great importance to this as a preventive.

I should think incision through lateral abdominal wall outside recti muscles, more likely to be followed by hernia than median incision.

Length of Incision.—Mr. Christopher Martin mentions long incision as a cause. Majority of European operators think length of incision has little to do with causation. I think where incision is carried very low down, hernia is more likely to follow.

Method of Suture.—Martin, of Berlin, and Tait, think method of suture of little importance. In Hospital Bichat, Paris, peritoneum fascia and skin are usually sutured by three separate rows of suture. Olshausen and Veit, of Berlin, use three rows of suture, and consider this method of suture of importance.

Many of the New York operators suture in this way. Wylie lays particular stress on getting fascia of recti united evenly by a separate row of buried sutures, and says that for the past three or

four years, he has had no cases of ventral hernia following his abdominal sections.

There is no doubt about the importance of getting fascia evenly united, whether this is accomplished by one deep row of abdominal sutures or by a separate row of buried sutures. I think, too, where peritoneum is allowed to roll up between muscles close union is prevented, and you get a weaker wall.

Early removal of sutures is a cause of considerable importance. Sutures should be left in till the eighth day, or longer, if possible, and for this reason silk-worm gut being non-irritating is superior to silk as an abdominal suture.

In a poorly nourished patient on whom I did an exploratory incision, finding a retro peritoneal sarcoma, I removed the abdominal sutures on the seventh day, the wound having apparently healed by first intention; twenty-four hours after the omentum had forced its way out, separating wound in nearly its whole length, and when examined was found as a thick mass under the dressings. I tied it off, and again closed wound, the patient luckily going on as if nothing had happened.

Anything interfering with primary union, as stitch hole and mural abscesses, which are more apt to occur in very fat abdominal walls, will leave a weak cicatrix, more liable to thin out into hernia. Where the drainage tube is left in for more than three or four days, a weak point in wall would follow.

All cases where pedicle is treated by fixation in abdominal wound, as in hysterectomy, extra peritoneal, fixation of stump, are particularly liable to be followed by hernia.

In a case where I assisted Dr. Eccles, a very large cyst of kidney was opened and drained, sac was fixed in wound, a discharging sinus continued for several months. A moderate sized hernia formed after sinus had completely closed.

Intestinal flatus following operation I consider the main cause in one of my cases. A patient suffering from salpingitis and pelvic peritonitis from whom I removed intensely adherent appendages, March 7th 1891, began to show symptoms of intestinal obstruction in less than forty-eight hours after operation, regurgitation from stomach, great distention of abdomen, rapid, weak pulse, running about 150 per minute; very restless. I first tried enema and salines with no effect. I then gave

her calomel grs. x, tr. belladonna, m. x, every two hours with nothing else by mouth, except sufficient water to get the dose down, stimulants and nutrient enemata being administered by rectum. She took eight doses before any effect; having vomited first dose, she had seventy grs. of calomel, and seventy minims of tr. belladonna in her stomach before bowels moved. After this they moved pretty freely for a time, but she made an excellent recovery; she continued to be troubled with flatulence, however. I have not seen her since she left hospital, but had a letter from her last winter stating that she had been quite well since, except a small lump in line of wound which, from description, I have no doubt is a ventral hernia.

Whether the neglect to wear an abdominal supporter in all cases for several months after operation, is of much importance as a cause, is a question of dispute. Most operators think it important. Wylie, however, thinks if proper union of wound is obtained, it is not necessary to wear an abdominal supporter after.

The symptoms from which ventral hernia cases suffer, are principally disturbances of digestive and nervous systems. Both strangulation and rupture may occur. Eddebohls, in a paper referred to, mentions five cases where death followed operation for relief of strangulated ventral hernia, and two other cases where recovery followed such operation. He also mentions three cases of rupture, so that the possibility of strangulation, though not great, should not be lost sight of.

In the treatment of cases, I think that if the hernia can be replaced, and kept in place by an easily-fitting truss, this, the palliative treatment, may be adopted. Where it cannot be kept in place in this way, or where the patient, from any cause, prefers operation to a truss, it should be operated on for radical cure.

With regard to method of operating in my case, I do not claim anything original with myself in the operation. When with Mr. Tait, last year, I saw him operate in this way, except that he united skin with continuous silk suture instead of silk-worm gut. In every other particular the steps in operation were the same. So far as I know, this method of flap-splitting for ventral hernia, and bringing flaps together with buried silk-worm

gut sutures, and closing the wound without drainage, is original with Tait.

I think the results are more satisfactory, recurrence being almost an impossibility after an operation done in this way than from any other method. Whether the sac should be opened or an extra-peritoneal operation performed as advocated by Eddebohls, will depend on whether the sac can be easily separated from its coverings or not. In the majority of cases I think it cannot. If the skin cicatrix is not spread out much, it need not be dissected out. After opening sac it is not necessary to break up all adhesions of contents, but just enough to get mass back into cavity. If the operation is performed aseptically, and precautions taken that nothing is left in wound to interfere with primary union, there will be no necessity for drainage, and the buried sutures will never cause any trouble.

Mr. Tait has operated for the radical cure of ventral hernia many times with no deaths, and without a single instance of recurrence of the hernia. In nearly every case he opens the sac. He never uses drainage of any kind, and considers the operation for the radical cure of ventral hernia an operation attended with scarcely any risk.

OCULAR PARALYSES FROM BASAL LESIONS—REPORTS OF CASES.*

BY D. J. GIBB WISHART, TORONTO.

Lecturer in Diseases of the Eye, Ear, Nose etc., Woman's Medical College. Assistant Demonstrator in Anatomy, Trinity Medical College, Toronto.

CASE I.—J. A., æt. 56, builder, referred by Dr. Clarke, Jan., 1892, suffering from convergent strabismus. He presented the following history, for which I am indebted to Dr. Clarke:

"On the 20th of Feb., 1891, when coming out of an office door, he slipped on an icy step, falling ten to twelve feet, and alighting on the back of his head. When picked up was in full possession of all his faculties, but bleeding from the right ear and the nose. The bleeding was very profuse, a trustworthy bystander thought he must have bled a gallon. Bleeding continued in smaller quantity for three or four days, then gave place to a watery discharge, not copious, which lasted only a day or two. Headache and vomiting set in a few hours later,

*Read at the Ont. Medical Association, June, 1892.

and next morning convergent strabismus of right eye, accompanied by vertigo, was present.

"This condition was maintained for three weeks, when a stage of excitement, followed by wild delirium set in, with a temperature of 101-103 degrees, and persistent hiccough. Diplopia, and dimness of left eye vision was also noticed. Sensibility was gradually recovered, but with it set in an intense thirst, requiring great quantities of water to satisfy it; his attendants say five to six gallons daily. The urine reaction was normal.

"Convalescence soon set in, and about thirteen weeks from date of injury, he began to walk about. The strabismus of right eye and dimness of left eye vision persisting, with vertigo on closing right eye and difficulty in maintaining the erect position when walking. The memory was greatly impaired for many weeks after the injury, and is still defective for any new fact or idea."

On examining the patient, I found him a highly intelligent man, apparently in full possession of all his faculties; has always been hypermetropic. Right eye directed inwards to face the canthus. Vision right eye equals $\frac{3}{8}$ °, with plus 2 sph. equals $\frac{3}{8}$ ° and with plus 4 equals 2 sn.

The right eye is used altogether for vision by turning head to angle of 70 degrees; with the aid of a stick he walks pretty steadily; but if he closes right eye becomes dizzy and falls forward. Diplopia is not complained of.

All the movements of right eye appear to be normal, except that there is absolutely no movement outwards and the pupil is immobile. Ophthalmoscopic examination was impossible in right eye, but in left eye the fundus was normal. Ordered the proper reading glasses.

Saw patient again three months after in office; he says the vision has improved in left, and failed in right, but varies greatly and several pairs of spectacles are required.

Vision right equals $\frac{1}{10}$ °, with plus 1.25 equals $\frac{2}{3}$ °. Vision left equals $\frac{2}{3}$ °, with plus 1.25 equals $\frac{3}{8}$ °.

Operation under chloroform. The tendon of the rectus internal was carefully divided close to its insertion, without much attempt at loosening, but there was no movement of eye outwards. The rectus external was then cut and advanced by Argyle Robertson method, the retaining thread being quilted through the conjunctiva above and

below the cornea to the internal side and then tied. The muscle was so much atrophied that the stitch gave away, and the thread had to be passed through the conjunctiva as far back over the muscle as possible. Correction to two mm. was obtained. In ten days made good recovery. A limited movement of eye outwards was noticed, with good movement in the other directions. The vertigo practically disappeared and the patient could walk without the aid a stick. Prescribed a prism of twelve degrees, base outwards, for right eye, combined with plus 1.25 in each eye, to be worn constantly.

Three weeks later, there was convergence of 4 mm., vertigo on closing left eye, but none with both eyes open; a tendency to fall forward in climbing a ladder, but good position of head and fairly steady gait.

CASE II.—N. H. C., æt. 47, referred by Dr. Brock, January, 1892, presenting the following history. In October, 1891, fell from a window, sixteen feet, to the ground, alighting on the side and receiving some injuries to the leg and thigh. Was unconscious for some hours. There was no bruise, pain nor soreness about the head. Is myopic; has worn glasses twenty years. Noticed defect in vision shortly after the fall; could only see objects clearly when looking upwards. In the forward and downward directions the objects became mixed up, lines were crossed, etc. If one eye were closed the crossing of the lines disappeared, but the lines slanted downwards and outwards in either eye. On examination, vision right equal $\frac{1}{20}$ ° and 1 sn. with far range; vision left equal ditto. Cannot read when book is held touching his breast, as lines become crossed.

Ophthalmoscopically, beyond cupping of the disk, with a myopic crescent, and large deposit of pigment at the scleral margin, the fundus was normal. There were no signs of hæmorrhage. Was unable to test the condition of the muscles fully, but there was evident limitation in the movement inwards, downwards and outwards; diplopia being produced in all directions by a prism of two degrees.

Strychnine gr. $\frac{1}{10}$, with pot. iod. gr. $7\frac{1}{2}$, t.i.d., was prescribed, and when seen four weeks after, the condition was greatly improved. I have been informed since, that he now experiences no trouble with his vision.

CASE III.—D. K., æt. 17, referred in January,

1892, by Dr. Howitt. In November, 1891, was kicked on the forehead by a horse. A wound was inflicted on the left temple four inches in length, the bone being exposed and supposedly fractured. A few minutes after the left eye vision was noticed to be dull, and has remained so ever since. Vision right equals 15.15 and 1 sn.; vision left equals 5.200 and 12 sn., at three inches. Unimproved by glasses. The action of the external muscles is normal. Ophthalmoscopically, the pupillary action is sluggish, media clear, optic papilla pale, vessels are apparently unaffected, no hæmorrhages. Prescribed strychnine gr. 1.50, t.i.d. Have not seen case since.

These cases are interesting, because they exemplify what a variety of eye lesion may follow injuries to the bone or membranes of the base of the skull, gained by *contre coup* due to a blow on the head or other part of the body.

In Case I. the lesion at the base was sufficient to cause profuse hæmorrhage from the ear and nose, paralysis of the sixth nerve, irritation of the fourth ventricle as shown by the hydruria, an acute meningitis, and some weakness of the ciliary nerves. The first symptoms can be due only to a fracture of the temporal, probably of its petrous portion, for no stretching of the tympanic blood-vessels sufficient to cause profuse hæmorrhage, is possible without fracture of the bony arch. The sixth nerve may have been caught at its origin, in its course, or in the sphenoidal fissure as it enters the orbit. The first of these is the more probable, on account of the injury to the fourth ventricle, shown by the third symptom, and its close proximity to the petrous portion of the temporal.

The immobility of the pupil is difficult of explanation, as it is only associated with a limitation in the accommodation. Perhaps some fibres of the fifth, in or about the caserian ganglion, have been injured or pressed upon in the lesion to the petrous bone, upon the extremity of which the ganglion rests.

The lesion in Case II. was, I believe, wholly in connection with the external ocular muscles, the symptoms all being those which we find in connection with some muscular weakness interfering with full association in the movements of the two eyes, which produced a diplopia when the eyes were directed forwards or downwards, and hence a blurring in the type when he attempted to read

Homonymous diplopia, associated with a tilting of the images outwards and downwards, is found following paralysis of the superior oblique muscles. The burden of the lesion seems to lie upon the superior oblique muscles, but there is evident weakness also in the action of the recti muscles, especially of the internal, external and inferior recti. Paresis of these muscles would be due to some injury to the trochlear and to the oculomotor nerves, and as the two eyes in this case were equally affected, we are forced to look to the brain origins of these nerves for the seat of the lesion, as otherwise, if the lesion had occurred in any part of the tracts more nearly adjacent to the eyeballs, there would undoubtedly have been more extensive damage, whereas the symptoms were comparatively slight.

The nuclei of these nerves lie in the floor of the sylvian aqueduct, close together, just beneath the corpora quadrigemina, and it seems reasonable to suppose that the fall must have caused a slight effusion or hæmorrhage in this locality, which pressed upon the nerves and caused the parietic condition.

In Case III. the pathology is difficult, for while it is no uncommon thing for loss of sight to follow a blow upon the head, especially if accompanied by fracture, still, opportunities for *post-mortem* examinations in recent cases are rare. In this case we have a pronounced amblyopia, with no optic changes to account for it, and the amblyopia is evidently due to some lesion of the optic nerve alone, for it is unaccompanied by paresis of the external and internal muscles; nor had the amblyopia been followed at the time of examination by atrophy of the optic disk, although I believe that such a change would now be found ophthalmoscopically. Blows on the head produce atrophies. This has been noted after injuries in the neighborhood of the supra-orbital foramen, and in two cases mentioned by Schweinitz, when there was no fracture of the orbital plates. Meyer speaks of this form of amblyopia as due to concussion, but cannot explain the *modus operandi*. Schweinitz says that traumatic amblyopia may occur after severe injuries to the head, especially in the occipital region.

The loss of sight was so immediate after the blow, that it would almost seem as if the force of the blow had caused direct lesion of the nerve

between the chiasm and the eye — perhaps in the optic foramen—such as a fracture of the base at that point, wounding the nerve tract.

These cases are, I believe, of sufficient interest to justify being put on record, and I have offered them in the hope that, by this means, more light may be thrown upon the exact location of the injuries.

Reports of Societies.

COLLEGE OF PHYSICIANS AND SUR- GEONS OF ONTARIO.

ANNUAL MEETING OF THE MEDICAL COUNCIL.

(Continued from October number.)

FIFTH DAY.

Saturday, June 18th, 1892, 10 a.m.

The Medical Council met in accordance with motion of adjournment, President in the chair.

Registrar called the roll. All present, excepting Sir James Grant.

Minutes of last meeting read and confirmed.

Dr. Geikie moved, seconded by Dr. Bergin, that the usual rule regarding notices of motion be suspended for the remainder of the session. Carried.

Moved by Dr. Geikie, seconded by Dr. Miller, that the Registrar be, and is hereby instructed, not to issue any more annual certificates to members of the profession on receipt of the annual dues unless they specially desire it, but give a receipt only. My entire object in making this motion is to remove a sentimental objection on the part of a great many of the profession; an objection which has been utilized by those opposed to the Council with great effect. I know absolutely that this is true. People may say it is foolish to attach any importance to a sentiment. I know I attach so much importance to the certificates that I threw my certificate into the waste basket; and the Council has no better friend than I. I would fight for it by night and day, week in and week out, month in and month out (applause).

It has been said that the Registrar may be compelled under the Act to issue new certificates; he can issue them where they are wanted, but I think it is better to adopt another policy and issue receipts only, and give certificates to any who wish to have them. The feeling is that an annual certificate is equivalent to a sort of dog tag, or a sort of a metallic plate with the number.

Dr. Bergin—I submit this is out of order. We can not substitute a motion of this Council for a statutory enactment.

Dr. Geikie—I make the motion at any rate, and I think it is in order. Whatever conserves to the interests of this Council, and tends to preserve its vitality, and to draw the members of the profession around it in its defence, and for its protection is in order and must be in order.

The President—I think the better way is to refer this to the Legislative Committee.

Dr. Geikie—How can the Registrar then receive instructions?

The President—Perhaps what you have said would be sufficient for the purpose.

Dr. Ruttan—I beg to move, seconded by Dr. Harris, that whereas a number of offices and other rooms remain unoccupied and not rented in the college building that this Council instruct the Property Committee, subject to the approval and sanction of the Registrar, to rent all the rooms and offices forthwith to the best advantage obtainable, and that the property be insured in a responsible insurance company, at a rate most advantageous to the college.

In support of this motion, I would say these rooms are now unoccupied, and we had better rent them for something, and that forthwith; in a very short while there will be brought into the market a large number of offices connected with three buildings near here which are not yet finished, but they will be when finished thrown on the market, and we will be in a worse position than now, and we had better secure tenants while we have the opportunity. Carried.

Dr. Campbell—I move, seconded by Dr. Bray, that the solicitor be instructed to prepare a form of contract with the *Ontario Medical Journal Publishing Co.*, based upon the resolution adopted by this Council, in which the company shall agree to the following:—To prepare under the supervision of the Registrar, and publish a full stenographic report, etc.

Dr. Campbell.—I move, seconded by Dr. Harris, that the solicitor be instructed to prepare a form of contract with the *Ontario Medical Journal Publishing Company*, based upon the resolution adopted by this Council, in which the company shall agree to the following:

To prepare under the supervision of the Registrar, and publish a full stenographic report of the proceedings of the Council, and send a copy to each registered physician, and supply the Council with two hundred additional copies.

To publish the College Announcement, sending one copy to each registered practitioner, and two hundred extra copies to the Council.

To publish in their *Journal* all advertisements of the Council.

To give satisfactory guarantee for the performance of their agreement. Carried.

Moved by Dr. Bray, seconded by Dr. Bergin,

that Thomas Wasson be appointed public prosecutor.

The Registrar read a letter from Thomas Wasson, and testimonials as to ability.

The President—While there is a provision that fines shall be retained by the Council, there is no provision if the fines are not sufficient to pay the expenses what shall be done.

Dr. Bray—The Council would have to pay the expenses. That is what it did before. Carried.

COMMUNICATIONS.

Dr. Pyne read a letter from Dr. F. C. Mewburn, which was referred to the Discipline Committee.

Dr. Bergin moved, seconded by Dr. Johnson, that Dr. H. H. Wright, Treasurer, and the Registrar, be a committee to meet once a month to consider the financial affairs of the Council, make suggestions to the Council as to the best and most feasible means of economy and retrenchment, and to report to the Council at the annual meeting, without any expense to the Council.

I move this motion, and suggest the name of Dr. Wright as that of the gentleman to be associated with the Treasurer and Registrar, because he is warden of this building, and an old member of the Council who takes great interest in our affairs, and who will give his time once a month to a conference with the Treasurer and Registrar, as to the best means of economy and lessening the expenditure to the Council; and give a report to the Council in addition to that which the Treasurer usually makes. Of course they will be advising with the Property Committee as to the best means of leasing the property, which is now bringing us no income of any kind whatever; and it will lessen very much the responsibilities of the Registrar, to have such advice from these gentleman and the Property Committee. Carried.

Dr. Bergin moved, seconded by Dr. Johnson, that the address of the President at the opening of this Council be published in pamphlet form and distributed to every member of the profession and to the members of the Legislature of Ontario. Carried.

Dr. Harris presented the third and final report of the Education Committee, and moved, seconded by Dr. Day, that the report be received. Carried.

Moved by Dr. Day, seconded by Dr. Harris, that the report be referred to the Committee of the Whole. Carried.

Dr. Geikie in the chair.

The report was read clause by clause.

In reference to clause No. 7, Dr. Harris made the following explanation: I have an estimate by which it is found we will give better satisfaction to the examiners and still save a considerable sum. Each examiner gets \$20 for being present;

it is on the same principle as the examiner's fees are fixed at the Toronto and Trinity Universities, it is a retainer for the examination. There are twelve examiners, and averaging them at 150 papers it would make \$115 each. The Homœopathic examiner would receive about \$40. He would receive much less than the other examiners because he has not so much to do as the others; that would make a total of \$1,420; expenses about \$300, making a total of \$1,720.

The examinations this year amounted to \$2,289 as against \$1,720, making a gain to us of \$469, the amount saved; and the examiners would be better satisfied with this arrangement, and it ought to be a more satisfactory arrangement with the Council, for the man is paid really for the work he does.

Dr. Rosebrugh—If it is not obligatory that he should be present at the examination will it be necessary for him to be there the ten days?

Dr. Harris—No. That is taken into consideration.

Dr. Harris moved the adoption of this clause of the report. Carried.

Dr. Harris—In explanation of clause No. 8, said the communication asked what we meant by the clause in our report which reads, "Each candidate will be required to prove he has carefully dissected the whole adult human body." I took advice of Dr. Primrose himself and Dr. Richardson. Dr. Richardson, one of the most able anatomists, I suppose, in the Dominion, made the following remarks before the committee: "The study of anatomy is best secured from requiring from the first year students a thorough knowledge of the osseous system, the dissection of the abdomen and thorax and upper extremities, leaving the remainder for the second year; I think it would be preferable not to insist on the dissection of both sides, because I believe it could not be done with that care and reading which are requisite." I think Dr. Richardson's words should have a great deal of weight with this Council.

Dr. Fowler—I regret very much the committee should have thought fit to diminish the amount of dissection required from students of medicine. I think it is one of the most important things connected with the study of medicine, required from our students; and I may mention that this is not the direction that they are going in Germany and in other countries where advanced views are held in regard to the study of medicine. In Germany I well know that the students in the first year are required to make themselves perfect in the dissection of the muscles of the human body. It is of great importance that this should be first attended to, because when they commence dissection first they are in a measure unable properly to dissect the finer structures of the body; and it takes a year, at all events, before they are able to

dissect properly the nerves and the blood-vessels. Students will never have an opportunity in future life for dissecting, and I think the more attention paid to dissection during their course of study the better; and I think we should still maintain that students should dissect the whole human body twice, or, at all events, one side twice. I think it would be a backward step for this Council to take, to merely insist on students dissecting one-half the body once.

Dr. Geikie—This paragraph refers to the first year only.

Dr. Johnson—It says the remainder for the second year.

Dr. Williams—I regret I was not able to be present at the meeting this morning; the fault, however, was not mine, for I had no knowledge that there was to be a meeting, and therefore, I couldn't be present. I do not know that this matter would have been any different if I had been there; but I could at least point out, which I will do now, that it does not harmonize at all with our curriculum. We are pointing out what a student shall take in his first year, and what he shall take in his second year. As a matter of fact, we have no means of controlling what he shall take in his first year. We do not hold an annual examination; and when we say you shall do so and so in the first year, and do the other part in the second year, we are not in a position to control it at all. We do not take him up for examination until the end of the second year. How are we going to know, or what do we care, where he divides that work in the middle, as long as he gives us that whole work complete at his primary examination at the end of the second year. That is all we can control. As a matter of fact we have no control whatever how he shall divide what we shall do in the first or second year. The suggestion of Dr. Richardson was based entirely upon the curriculum of the Toronto University, where they hold an examination each year, and in that case they are in a position to say you must take so and so the first year, and we will examine you on that; but we are not in a position to do that because we don't hold an annual examination. At the end of the second year they can say we will examine you on such additional quantities in anatomy for the second year. We cannot do that now; we have to take up the whole subject the second year that we require in our examination, so that that does not harmonize with the curriculum at all; and I think it ought to be amended to bring it into harmony with our curriculum; according to that it would appear as though we intended to hold annual examinations—that is, for the first year and second year and so on, but we have no such arrangement in our annual Announcement, and I think this should be brought into harmony with that. I agree somewhat with Dr. Fowler, that just a little

change in the wording, so as to allow it to be applicable to one side of the body, with the thorax and abdomen, would have covered the whole matter much better than the alteration that has been made, as I think this is throwing the matter entirely out of harmony with our Announcement.

Dr. Harris—I believe Dr. Williams stated this was taken up this morning in his absence, and that he had not notice of the meeting. He had notice of a meeting at 9 o'clock; and we waited, I think, half an hour before we went on with the committee meeting. I might also say this was not taken up this morning; it was arranged yesterday afternoon at the meeting, and we had Dr. Richardson here. I made a slight mistake in one word,—it should have said "it is recommended," not "required," as it would read better, I think; but I don't care how you word it, it is merely a suggestion.

Dr. Williams—At the meeting yesterday afternoon, as a matter of fact, I believe there was nothing decided on this matter; we simply made notes of what Dr. Richardson's views were, and certain other notes, and agreed when a meeting took place we should then harmonize this recommendation as far as we could with our Announcement. I don't know whether that was taken up this morning, but certainly there was a meeting held this morning, and I had no notice of that meeting, and therefore I was not present.

Dr. Britton—I cannot say I can fall in the line with the thoughts expressed by our learned President in this matter. I think it would be a very foolish thing to start any student out in the direction of doing such rough, careless dissection, as to dissect the first year for the muscles alone; in fact, among students in their school it is a by-word to talk of a certain student who is a careless dissector, as one who is "going for the bone"; it would be about the next step to that to go for the muscles. There are two advantages that a student derives from dissection; the first is a knowledge of the topography, and the second is the training of his mind and the muscles of his hand and eye in the preparation for surgical work; it would be a great calamity, I think, that we should arrange it in such a way during the first year that a student would simply dissect, looking for certain structures, without taking into consideration everything that lies before him. We are assured it is an utter impossibility to secure material enough to enable students during the two years to dissect the whole body twice. I would move that clause 6 be interpreted by this committee to mean dissection of the one side of the head, neck, arm, and leg, together with the thorax and abdomen, any time within the two years.

Dr. Bray—I think the object of this Council is to make the study of medicine in all its branches more practical; and I do think anatomy is the

foundation of the study of medicine; and I think if two years is not enough we should charge our curriculum and have them come up for their primary examination at the end of three years. I do not think you can get too much practical anatomy. It is a subject that they all dread at their examinations; and if that time is not sufficient for them to get it up in let the examination be held the third year instead of the second; but I quite agree with what Dr. Williams and Dr. Fowler have said, and I do not propose a first year student should on the head and neck, but he can take the arm or leg.

Dr. Britton—That is nearly as hard to do well. It takes nearly as long.

Dr. Bray—If you give him only one side he will not be perfect. He won't know how to do each. He will only begin to be proficient when he goes over it again.

Dr. Britton—It takes two months to dissect the head and neck.

Dr. Bray—That proves that two years is too short a time for a student to work up his anatomy. I was not there when this matter came up before the Committee, if it came up before them, and consequently I am in a position, although a member of the Committee, to take exception to it. I do not want to make it too hard on students nor on those who have to procure the subject, but at the same time, I want the study of anatomy to be thorough and practical.

Dr. Thorburn—I think there is rather a misunderstanding than any real difference between the different members of the Council here about the importance of anatomy. We all claim it is of importance, the most important study in which a student has to be engaged, but we contend it is impossible to do the whole body thoroughly within a certain limited time; and therefore we limit what they do go over they shall know thoroughly. I have been connected with anatomy more or less for many years, and I know, and the experience of all teachers of anatomy is, that a student who hurries up and dissects and gets through too much, and likes to talk about it, is generally a very indifferent man; but the man who will work constantly and carefully is one that will learn his anatomy and who will keep that knowledge in his brain; therefore I support the amendment of Dr. Britton in that respect. Our instructions should be that one half of the head and neck and not less than an extremity,—a lower extremity, and the abdomen and thorax.

Dr. Harris—I think that Dr. Britton's recommendation is very like the report.

Dr. Britton—It is, except it may be awkward, that certain students may have the arm to dissect the first year and the leg the next year; it might be more satisfactorily arranged that John Brown, for instance, would have a leg and Henry James

an arm, whereas Brown might be first year and James second year; we say here the upper extremity the first year and the lower extremity the second year, but I think it would be far easier for the demonstrator in anatomy to arrange the distribution of his subjects if we do not limit him down.

Dr. Williams—I will move that the clause read be struck out.

Dr. Harris—If you strike that clause out I presume that you intend to leave the old clause in the Announcement as it is.

Dr. Williams—If that is struck out then we will fall back on the clause in the curriculum; and then, if we are so disposed, we can amend the clause in the curriculum. If you strike this clause out then what you have is the clause in the curriculum; and when you are back to that if you think that clause should be amended you can then move to amend it. But I believe the clause in the curriculum is better than that recommended.

Dr. Harris—Students and teachers cannot understand it.

Dr. Williams—We can modify the clause so that they can understand it. When we strike that clause out we can make a motion to amend clause 6 in the curriculum.

Dr. Williams moved that the word "whole" be struck out of clause 6, page 14, Medical Curriculum. Carried.

Dr. Henry moves that the name of Dr. McKinnon, of Guelph, be substituted for the name given in the report (Dr. Small), an examiner in Materia Medica and pharmacy.

Dr. Williams—If you catch the run of this report you will see they are retaining all the old examiners. I do not understand there are any new ones made.

Dr. Harris—I may say also that Dr. A. A. McDonald is put on in Midwifery, instead of Dr. W. J. Wilson; there are two changes made.

Dr. Williams—The Council ought to know whether the changes are made for cause. If you put the bulk of the examiners back, the inference will be if you drop two men out it is for cause, but if you are making a general change then all men stand alike, but you should remember when you drop out a couple of men, and retain others that have been on equally as long, and some perhaps longer, it looks as though it was for cause.

Dr. Bergin—I do not think it is fair to the committee to say, that because we substitute two new names in the place of two who have been examiners, that we do so because we have lost any confidence in them or anything of that kind; we must not lose sight of the fact that a large number of these examiners (all but five) are appointed by medical schools, and consequently they nearly all come from Toronto or its near neighborhood; and the eastern part of Ontario

thinks, at all events, that it ought once in a while to have a representative upon the Examining Board. The Homœopathic representatives and the representatives from the eastern portion of Ontario, fixed upon Dr. Small as a very able man, and one who would be competent to examine in more than one branch, and I think that we ought not to be deprived of proper representation upon that Board when we ask for it; and it is for that reason, not because we have any doubt of Dr. McKinnon's ability, not because we believe Dr. McKinnon did not examine fairly, and properly, and ably, because we believe he did; but we did think that in accordance with the rule of the Council that has been followed ever since I have been in it, and was the rule before I came to it, that two years, unless the Council thought proper to retain a man for special reasons longer, should be the limit of any man's place upon the Board of Examiners. I need not say that I sympathize strongly with the feeling expressed in the Council, not only this year, but during several years past, that when we had a Board of Examiners thoroughly competent, that we ought to extend the period of their position as examiners during the entire term of the Council, five years; but we have no power to do that, and although we appoint these examiners a second year, we have to do it as we do with every other officer, make the appointment yearly.

Dr. Bray—With some of Dr. Bergin's remarks I agree, and with others I disagree. What I think should be and has been the practice for this Council is to put on the best men they can get, no matter where they come from. If this can be done, I think it is perfectly right to give all portions of the Provinces representation. But I take exception to Dr. Williams' remarks, that if we change one examiner we have to change the whole. I do not think that is consistent; and I don't think it would be in the interests of the Council to do so, for the reason that if you take off all the examiners you have an entirely new Board, and I think that would be very unadvisable to do, because they would be all new to the work; it is well to have some men on who are accustomed to the work. And if it was the custom to remove the whole Board every time we made a change, then I think there would be disorder and confusion. It is true that when a man if a good examiner he should be retained as long as we can retain him; and I don't think that Dr. McKinnon's name or the name of the other gentleman that was left off, was left off for cause, but because we thought there were other men just as good; and instead of removing the whole Board of Examiners, we take off one or two, or two or three each year. I think that is the idea, and I think the best idea. I don't think Dr. Williams himself would think it a good plan to remove the whole Board and put on new men.

Dr. Williams—Dr. Bray misunderstands my remarks entirely. I didn't suggest that the whole Board be changed, but the fact occurred to me that probably Dr. McKinnon was not on that Board the longest of any man who was there and thought possibly if you were going to change because a man had been on for some time, and as Dr. Bergin says the change should be made in two years, then it looks reasonable you would start with the man that had been on the longest time; and if because one man had been on for three years it was advisable to change him, perhaps the same rule would apply to each other man who had been on three years. I fully agree with the idea that the longer a man is an examiner the better examiner he becomes; but while that is true, that has not been the rule of the Council. It has been looked upon as an honor to a medical man to have an appointment as an examiner; and it has been passed around, as Dr. Bergin says, about once in two years. If that rule is followed I have no special objection to it at all, but I don't think it looks right without an explanation that one man or two should be dropped out and others that have been on as long or longer not interfered with. It would have the appearance without an explanation that there might be cause. That was why I asked that the explanation should be given that it was not for cause but in the ordinary workings of the Council.

Dr. Harris—I wish to say in regard to the other change, that he was not dropped out for cause at all. I believe the committee appreciates his work well, and so do the whole Council, but he has been there two years; and Dr. Orr did not express any special desire to have him retained. Dr. Orr would like to have seen him there, I have no doubt in the world, but he didn't ask the committee, as Dr. Johnson did. Dr. Johnson has a large constituency, and it was his desire to have a little change made and consequently the committee came to that conclusion. There was no fault found with Dr. Wilson any more than Dr. McKinnon.

Dr. Orr—With regard to some of the remarks dropped from the lips of Dr. Harris, I think I should be unfaithful to the duties I owe to my constituency if I didn't say I used my best endeavor to secure the replacing of Dr. Wilson's name on the list of examiners.

Dr. Harris—You did not come into the committee room as Dr. Johnson did.

Dr. Orr—I have not been in the habit in the past and I hope I shall not in the future, be guilty of interfering with any committee I am not placed upon. However I am pleased to hear the committee state that those gentlemen who have been replaced on the Board by others have not been replaced on account of any of their work not being good and quite satisfactory to this Council. I should have liked very much to have seen the name of Dr.

Wilson, of Richmond Hill, again placed upon the Board of Examiners. Dr. Johnson, who represents a very much larger constituency than I do, and who for some time, I think not since he has been in this Council, has not had the name of an examiner upon that Board, has named one now in the place of Dr. Wilson; owing to such being the case, though with much regret, I all owed the name of Wilson to be withdrawn.

Dr. Henry—After having heard the explanations that have been made I beg to withdraw my motion.

After the reading of the report Dr. Harris said, I have another clause that may be inserted in it, it is that the committee would respectively draw the attention of the Ontario Government to the fact that the supply of anatomical material is not adequate to meet the requirements of this Council in the study of anatomy and surgery; and that the defect would be largely if not entirely met by placing provincial lunatic asylums and all public institutions where persons are maintained at public cost fully under the provisions of the Anatomy Act.

On a motion to add that this clause being put it was declared carried.

The committee arose. President in the chair.

Dr. Britton presented the report of the committee of the whole that the Education Committee's report be passed and amended.

Moved by Dr. Bray, seconded by Dr. Harris, that the report be adopted as a whole. Carried.

Moved by Dr. Bergin, seconded by Dr. Logan, that Drs. Fowler, Campbell and Johnson compose the Executive Committee for the ensuing year. Carried.

Moved by Dr. Bergin, seconded by Dr. Henry, that the Legislature be asked to amend paragraph, firstly, of section 6, by adding the following words thereto, "that all such members shall be elected by the medical graduates of the said colleges and bodies duly registered under this Act, and shall be elected by ballot in the manner provided for the election of members resident in the several territorial divisions," and that this resolution be referred to Dr. Williams' committee.

Dr. Moore—Before that resolution is put I wish to say that I think we are making a mistake to pass any such resolution as that. What right has the Council to dictate to Toronto University, Trinity University, Queen's University, or any other university, how they shall elect their officers. We might just as well attempt to dictate to them how they should elect the members of the Council or the Board of Trustees, as to say how they should elect any officer of their institution. They have a right by this Act to elect a representative on this Council, and that they obtained many years ago; and if it had not been for the schools and universities combining at that time this

Council, as has been clearly shown, would never have been in existence. And the regular profession only came in to preserve the balance of power between the schools, as has been justly set forth by the President. I think it is almost impudent to place such a resolution upon our record.

Dr. Geikie—It is waste time to put in such a resolution.

Dr. Harris—I wish to endorse what Dr. Moore said. And further I do not take much stock in it. I think it is probably an electioneering dodge.

Dr. Bergin—I ask this gentleman to withdraw that charge. He has no right to make such a charge to anybody as against anybody. I make this resolution in good faith. I believe it is a necessity for this Council to pass that resolution and to have such a change made by the Legislature. And I say it is not dictating to the universities as to how they shall elect their representative, but it is an expression of opinion on the part of the Council that the medical graduates of the universities shall have a voice and a vote each year in the selection of the representative of the University; and if I understand the way that the universities under this, if it should become law, would do it, would be by calling together a meeting of their alumni associations; and these alumni associations would recommend that such a gentleman should be elected by the members of the association; and no doubt they would carry out the direction of that association. All the same they would be elected,—

The President—I see one difficulty in this motion in that it seems to disfranchise some universities which have no medical graduates.

Dr. Bergin—Then they could not elect anybody.

Dr. Britton—So far as my own university is concerned, that of Toronto, I think the graduates throughout the country are perfectly well satisfied. Their views are expressed and their intentions carried out in a just and honorable way by those whom they have elected to their Senate. I think the University of Toronto knows fairly well what is its own business. I am not speaking from personal motives; I don't know that I shall ever be here again after my term is expired; it may be the policy of the Toronto University to let these honors go around; but whoever will be sent here I am perfectly satisfied that the University will use its best judgment, and it has at least as good common sense as this Council.

Dr. Geikie—I object entirely to this. I put a good deal of faith in Dr. Bergin in a good many respects; and I had so much faith I did not think he would recommend anything that is not capable of what you may call full justification. He would rob the Universities of Toronto, Queen's and Trinity, of their university rights to send members here; he would rob such a corporation as ours, which by a ballot vote sends me here; and

as Dr. Britton says in his case they may perhaps next time send somebody else here, it may be so in mine. It would rob these bodies of all rights and privileges and would seek to confer the rights on a moiety of the graduates to the alumni association, a mere handful of people who could gather in the neighborhood of some city and elect somebody to represent themselves, disfranchising the universities; and not only disfranchising the universities but actually having themselves a double right because every one of these gentlemen as a practitioner has a vote in his territorial division now.

Dr. Bergin—But he has not in his university.

Dr. Geikie—I do not believe in robbing the universities, and I do not believe in putting a double vote into anybody's hands. The universities are entitled here to representation; and more than that, the very instant that such a suggestion as the one in this resolution would come before the Legislature that very moment every university and every body in the province would just go down to the Legislature and say: "Gentlemen, we protest against it;" and it would be simply no where. The fact is that if every one of these bodies did so they would blow it, I was going to say, to Jericho, and perhaps a great many miles further.

Dr. Moore—Just to correct one statement Dr. Bergin made, that it was to give an opportunity to the medical men who were graduates of universities to have a voice in the matter. They have a voice now. The University Council of Queen's is elected by the graduates; every medical graduate, if he chooses to vote and pay his one dollar, has a right to and does vote; and they vote for the members of the University Council, and the Council have selected me; therefore I say every medical graduate in Queen's University has a right to vote for or against the representative of Queen's University.

Dr. Day—The motion is perfectly harmless. It does not amount to anything. Nobody need get hurt at it a bit. In the first place I may say I don't agree with it; I am not in accord with it at all, and for this reason, that I have had some experience in it. It is admitted now that if the Legislature should make that change Ottawa and Regiopolis College would not be able to elect representatives; that they are off the list, would kill it before the Legislature the very moment it was mentioned. The Legislation before last that we went to the Local House on we tried then to have certain changes made in that very direction; I was anxious for it then and I am anxious for it now to a further extent, but the very moment we mentioned that matter we were simply told we need not mention anything of the kind, because the Government would not consent to it for a moment; that these colleges had rights that had

been given to them long ago, and they really had become vested rights; that they had given away privileges for the sake of being represented on this Council, and the Government would not, by any means, interfere with that right in any way whatever. And if you go there now attempting to pass any legislation which will cut off Regiopolis, or any other University that has representation here now, you will simply get a storm about your ears that will astonish you.

Dr. Bergin—It is not the intention to take away any right from any university or any college. The question has been mooted over and over again; and the motion has been made that it be referred to the Legislation Committee. It is worth consideration; and the committee may possibly find some way of even carrying out this resolution, making such an alteration or suggesting such an alteration to the Legislation as would be approved of by the Legislature. I, for one, would not, on any account, deprive any Council or school of any of its powers or any of its privileges. We suggested merely an alteration in the way that the representatives of the schools shall be elected, because we believe it will commend itself to the good sense of the profession throughout the country.

Dr. Henry—I do not see where the objection comes in. As I understand the mode in which the representatives on this Council are appointed, the graduates of the various universities elect senators to the universities, and each of those bodies appoints a representative to this Council. I think if the graduates were to elect the members to this Council direct, it would be more in touch with the profession and the profession would be much better pleased.

Dr. Thorburn—I think if that resolution were passed the effect would be to do away with the Council of the College of Physicians and Surgeons, and these various bodies would then confer the degrees themselves.

Dr. Rogers—I brought a resolution bearing on this matter before the Council last night. The resolution which has been moved by Dr. Bergin and referred to the Legislation Committee bears very strongly on it; and I entirely approve of this resolution being sent to the Legislation Committee. I think the idea which Dr. Bergin has is that we are not in a position to dictate; we have to consider this, that at the next session of the Legislature, in all probability, there will be a bill brought by some malcontent of the medical profession to the Legislature, and it is for us to consider what is the best way to stop the matter being brought there; or, if they do bring it there, to formulate a scheme that will meet their objections and will not be out of harmony with the ideas of the Council. The whole idea of this is to preserve our Council from total annihilation.

Dr. Bergin—There is no danger of its annihilation.

Dr. Campbell—I simply wish to say it seems to me the less the Council does in the way of active interference with active legislation the better for it; and in a matter of this kind I think it is rather out of place for the Council to make any suggestions to any quarter as to interfering with those rights which corporate bodies have and which they surrendered in order to become a part of this body. It is a matter that should be left to these corporations, and I don't think this Council should interfere with it; and in any case it strikes me the better plan is to let the matter drop. Those vested rights that corporations have should not be interfered with at all.

Dr. Bergin—I don't think any one proposes to interfere with their rights; the first step to be taken in this matter, if any were taken, would be to consult with the senates of the universities. But that we may get through the business before us to-day, I withdraw my motion.

Dr. Miller—Universities would stand in a very much better position if they would be quite satisfied to send their representatives here without interfering in the election of territorial representatives; if the universities were to give a pledge that in the future they would entirely abstain from such interferences.

The President—There is nothing before the chair.

Dr. Miller—If there is nothing before the chair, I beg to move that this Council be now adjourned; and speaking to that resolution I would say, since the universities are so very sensitive as to their rights, that they should respect the rights of other people; and if they would give a pledge that they should be satisfied with the election of their own representatives, or the appointment of their own representatives to this Council, and would entirely abstain from interfering in the election of the territorial representatives, they would have less opposition in this Council.

Dr. Rosebrugh moved that the Council now adjourn for fifteen minutes.

The Council resumed its session, the President in the chair.

Moved by Dr. Bray, seconded by Dr. Henry, that Alexander Downey, chartered stenographic reporter, be appointed the official stenographer of this Council for the ensuing year.

I make this motion for the reason the Discipline Committee will be called on to meet on two cases in the near future, and it is well to have an official stenographer; Mr. Downey acted as stenographer for the Discipline Committee on previous investigations, and did his work very well indeed; and if we have an official stenographer he will be at our disposal whenever we call upon him. Carried.

Dr. Johnson—I do not know whether I am in order or not, but if I am, I would like to emphasize a matter that has been talked over in this Council very freely at this meeting, and which I think, perhaps, we all understand, but I want to go out to the territorials with no uncertain sound. I moved at the very beginning of this session of the Council, to have the fees of those members who were not in arrears, struck off for the coming year, but that was ruled out of order.

I want now to draw your attention to the fact, that in placing practitioners, who are registered at present under a two dollar fee, and giving them a certificate, or a receipt for payment of that fee, we are not placing them in a derogatory position; we are not licensing them as if they were dogs or hucksters, which latter was the word, I believe, principally used; but we are putting them on a footing with one of the leading educational societies of the country, the Law Society of Upper Canada. When the Law Society undertook this matter they put it in this form of notice, that every lawyer, whether in arrears or not, receives when his fee is due. We understand it is upon the basis of the practice of the Law Society that the clause referring to the payment of the fees and the removal of names from our register was framed. The notice I refer to reads as follows: "The Law Society of Upper Canada. Osgoode Hall, Toronto, July 21st, 1891. Special notice. The attention of solicitors is especially directed to the necessity of the annual fees being paid before the last day of Michaelmas Term, and to the provisions of R. S. O., chap. 147, secs. 16 to 21. A practicing solicitor who does not obtain his certificate before the last day of Michaelmas Term, is liable to forfeit the sum of \$40, to be suspended for a period of from three to six months, and to the fines prescribed by the Act." That notice is sent out, I understand, to every member of the Law Society every year; and if he does not take cognizance of it he is suspended at once, as we propose now to do with all members who do not pay up at the date when their payment becomes due.

I particularly wish that this matter should be emphasized, because in the large territory like the one I represent, in which there are twenty to twenty-five per cent. of the whole of the members of the profession in Ontario, I wish the members to understand that this has been framed for their benefit—not merely for the benefit of the Council, but for their special benefit; and beyond that, of course, there is the fact that we must have a correct register. All that I think they thoroughly understand; and for that purpose I draw the attention of this Council to this matter at this stage.

Dr. Bergin—And the fees being paid once a year we would avoid that nasty practice of summing members before the Division Court.

Dr. Johnson—There is also the fact by this we avoid that excessively distressing and reprehensible practice that existed before the present legislation came into force, of having a practitioner sued in his own practice in the Common Division Court for a matter of perhaps two or three dollars. The profession lost caste by it; friends of mine have told me that it was the worst feature that I possibly could imagine to have a professional man compelled to submit to a thing of that kind.

The President—I think it would be well for the Registrar to be directed to take a note of the remarks of Dr. Johnson, so that it might be entered, either in the notices to the profession or entered upon the proceedings in the *Journal*.

Dr. Britton presented the report of the Building Committee as follows:

Your committee beg leave to report that all matters affecting the building of the Medical Council, be referred to this committee now appointed, consisting of Dr. H. H. Wright, Dr. Aikins, the Treasurer and the Registrar, who shall have full powers to act and report at the next annual meeting of this Council.

All of which is respectfully submitted.

W. BRITTON, *Chairman*.

I might explain why this conclusion was arrived at: there were a number of matters referred to us in respect to repairs of a small nature, and having been referred to us only two or three days ago there has not been time to secure as many tenders as we would like to get. The different items are for kalsomining the walls, cleaning the ceiling, fixing the furnaces, and so on; and we did not feel justified in awarding any of these small contracts until we had given fair and full opportunity to get it done at the very lowest possible figure.

Moved by Dr. Britton that the report be received. Carried.

Moved by Dr. Britton, seconded by Dr. Harris, that the report be adopted. Carried.

Dr. Philip—I wish to give notice of motion that next year we may appoint a committee to consolidate these three committees—the Warden, the Building Committee, and the Property Committee.

Dr. Williams presented the report of the Committee on Legislation, as follows:

GENTLEMEN,—Your committee, who were requested to consider the advisability of consolidating and amending the Acts establishing and governing the Ontario College of Physicians and Surgeons, beg leave to report as follows:

That they have carefully considered the subject, and believe that as what may be called the constitution of the incorporated body, known as the

College of Physicians and Surgeons of Ontario, is found in several Acts of Parliament, that it would be a decided advantage to all members of said college, if all the Acts and amendments were consolidated into one Act.

Your committee are further of the opinion, that when it is so thought advisable to consolidate them, there are certain minor amendments, where they have been found to be unsatisfactory in working, which should be introduced.

Your committee have no knowledge as to the period at which the Government will be making a general consolidation of all the Ontario Statutes, and cannot, therefore, advise as to whether or not it will be judicious to allow our Acts to await the general consolidation.

We would, therefore, advise that a small Legislative Committee be appointed, to have prepared under their supervision, a consolidated Act with such amendments as may be found advisable, and under the directions of the Executive Committee, and at such time as they shall consider opportune, whether at the general consolidation, or sooner, to have the same introduced and enacted into law.

All of which is respectfully submitted.

J. ARTHUR WILLIAMS, *Chairman*.

Moved by Dr. Williams, seconded by Dr. Moore, that the report be received. Carried.

Dr. Rogers—Do I understand that is to go before the Legislature next year, in order to consolidate it?

Dr. Williams—No.

Dr. Harris—I would like to ask what is meant by certain minor amendments to the Act?

Dr. Williams—That is somewhat a broad question and one a great deal more easily asked than answered. I might just tell you that as to one of the minor amendments, it has been found not very convenient, to say the least, in the working. By our Act we are limited to a certain number of examiners, I believe that number is nine; we find in practice that is not enough, and we evaded the law by appointing assistant examiners. And I don't think it is desirable, and I don't think any member of the Council would say it is desirable, to be obliged to evade the law in order to make it work satisfactorily. In the Quebec Act, of which we have a copy before us, they put in thirty-two examiners. I have no thought that we would ever require thirty-two examiners, or at least not for some time; and the suggestion has been made that an amendment be put in to allow as many examiners as the Council in their judgment may consider necessary and sufficient for the work. Another minor amendment, and yet a very practical one is this—it has merely been talked of, but not decided upon—under the Druggists' Act each member is required to pay \$4 a year to the sup-

port of that institution, and to pay it by the first of May; but if he wishes to leave the country and to be gone one, two or more years, he sends a notice to the Registrar, and he is not required to pay any fee during the time; but when he wishes to come back again and enter upon his business, he sends a notice to the Registrar and he is re-entered upon the lists of those who are paying, and that puts it in a satisfactory shape. Our Act in that particular is not satisfactory; when a man leaves the country there is no provision made for his sending any notification, or anything of that sort, but he remains on the register, unless he is dropped off; and when he comes back, the question may crop up whether he is holden for fees during all the time he was away, and when he was off the register. As a matter of law, while he is off the register, he is not holden. It would make it much simpler and more satisfactory to everybody if, before he went, he could just say, "I don't wish to practise for a time, and I will notify you when I wish to be on again"; and then he is placed in his proper position, and there is no unpleasant feeling in connection with it; that is the second minor change.

There are a number of points in that direction; I don't know that I am authorized to go over any details; I don't know that I am in a position to do it if I were authorized, but I mention these are features of practical detail that might want modifying, that the committee would have to consider, and when they considered, submit to the Executive Committee; and in all probability send copies of a draft to members of the Council for their personal inspection and supervision, before it would be entertained at all; that is my idea.

Dr. Bergin—That is the idea of the whole committee.

Dr. Williams—There is no intention, as you will read by the report, to introduce to Parliament any consolidating Act, or any other Act, unless instructed so to do by the Executive Committee; and the Executive Committee are to consider the time when it is prudent and advisable. Whenever that may be, and whenever they tell that committee to introduce that Act, then they introduce it, and they are not allowed to move a step until that.

Dr. Williams moved, seconded by Dr. Bray, that the report be adopted. Carried.

Dr. Rogers—I rise to a question of privilege; I have been informed that during the heat of the debate yesterday, there were some expressions used by me which I have no recollection of making; and I would like very much to ask the chairman at the time what they were.

Dr. Britton—I am not a stenographer, and therefore, I cannot reproduce *verbatim* Dr. Rogers' speech, but I think I can give you the sense of the expression that is used which was looked upon as unadvisable—there was a certain line of procedure

advocated by a member of the Council; and at this line of procedure Dr. Rogers took exception; and he made the threat that in case this sort of thing was to be repeated, notwithstanding that we had active enemies who were doing their best to overthrow this Council, that he (Dr. Rogers) would feel forced to fall in line with the enemy and go to the Legislature.

Dr. Rogers—I have no recollection of making use of exactly such expressions as that. But I would like to state that I have no recollection of saying anything that was disloyal to this Council, or anything of that character, and if I did so I certainly wish to withdraw it; and I certainly had no idea of attempting in the slightest degree to ever do anything that would break up the College of Physicians and Surgeons of Ontario, or this Council; and I would be very sorry to be reported or considered in that way. I certainly last session, when the adverse legislation was before the Ontario House, did my best, by getting up petitions in my division in favor of this Council. I think it is safe to say no stronger petition could have been sent in favor of the Act, as it stands to-day, and of this Council (applause). For that reason I have very much pleasure in stating that if I used any expression which might be construed in any way as being disloyal to this Council I wish to withdraw it, and say that I did not intend to speak it.

Dr. Fowler—The explanation of Dr. Rogers is highly satisfactory, and must be received with great gratification by every member of the Council.

Moved by Dr. Williams, seconded by Dr. Henry, and resolved that Drs. Day, Bergin, Williams (the mover) and Britton be and are hereby appointed a Legislative Committee for the ensuing year.

Dr. Miller—I move in amendment to that the name of Dr. Henry, the seconder of that resolution, be substituted for that of Dr. Day, and that the name of Dr. Orr be substituted for Dr. Britton. Dr. Henry is a territorial representative and there are at least two school men and two territorial representatives on that committee.

Dr. Day—No, there are three territorials.

Dr. Miller—I am told there is one member of this committee who is, if not an official representative of the schools, closely allied with them.

Dr. Williams—In getting up this committee the first object sought was to get a committee that would not be too large and too expensive. The question came up how to keep it comparatively small, and yet to reach the different elements in the Council that we wished to reach; one that presented itself, talking about my own view of the case and not that of anybody else, was Dr. Campbell; the Vice-President, would have a right to a voice any way, so the homeopathic section is represented. Then I put on three members that I thought were toler-

ably familiar at least with the Act and the amendment, and that might have some knowledge in construing the Act. But I found when that was completed that we had not a single school man on the committee at all.

Dr. Bergin—The President has a right to be a member of that committee, and he is a school man.

Dr. Williams—I admit he has, and that in that sense he is a school man; I had not taken that in at the moment. However, it was suggested to me that Dr. Britton was a man right in the city; and he was representing a University; and he was not a teaching man; and upon that ground that that would make a reasonable committee; and that was why I added that name. I think all the sections now are represented; and I think the statement, coming from a member of the Council, that some Territorial man is under the wing or guidance or influence in some way of the school men, is something that ought to be explained to the Council, for there is no member of the Council who has a right to have insinuations thrown against him in that way without an opportunity being given him to justify himself; and if the gentleman who made the remark has any knowledge of the kind, he should give it to the Council and allow the gentleman who has the charge made against him to clear himself of the charge.

Dr. Bergin—There have been a good many serious charges brought against me in my time, but I don't think I was ever accused before of being exactly pulled by the nose by the schoolmen; still, perhaps I had better say distinctly that I don't think I am as bad as Dr. Miller thinks I am; and if you think that Dr. Geikie and the rest have too much influence over me, I have no objection to have my name struck off.

Dr. Day—There are only three territorial men on that committee, and I am one of the three; but I don't wish to make any explanation whatever; I have been in this Council several years, and I leave it to the Council to say whether school men or anybody else can either snub or rule me.

Dr. Miller—I have no intention whatever of insinuating or stating directly or indirectly that any one man was capable of snubbing or leading by the nose anybody else; but, in view of the discussions that have taken place during this session of the Council, I think it is quite right. There is a larger representation of territorial men in this Council than any other one class, and I think a relative proportion of these men should go on this committee; that is my reason for moving the resolution which I did. I think there are men in this Council who are old enough, and who have common sense enough and good judgment enough, if they chose to exercise it, to prevent them from being so very thin skinned as to take to themselves

an insult or sneer or snub when there is nothing of the kind ever intended; and I think it is quite time enough for these gentlemen to ascribe any particular intention to other members when their intentions are more clearly stated than they have been by me. If I can get a seconder, I would beg leave to move that the names of the committee be Drs. Bergin, Williams, Orr and Henry. Of course, if no gentleman seconds my resolution it falls to the ground.

Dr. Rogers—I think, Mr. President—

Dr. Fowler—Do you rise to second the amendment?

Dr. Rogers—No.

Dr. Fowler—As there is no seconder for this amendment I will put Dr. Williams' motion.

On the motion being put the President declared it carried, thirteen members voting for and six against the motion.

Moved by Dr. Bray that the President now leave the chair, and the Vice-President take it.

Dr. Campbell in the chair.

Dr. Philip moved, seconded by Dr. Harris, that the thanks of this Council are due to, and are hereby tendered to, Dr. Fowler, the President, for his dignified, efficient and impartial conduct in the chair.

Carried unanimously by a standing vote.

Dr. Fowler—I thank you very much for the kind vote you have passed. My duties have been rendered easy and pleasant by the consideration of every member of the Council.

Dr. Bray moves that the President again take the chair.

Resolved that in accordance with the by-laws, the Registrar do now read the minutes of this last meeting of the Council, which was accordingly done.

The minutes were found correct, and on motion confirmed, and the President directed to sign the same.

FIFE FOWLER,

Pres. C. P. and S., Ont.

Selected Articles.

ADDRESS IN MEDICINE. DELIVERED AT THE MEETING OF THE BRITISH MEDICAL ASSOCIATION OF NOTTINGHAM.

In his opening remarks Dr. Cuming referred to the fact that, although the profession of medicine had lost somewhat of its repute in respect to learning, yet, at no time, had there been more assiduous cultivation of medicine, or its claims to public usefulness been capable of being so triumphantly indicated. He thought that its progress

might be furthered still more if chemistry, botany, and natural philosophy were, to a great extent, banished from the curriculum, since, whatever their value, as developing habits of careful and accurate observation, it could not be denied that there are several subjects more closely identified with medical science which afford ample scope for wide and exact mental discipline. He asked whether as at one time it was necessary to defend medicine from the overweening pretensions of authority and prescription it may not now be necessary to shield it from the excessive demands of science, and he then proceeded as follows :

We may now leave the negative part of our subject, and turn to what constitutes the indispensable part of our equipment. Besides the so called practical subjects—medicine, surgery and obstetrics—we should know all that can be learned about the structure and the functions of the human body. Our anatomy must be thorough, although it is instructive to remember, even in respect of a subject so absolutely essential as a groundwork of medicine and surgery, that a surgeon of no less eminence than Lawson Tait entered his protest in Birmingham against the unnecessary minuteness and elaboration of even anatomical teaching. For my own part I am inclined rather to adopt the standard of Huxley, that anatomy should be so learned that the body will be as if it were transparent to the eye.

Now, one cannot fail to be struck with the fact that among the subjects of greatest present interest there are two which seem to give evidence of distinct currents of thought moving apparently in opposite directions. On the one hand, we find an important part in pathological and physiological processes ascribed to minute organisms, the white corpuscles or leucocytes, which are apparently free from all direct nervous influence and float freely in the blood ; and, on the other hand, we find that the domain of the most highly-organized and differentiated part of the body, the nervous system, is being extended and increased. It seems as if attention was being divided not unequally between the simplest elements of the body and the most complex portion of its structure ; shared between little masses of protoplasm, which present but slight differentiation in structure, and the nervous system with all its complicated and refined activities and powers. And even, what is still more remarkable, we find a certain similarity in function suggested as existing between these seemingly widely different portions of the economy. It has long been known that unicellular organisms, amoeboid cells, possess the power of choosing their appropriate nutriment and of rejecting what is harmful or useless to them. These facts have been for a considerable time familiar to naturalists, and their remarkable character has caused them to be studied with much interest. It has been

abundantly shown in respect of animals higher in the scale, but possessing either no cerebral hemispheres, or only a rudiment of them, that they are capable of much and varied bodily activity in response to suitable stimuli. With regard to the human body, it has been also established that osmosis does not take so important a part in nutrition as was formerly supposed, and that a distinct selective power is exercised by the epithelial cells of the intestines, which, for example, pick out the globules of fat from the materials within their reach, and transmit them to the commencement of the chyle vessels. Now, the striking observations of Metschnikoff regarding the action of the leucocytes on microbes, the phenomena of phagocytosis, have naturally been received with more favor, owing to the knowledge we possessed of facts presenting some analogy with his observations.

The instructive discussion which took place in the Pathological Society of London during the earlier months of the present year has brought, more prominently than formerly, the facts on this subject before the profession in this country. In the main, I think, we are compelled to accept Metschnikoff's views as representing the present state of our knowledge, and accordingly we must accept phagocytosis, notwithstanding the opposition of some observers of great weight and authority, and notwithstanding some considerable objections. It seems then to be established that certain cells, of which the leucocytes are the most important, possess the power of attacking and destroying certain infective microbes when introduced into the body ; that these free, mobile and apparently quite independent organisms act in a manner highly important to the integrity and safety of the body at large, protecting it under suitable circumstances from injurious effects of virulent bacteria. So much, I think, may be regarded as fairly established, even should Buchner's views regarding the importance of antibiotic fluids in the blood be ultimately established. It is, however, with a certain degree of wonder, not unmingled with distrust, that we find something of the purposive character which has hitherto been supposed to be the exclusive endowment of conscious beings attributed to these minute, hardly differentiated masses of protoplasm. We learn that under the influence of chloral the leucocytes refuse their work and become anaesthetised, so that the bacteria have it all their own way. We are told that they show a liking for some substances and an instinctive aversion for others, and some facts are adduced regarding their mode of warfare which seems to point to a more than nascent civilization. One observer describes them as marching right up to the bacilli and attacking them, which seems analogous to the Napoleonic tactics in battle, while the lymphocytes are described as forming a second line of defence, a method

suggestive of the more watchful strategy of Moltke. Altogether the demeanour and endowments of the cells open up a field for investigation both as regards cell action in itself and as regards its relations to the organism generally which contains much that is of the highest pathological and physiological interest. A new cellular pathology is being developed, differing widely indeed from the brilliant theory bearing this name, so long familiar to us from the powerful advocacy of Virchow, but agreeing with it in the important functions assigned to the ultimate elements of the body as independent factors both in morbid and in healthy processes, and also in representing them as being uninfluenced or as only indirectly influenced by the nervous and vascular systems in some of their essential activities.

Now, while phagocytosis is directing our attention with increasing interest to the minutest and most elementary constituents of the organism, on the other hand renewed zeal is being shown in investigating the complex problems which the nervous system presents to the inquirer. Even with regard to those more doubtful subjects which are in the borderland of legitimate scientific inquiry a revival of interest has taken place. Hypnotism and its allied states have long exercised a powerful fascination on a large portion of the intelligent public, and have been looked on with much curiosity, but always with a little suspicion, by physicians. Although not new these singular and striking manifestations have of late been more carefully studied, the methods of producing them have been more clearly ascertained, and one is glad to notice that, instead of being relegated to non-professional men, they have engaged the attention of some of the physicians most competent to conduct such inquiries, and most capable of estimating their results with precision and judgment. Whatever verdict may ultimately be passed on hypnotism there can be reasonable doubt that certain facts have been elicited which show that in the hypnotic condition profound and extensive modifications occur in the sensory and motor functions of the brain. Now, admitting much that has been urged against hypnotism; granting that it is likely to attract the attention of men who have a liking for the marvellous; that it can be practised by men possessed of no scientific training and incompetent to deal with the most refined activities of the nervous system, and that it thus lends itself easily to charlatanism and imposture; granting that it may be attended with danger of a formidable kind, and also that its field of therapeutic usefulness is likely to be at best a very restricted one, and its effects probably only transitory; still, it is a subject eminently deserving of careful and profound scientific investigation, conducted with the most rigid precautions, so as to exclude intentional or involuntary deception.

We do not need to be much concerned about whether, as has been stated, we have in hypnotism a condition akin to natural sleep, or whether it is in reality a pathological state related to hysteria. What is at present wanted is a clear account of the phenomena which are capable of being produced under its influence. If, as numerous statements aver, hypnotic suggestion can be shown to in any degree affect processes of nutrition and the reaction to irritants, then some points of the very highest interest as regards the influence of psychical on physical processes will have been established. Most of us have been inclined to read with a considerable degree of scepticism the accounts of instances in which obvious physical changes have been stated to have resulted from nervous influence, especially when these changes have occurred in a rapid manner. Should the statements on this subject which have been made so positively and on the faith of apparently cautious and trustworthy observers prove to be authentic we shall certainly be compelled to reconsider our position with reference to them.

The opinion is very generally entertained that the diseases of the nervous system are now more widely diffused and more numerous than formerly. It is somewhat difficult to obtain accurate statistics on this question, and not altogether easy to ascertain their precise value, but some facts seem open to no serious question. In Ireland the proportion of the insane to the population has steadily increased. I owe to the kindness of the Registrar-General for Ireland the numbers of those mentally affected as shown in the census for 1891 as compared with that of 1881. The number of insane, including idiots, were in 1881, 18,313; in 1891, 21,188; an increase of 2875, although the population has diminished by 453,677. The proportion is 224 to each 100,000 of the population. Even allowing for the fact that emigration takes away, in the main, the healthy and strong, and that consequently this represents the proportion of insane to a much larger population than now exists in the country, still, it indicates a very notable increase. The reports of the Registrar-General for England show an almost uninterrupted increase in the mortality from nervous diseases. Some of this is, no doubt, explicable in other ways, but on the whole the evidence of statistics coincides with the general opinion among physicians that there is an augmentation. Whether this depends on the increase of causes tending to overwork and weary and exhaust the brain and nervous system we need not at present stop to discuss. Now, even those of us who have no especial connection with treatment of the insane, find ourselves frequently brought into contact with questions regarding insanity. Apart from the mere granting of certificates, which, however, is attended with

much anxiety and with heavy legal responsibility, there are the numerous minor forms of aberration in which it hardly becomes a practical question whether they necessitate restraint or not, and there are also the many instances in which general affections produce mental phenomena. Then we have the numerous cases of temporary insanity which are never known beyond the families of the sufferers, and the medical men to whom their care is entrusted, as well as the incipient stages of mental disease in which skilful management is of the utmost importance. It was, no doubt, in consequence of considerations based on these facts that systematic instruction on the subject of mental disease has been adopted by some of the examining bodies as a necessary part of the training of the practitioner in medicine, and has become a recognized portion of medical education. I may add that the existence of the Psychological Section of this Association is a further proof of the importance of this branch of inquiry to the medical practitioner.

Now, the study of medical psychology alone is, to my mind, a very incomplete and inadequate preparation for comprehending the multiform disturbances of mental function and is even more inadequate in respect of either diagnosis or therapeutics, and in regard to the expectation of adding to our knowledge of cerebral diseases as regards either localization or character. I have long been of opinion that some knowledge of psychology proper—that is, of the science of the phenomena of mind in its normal conditions—is absolutely necessary. Without an acquaintance with the problems and methods of psychological inquiry it is impossible to observe and to describe adequately the phenomena of morbid mental states. In the investigations also of those conditions in which the disturbance of a single function is what is most manifest and striking, it is clear that a knowledge of the limits of differentiation of function must be of capital importance. It will be of value also to become familiar with the terms used in psychology, in itself a study of no inconsiderable difficulty and extent. In dealing with such questions as amnesia, aphasia, delusions and hallucinations, and other disturbances of consciousness, we are not only in the sphere of our legitimate activity and of our daily work, but we are touching, not indirectly, on some of the most interesting problems of mind. In examining the question we get into one of the main currents of modern thought, and have suggested to us some problems which have engaged the attention of many of the acutest intellects of ancient and modern times. Some psychologists refuse to accept any help from physiology, and fortify themselves in the citadel of introspection, declining all external aid. It is said by them that the comprehension of physical processes throws no light on psychical

processes, and that these are absolutely heterogeneous. I am not concerned to defend the claims of physiology, which find advocates enough, but in respect of morbid conditions, when we find misery and despondency connected with defective digestion, perversions of the will and deceit attending on hysteria, emotional instability, causeless anger and childish tears and laughter accompanying the latter stages of chronic damage to the brain; when, to take a simpler and more transitory influence, we find alcohol leading to the well-known mental exhilaration which attends the early stages of its effect; when we find opium, in those accustomed to its use, producing such agreeable sensations that De Quincey could state: "Here was the secret of happiness, about which philosophers had disputed for so many ages, at once discovered; happiness might now be bought for a penny and carried in the waistcoat pocket; portable ecstasies might be had corked up in a pint bottle: and peace of mind could be sent down by the mail"; when we find all these and many kindred mental accompaniments of physical changes brought to our knowledge we have the strongest motive to attempt the analysis of the material lesion and of its modifications and varieties. Some of our greatest observers attach much moment to the entire and absolute denial of any relation of cause and effect in these events, and they insist on regarding the neural occurrence as merely concomitant with the mental occurrence. Now, we may grant at once that the nexus between them is as yet undiscovered and may be undiscoverable; but in investigating mental phenomena from the physical side we are doing something that can hardly fail to throw light on certain obscure questions, and we need not embarrass ourselves with any considerations regarding the real connexion or relation with each other of these concomitances. For my own part, I may be permitted to say that the progress of psychology is, I think, in a great measure to be sought for at the hands of the members of the medical profession. In physiology I am convinced that pathological and clinical observation have done more than experiment to elucidate function; and in like manner I have little doubt that the study of morbid and limited and incomplete mental and cerebral manifestations will throw a great deal of light on some of the most abstruse questions in the relations of matter to mind. It will be bringing into action the logical method of difference, the ascertaining the influence of the removal of part of the cause on the effect. Now in assisting in the solution of these grave problems I think our function as medical men is in the main a limited, although a highly important one. Our obvious duty is to collect such a body of facts as will afford a sure foundation for future generalizations. Besides the states of marked and more or less well-defined disease which

enter of right into our nosological classifications, we have a wide field in examining into the influences of habit and heredity, the cerebral peculiarities which, more or less transformed, descend from generation to generation, constituting an "innate preparedness" for the development of particular morbid phenomena, the relations between vice and disease; and the question of when criminality implies merely pathological conditions.

I think we should avoid, at least for the present, the more ambitious philosophical attempts which have exercised, during many generations, a powerful influence on some of the highest intellects of our race. We need not attempt the great metaphysical questions of substance, reality, the nature of consciousness, the ontological nature of space and time, the essence of casual action and the like. The domain of the clinical and pathological observer is a humbler, but, we may fairly congratulate ourselves, a more fruitful one. Just as biology concerns itself with the manifestations of life and puts aside all theories regarding its nature and origin; just as, in fact, all sciences have to resolutely set aside at the beginning a certain number of unsolved questions, so we may fairly relegate these problems to other and more competent authority. Nor do I think we should gain much at present by attempting to form any wide generalizations. A working hypothesis is no doubt of the highest utility in an experimental science, even if it ultimately comes to need to be corrected or to be altogether abandoned; and, if the facts which come before us were capable of being called into existence or of being modified at pleasure, such a hypothesis might be necessary for our guidance. But we have to deal only with phenomena not susceptible of voluntary modification, and what we have to do is simply to observe them with accuracy and to record them with fidelity. In these observations the materialist, who regards mind as a form of motion in the brain cells, and the spiritualist, who looks on it as an immaterial principle underlying the phenomena of consciousness, although acting through the nervous system, can work together in perfect harmony, as the problem is to observe and analyse the phenomena brought before them. Even in this task there are limits set to our observations which it is not easy to surmount or evade. Physiologically it seems improbable that we shall ever be able to identify or to accurately estimate the results of mental activity in the shape of oxidation products of brain substance. The weight of the brain is about 2 per cent. of that of the body, and we can hardly doubt that in mental processes only a small portion of the cerebrum is employed at any given time. Besides, we have no measure of the relative degrees of intellectual exertion, and consequently cannot express them in terms of potential energy.

The nerve-cell must doubtless be accepted as

the ultimate unit of the nervous mechanism and the nerve-fibre plexus as containing or constituting the channels of communication between these elementary units of cerebral activity. When we come to localization of function, with the exception of the motor areas and Broca's convolution and some further fairly definite areas concerned in disturbances of language, we have little which is well ascertained. If, as is hoped, we can make out that in the brains of the insane special areas are differently and disproportionately affected, it is not unreasonable to suppose that these areas may ultimately be ascertained to be connected with special functions. Charlton Bastian long ago expressed the opinion that the posterior lobes of the cerebrum are the most important for intellectual purposes, and this view has received the high sanction of Hughlings Jackson. On the other hand, Bevan Lewis lays down without hesitation the following principle regarding insanity. He states that while acute insanity may be regarded as a very general implication of the sphere of mind, and hence of a widespread disturbance of the cerebral cortex, its morbid results on the brain are decidedly concentrated on the motor or fronto-parietal section of the hemispheres. We learn from these conflicting opinions how little is definitely ascertained regarding the most important developments of cerebral activity. If I might indicate some definite lines on which medical observation might be of the greatest value in elucidating some unsettled problems, I should be inclined to name, among others, the aberrations and decay of memory. For this species of observation, no apparatus is necessary, and the opportunities are daily offering themselves and most abundantly to the busiest practitioner. Have we, as yet, any sufficient number of facts to justify the dissolution view of the decay of memory—that is, that in the decay of memory there is a certain definite sequence of events. The law of regression, as it has been formulated by Ribot, corresponds to the general principles of dissolution as a reversal of evolution which have been enunciated by Hughlings Jackson with his usual force and ability. The process of decay would then go on in a regular gradation, from the complex to the simple, from that which has been least thoroughly organized or incorporated into the brain to that which has been most so, from the least to the most automatic of our acquisitions, so that we first forget recent events, then intellectual acquirements, then the impressions which belong to the domain of the feelings, and, finally, how to perform automatic acts. All this, of course, depends on a supposition that a physical modification of some of the very many millions of cells of the cortex of the brain takes place originally in connection with the mental process which memory revives, this modification constituting the organic basis or anatomical

substratum of memory. It is suggested that it is in this way that we can best comprehend the retention of impressions which are for a time absent from consciousness, just as it is the inter-communication of the cells which enables us to conceive how the impressions can be revived. But is this law fairly established? When we reflect on the enormous number of instances in which memory suffers notably, and, so to speak, pathological decay in age, it would seem easy to collect and classify such a number of facts as would put this doctrine on a secure footing. But I think this is far from being the case, and the number of exceptions seems to be so great that we may fairly regard this law as at present in this important sphere, unestablished. I have recently had the opportunity of witnessing a curious disturbance of memory in a young medical man, in whom multiple neuritis had arisen in consequence of much and premature exposure to cold after an attack of influenza. Besides the usual paralytic symptoms, his memory became greatly impaired. He gradually reached the point of forgetting the year and the month, became hazy about his personal identity, and was doubtful who his wife was, and where he himself was residing. *Nec d mus nec placens uxor* was retained in his memory, but he still had a very fair recollection of the leading diagnostic and therapeutic facts about his profession. He had forgotten a great deal, but the *platysma myoides* was fresh in his recollection, and the differential diagnosis of fluid in the pleura from the consolidated lung was retained firmly. These facts, I cannot but think to the no small credit of his teachers, were so organized in his brain that they resisted dissolution.

The phenomena of aphasia, which have been so much studied and about which so many curious facts have been ascertained, bring us in contact with a most interesting problem, the relations of thought to language. It is, I think, doubtful whether without words any continuous reasoning can be carried on, and it is pretty certain that in the absence of the symbol no abstract reasoning could take place. According to the fine illustration of Sir William Hamilton, all considerable progress in thought must be accompanied by a corresponding development in language. "You have all heard of the process of tunnelling through a sandbank. In this operation it is impossible to succeed unless every foot—nay, almost every inch—in our progress be secured by an arch of masonry before we attempt the excavation of another. Now, language is to the mind precisely what the arch is to the tunnel. The power of thinking and the power of excavation are not dependent on the words in the one case or the mason work in the other; but without these subsidiaries neither process could be carried on beyond its rudimentary commencement. Though, therefore, we allow that

every movement forward in language must be determined by an antecedent movement forward in thought, still, unless thought be accompanied at each point of its evolution by a corresponding evolution of language its further development is arrested." Now, when we find that a special damage in one situation makes us lose the power of reviving the recollection of the word, although we recognize it when heard; that damage in another region so affects us that the sight of the word does not call up its mental representation, although we see the word plainly; and that lesions in a third region have as their result that the sound of a word will not call up the corresponding idea, although we hear the sound of the word distinctly; it is impossible not to recognize that here we have got a good way in making out the very mechanism of this potent instrument of thought, and it is difficult to see in what other way we could have arrived at a similar comprehension of these complex and refined activities. We learn from facts like these how great a part the observation of the dislocations and derangements of important functions can play in enabling us to better understand the scope and nature of the function itself. Few things are more noticeable in connexion with this subject than the amount of research which is being conducted on the subject of experimental psychology. In this direction much of the best work has been done in the Leipsic psychological laboratory, by and under the direction of Wundt, but kindred investigations are being made by various observers. The researches on the intensity and the time relations of sensation and of motor response to stimuli are of the highest interest. They have enabled us to ascertain the time occupied by mental acts, by the reproduction of impressions, by acts of association and by logical judgments. The amount and quality of work done in this direction justify the hope that psychology as a natural science will take its place beside physiology, and that the physical basis of mental activity will be more and more understood and elucidated. I have dwelt, at perhaps undue length, on this aspect of my subject, partly because it has a direct bearing on the relation of medical science to other branches of knowledge and partly because it furnishes a convincing proof of the claim of medicine to take a leading part in the elucidation of important psychological problems.

Again, to take an instance of how medical experience can correct psychological speculation, we may, even if it be a little ungracious, select an example from the writings of a great thinker to whom many of us are under deep intellectual obligation—Herbert Spencer. This eminent psychologist attributes an importance to the circulation in the brain which physicians would be inclined to regard as excessive. He states that

quickening of the circulation in the brain causes a rush or unusually vivid ideas and makes the memory more distinct than usual. He contrasts the illusions of delirium as exemplifying the extreme vividness with which revived feelings may rise when the cerebral circulation is excessive, and the loss of consciousness caused by cerebral anæmia as exemplifying the converse result. Now we have ample opportunity of knowing that anæmia is a fertile source of delirium, as the term "inanition delirium" indicates, and while there is much that is doubtful in that most obscure chapter of pathology which deals with hyperæmia of the brain, we know that it is at least as likely to produce somnolence and coma as it is to produce illusions. If the rapidity of the blood-current were so potent as Spencer supposes, physical exercise ought to heighten the receptivity of impressions, and there would be even a perceptible increase in the erect as compared with the recumbent position. As a matter of ordinary observation, it is found to be difficult to collect our thoughts when the circulation is much accelerated by rapid exercise, and hardly possible to carry on a train of reasoning requiring any considerable effort of memory. It has been urged by Schroeder van der Kolk that a free communication exists between the arteries and veins in the pia mater so as to allow a considerable portion of the blood, when the circulation has been quickened, to pass away over the cortical substance without entering its tissue at all, thus avoiding the disturbance which its rapid passage through the capillaries of the brain would cause. In this way, as he has put it, the storm sweeps over the brain without our perceiving it.

I have alluded to this comparatively trivial point to indicate how medical knowledge comes to have a direct bearing on subjects of wider and more general interest, and to show, also, how physicians, by bringing their special knowledge to bear in this way on the solutions of some of the most interesting problems which can engage the human intelligence, can best vindicate the dignity of their profession, which will thus have the fairest prospect of again forming an important factor in promoting the intellectual progress of the race. Nor even in a therapeutic sense will studies of this kind fail to bear fruit in enabling us to deal more rationally and more successfully with the morbid conditions of this important portion of the economy. It can hardly be denied that there is a tendency among the most enlightened members of the profession to attach a less overwhelming importance to the administration of medicinal agents, and to have recourse to the employment, instead of them, of what may be called physiological remedies for the treatment of the morbid conditions of the mind and brain. Light, air, nutriment, environment, the warding off of hurtful

and the presentation of soothing impressions—these are more frequently and more successfully employed than the large class of nervines, of the remedial actions of which we are not so certain as we could wish. And when we add to these the so-called moral treatment, comprising amusement, occupation and the like, we have enumerated most of the agents on which we rely with the greatest and the most assured confidence. I do not wish to be understood as underrating the numerous and potent additions which have been made of late to our stock of nervine remedies. I like to know that they are being constantly added to, and that their actions are being more fully investigated and defined. I regard them in the light of a great arsenal of warlike weapons of the newest construction and the most perfect adaptation to their purpose, kept always ready for use and in a thoroughly efficient state of order and readiness. But as I regard it as the highest and most successful statesmanship not to be obliged to employ these powerful weapons in actual warfare, so we best vindicate the efficiency of our art by having recourse to our armaments only as sparingly as may be, confident, however, that at critical moments and in periods of active disturbance they can be employed with great and admirable effect.

It is a common and easy practice for writers to exercise their wit at the expense of the profession of medicine. Molière and Le Sage have condemned to immortality what was perhaps not a very gross caricature of some forms of practice in their day; but graver and weightier thinkers have lectured us on our shortcomings and have given us much well-meant advice. Now, there is nothing which gives us a higher idea of the ability of the earlier physicians than when we examine the opinions and theories which have been advanced by some of the most commanding intellects of the world in reference to medical subjects, and which are often ludicrous and absurd. The father of modern experimental philosophy, Bacon, brought a charge against physicians that they prescribed in too simple a manner and did not combine together a sufficient number and variety of drugs. It is but justice to say that a number of both ancient and modern therapists have applied themselves with no inconsiderable energy to relieve their profession from this reproach. The same great philosopher advised the employment of a peculiar bath to obviate the hardening effects of age, and he hoped by this means to promote longevity and to restore to the rigid frame of age the suppleness and freedom of youth. The bath was to consist of fresh blood, or if that were found loathsome it might be made of milk, butter, yolks of eggs and the fatter kinds of flesh, with oysters and wine, and sweetened with sugar or honey. This extraordinary bath was to be followed by various anointings and frictions. It is hardly to

be wondered, when one reads this curious prescription, that Harvey, who was said to have been his physician, remarked of him, "He writes philosophy like a Lord Chancellor." Berkeley recommended, as is well known, his wonderful tar water as not only capable of remedying bodily disease, but as having a valuable influence on the understanding, an effect of matter on mind which we would hardly have expected from the great master of idealism. "Nor is it only useful to the bodies of infants," he says, "it hath also a good effect on their minds, as those who drink it are observed to be remarkably forward and sprightly." When we remember that at the time this passage was written Cullen and William Hunter were teaching medicine and anatomy we have no reason to think that the physicians of that day had much to learn from the meta-physicians. Kant, the most profound speculative genius of Germany, was strongly opposed to vaccination, which he called "the inoculation of bestiality," and he was enthusiastic about what he regarded as the great discoveries of Beddoes regarding the prevention and cure of consumption. One of these discoveries was the use of digitalis as a remedy for phthisis, which Beddoes regarded as opening out a brilliant era for humanity, as in his hands it cured a large number of cases.

Now, when we see the notions which existed on the subject of medicine among these great and highly endowed thinkers we can form some idea of the views which would in all likelihood find favor among the masses of mankind and the effects to which such views were likely to lead, and we can form, too, a fairly adequate notion of the superiority, on their own ground, of the contemporary leaders of medical science. We can see, too, what important services legitimate medicine has rendered to the world, even if it had only the negative merit of protecting mankind from disastrous and ignorant meddling. Physicians cannot accept the position of mere *curiosi nature*; in presence of serious disease they must act with the best means they possess. Failing in this duty they would be justly liable to the reproach of Mephistopheles:—

"To grasp the spirit of medicine is easy,
Learn of the great and little world your fill;
To let it go at last, so please ye,
Just as God will."

We must always remember that it is by its utility to the world that medicine must ultimately stand or fall, but we must use the word utility in its widest signification as comprising, on the one hand, all the special activities of our profession in preventing or mitigating or removing human suffering, and on the other all its incidental advantages in aiding the development, and progress of human intelligence by taking its position along with other members of the group of sciences of observation. It is to be regretted, but I fear it is inevitable,

that the study of the old humanities must be curtailed and must even in some measure disappear from medical education. Greek seems doomed passed recall, and it will perhaps be possible to say at some future day of the medical profession, as Petrarch said of Italy in the fourteenth century, that it did not contain more than ten persons who could appreciate Homer. And yet, in putting aside Greek, medical men will miss some of the finest products of the human intellect moulded in the most perfect form. Many of those who take an interest in the study of the subjects I have been imperfectly advocating will be glad to be reminded of what is surely one of the most touching passages in ancient literature, that in which the scene before the death of Socrates is related in the *Phædo* of Plato, which the illustrious old psychologist, after his fetters had been removed, began to bend and rub his leg where the chain had galled it, saying as he rubbed, "How singular is the thing they call pleasure and how curiously related to pain, which might be thought the opposite of it; for they will never come to a man together and yet he who pursues either of them is generally compelled to take the other." Our psychologists are to day still busily engaged in investigating the same problem.

Latin will make a harder fight to maintain its place, and will probably succeed in retaining it. If it should fail it will be impossible not to feel a profound sense of compassion for the physicians of the future if they are never to be admitted to the simple feasts at the Sabine farm at which educated men have been charmed guests for so many generations, or if they are never to feel the beauty and finish of the hexameters of Virgil. I do not suggest that grace of style or elegance of diction is to be regarded as of intrinsic value in medical writings—

Res ipsa ornari negat, contenta doceri.

Works on a subject so changing as medicine is, are destined to a comparatively brief existence, and any prolonged or anxious care devoted to their form and finish would be alike unnecessary and fruitless. The classical Latinity of Mead and Heberden has not saved their works from all but total oblivion. The same fate is destined, at no remote date, to overtake the eloquent periods of Latham and the charming lectures of Sir Thomas Watson—lectures which surely not merely early prepossession which makes me regard as among the finest English prose of the generation which witnessed their publication. But good writing satisfies the literary conscience of the author, and gives a not altogether undesirable pleasure to the reader. The pursuit of literature is everywhere being regarded as less necessary—and we must be of our generation—and from a utilitarian point of view it is impossible to give more than a pass-

ing regret to those branches of learning which have so long been regarded as the stamp and evidence of culture. What with unconscious irony are called the paying subjects, are brought more and more prominently forward in general education, and those studies which bear on professional training will ultimately prevail to the comparative exclusion of all others. But it must be also borne in mind that it is not by the mere accumulation of scientific facts that the physician of the future will gain his most valuable training. It is by those studies which develop and heighten intellectual energy, and aid in forming and promoting that flexibility and grasp of mind which enable it to deal with the varying problems which medicine presents in such abundance. It was remarked by Dugald Stewart that Locke owed some portion of his success as a psychologist to his medical training. "No science could have been chosen more happily," he observes, "to prepare such a mind as that of Locke for the prosecution of those speculations which have immortalized his name; the complicated and fugitive, and often equivocal phenomena of disease, requiring in the observer a far greater portion of discriminating sagacity than those of physics, properly so-called, resembling in this respect much more nearly the phenomena about which metaphysics, ethics and politics are conversant."

It will always also be of great aid to the physician to be able in dealing with those committed to his care, to recognize the influence on them of ideas of hope, of confidence, of endurance; to be able to deduct from their complaints what is the result of an impressionable nervous system and what of pure imagination; to solve, as nearly as may be, the personal equation. These capabilities will supplement beneficially the most refined and accurate physical diagnosis. We need not doubt that the multifarious aspects of disease, following, as they do, closely on the track of all the numerous and diversified forms of human energies and activities, will afford ample scope for the freest exercise of the highest scientific faculty as well as for the employment of the most minute and patient observation. The tendency of the medicine of the future will no doubt be in the direction of greater specialization. Physicians and surgeons will devote themselves more and more to the cultivation of a limited portion of the vast and always widening field of knowledge. Medicine must adapt itself to the varying necessities and requirements of the world. It must prove itself capable of supplying the wants of a civilization rapidly becoming more complex in its development, and therefore more varied as well as more exacting in its demands. It must press into its service all knowledge, physical and mental, likely to aid in the furtherance of its mission; accepting the help of its sister sciences, but allowing itself

to be dominated by none of them. It must be alike flexible in its methods, and steady in its aim; and must be at once cautious and aspiring, always sane in practice, while bold in speculation. But at the same time it behoves all those concerned in its guidance, or responsible for the instruction of those who are to become its members, to bear in mind its position as one of the main supports of the tripod of learning, as one of the great factors in the intellectual progress of humanity; being well assured that it cannot sacrifice any portion of its intellectual elevation and dignity without a corresponding sacrifice of its truest and most practical usefulness.—*British Med. Jour.*

THE METSCHNIKOVIAN THEORY OF VITAL RESISTANCE.

(Continued from October Number.)

When either of these substances is liberated in the organism by the destruction of the cells from any cause, all of the phenomena characterized as vital resistance immediately transpire. They are the most powerful cell-manure, and cause fever and intense cell-action of all kinds. Should this destruction of the cells, however, be carried beyond a certain limit, which may be designated the physiological reaction, a state of septicæmia arises from the large quantity of ptomaines present. It is under the stimulating influences of these powerful substances derived from the destruction of the cells that the surviving body-cells are enabled to resume their latent functions—to attack the micro organisms which are attempting to destroy, and to overcome them. That these effects do follow, and that these substances do possess these properties, is now generally conceded and capable of demonstration by any one. All that is required to see the processes of phagocytosis in operation is a lens, a little frog's lymph, and some anthrax bacilli. With these the process may be watched, and the cells can be seen taking in and digesting the bacilli. With these facts we are, in a degree, prepared to comprehend the details of the processes by which the organism protects against and arrests disease. In a process so general as this one, which must necessarily go on to a greater or less degree continuously, owing to the universal presence of germs in some form or other, it is objected that the cells could never obtain a special training and be able to manifest a specific exemption, which we know is the case with a number of immunizing diseases.

After an attack of disease conferring an immunity there is an exemption from one disease alone. All theories of immunity have, as yet, rested at this particular stage of their career, and none have shown their ability to pass it and carry

conviction with them. How do the body-cells receive and retain a specific immunity? As already seen, the struggle between the cells and the micro-organism is between two living organisms, both possessing distinct individualities, functions, and products. The micro-organisms, just as the cells, produce and liberate life-products and waste, which circulate in the tissues of their host along with those of the latter's production. Thus far the cellular activities have been attributed to those products arising from the cells alone, though in every attack of disease the phenomena must transpire in the presence of and under the influence of both of these classes of products. The products of the germs *per se*, the leucomaines, are also capable of augmenting the vital actions of the cells, acting as stimulants, and causing all the phenomena of phagocytosis; and when this passes beyond the stage of physiological reaction, the same as that produced by the death of the cells through their products, there are high fever, intense constitutional disorder, and septicæmia. Now, experiments show that it is possible to induce the refractory condition from either of these two classes of substances when employed singly and alone. The tissue-juices, cell-extracts, or products—spleen, lymph-glands and testicle—when removed artificially from crushed tissues, are capable of producing, when injected into an animal, all the phenomena of vital resistance in an augmented form; and the culture-fluid products of pathogenic germs will, when injected, also bring about the same changes, both resulting in the refractory condition of that organism. In other words, that immunity communicated by the different substances and methods of preventive inoculations, or natural attacks of disease, is in reality all acquired by the same process and mechanism of the cells. Increased resistance from any cause, original or acquired, is but the expression of the augmented powers of phagocytosis of the cell. The destruction of the germ is always effected by this process, though the chemical influences of the intercellular juices and products doubtless assist to some degree. Even in natural immunity, repeated inoculations train and strengthen the cells, and make them destroy more completely (Chaveau). Ferran shows that the refractory condition becomes stronger and stronger the oftener the inoculations are used and repeated. This is true in so far that a susceptible and weak animal may be made to resist the most virulent and deadly germs. The experiments of Metschnikoff will explain the modus of these acquirements and show how any influence whatsoever, which is capable of reawakening the latent functions of the cell, may bring out and strengthen them so that an adaptation will transpire and a superiority will be the consequence.

The real effects of either of these substances

will be the same, and a corresponding change in the function and structure of the cell will follow as the consequence of alterations in environment.

The laws of biology, as applied to the instances in point, show that, whenever from any causes there is an actual change in the media of an organism, there is always a reaction and consensate change in its structure. All structural changes find their expression in altered functions, since the function is but the directed energy of the properties of a tissue. In this way, the slightest change in the external media of a cell may give rise to the most complex results in its behavior. It may call the cell into increased activity—increased waste and repair—and thus become the origin of the widest variation. Thus, every change of composition or constitution in the medium must find a response in the cell, and the cell becomes modified by every such response. Again, every modification must be a selection determined by the laws of growth—the affinities of the cell—and every increment of function is preceded by an increment of substance. In the naturally acquired form of immunity we have, in addition to the stimulating effects of the tissue-extracts arising from the death of the cells, also those of the specific products of the micro-organisms. It is in the presence of this *specific* factor that we find the special modifications causing a particular immunity, which the cells manifest in the future. It is an element in the conditions of existence of the cells, and it must necessarily have its effects in the final synthesis and representation of an acquired immunity.

The tissue-extracts or proteids raise the physiological activities of the cells to a state of tension, so to speak, where the slightest alteration in their media would produce a change and a registration, impression or modification, in the form of increased vital resistance, which, under less favorable or imperturbing conditions, would have been unappreciated and caused no change. This feature in the history of the elementary cell finds its analogue in the well-known physiological law of complex organisms, wherein an impression or registration is always retained in direct ratio to its vividness below a certain stage incapable of actual injury to the organism. It is during this intense stage of heightened vital action that the cells are influenced by the specific factor, and it becomes indelibly impressed upon their future existence.

In this process, we understand how it is that a vaccination "takes" best and ensures the highest degree of protection when there is considerable vaccination fever. Indeed, in all successful inoculations of attenuated viruses, this reaction, either in a marked and rapid or a mild and protracted form, is considered an essential part of all experiments. That the specific substance is the cause

of the specific immunity may be illustrated still further by the experiments of Emmerich, Chamberlain, Pasteur, and others, who show, that while the tissue-extracts, chemical substances, and various internal and external influences will cause all of the phenomena of cell action, including chemotaxis, proliferation, and phagocytosis, when introduced into the tissues of an organism, yet this is only absolutely efficient or discriminative to a degree of producing complete and permanent immunity when the previous inoculations or attacks embraced the specific factor or substance of those micro-organisms with which the tests were made. In other words, that the various stimulants noted would only cause an increase in the general physiological powers of the cells; but they did not manifest a special or particular form of resistance, unless the specific substance had been used.

Without multiplying examples to corroborate this position as true, we are safe in saying that the cells of the body do become modified or developed through influence of environment just as all organisms, simple or complex, and that they retain these modifications as specific changes, since life itself is but the aggregations of external and internal media.

It is now in order that we trace those circumstances by and through which the cells preserve and transmit these modifications in the form of heredity. It is not necessary or practicable in an article like this to undertake the examination of the theories advanced in connection with heredity. We shall rest with the fact that there is such a process as heredity, and not undertake to discover or discuss its philosophy. Every one who has pursued embryological researches, or even read of them, cannot have failed to be impressed by that marvel of all marvels of an exceedingly minute portion of living matter, so small that a line would define it, passing by successive modifications into an organism so complex that a treatise is needed to describe it. Not only do the cells of the ovum and the spermatozoa originate and pass into a complex organism, reproducing the forms and features of its parents with their constitutional traits and peculiarities, but also the diseases, infirmities, tricks, and dispositions of generations and generations before. Consider what this implies. A microscopical cell, without the least trace of organs, not distinguishable from millions of other cells, nevertheless does contain within it the potentialities of a Newton, a Shakespeare, or a Napoleon. Each cell is *sui generis* a complete organism, and there can be no doubt that there is as much in this small structure beyond the reach of our senses or the microscope as there is in the vast universe around us beyond the sweep of the telescope. Hence it is no gratuitous hypothesis that the cell does receive and retain impressions.

Still how is it that these impressions are trans-

mitted to the cell's successors as a special quality? The new or daughter cell, we should always remember, is not a *product* of the parent cell, but in truth is the old cell elongated or branched. The old cell divides and makes two or three cells. The same cell and substances which at first received the impress are still present and continue to manifest it. Were this not so, owing to the ceaseless change transpiring in the organism, traces of experiences—structural changes—would disappear, and there could be no memory, evolution, or progress of any kind. The cells receive, retain and transmit. They impart their *form* and substances to those which succeed them, and there is no gap but an elongation. That this is the case lies within the tangible experience of all in the formation of scar-tissue.

The original cells do not remain entirely and absolutely, but are constantly changing, and their places are being taken by others of their descendants. The injured cells retain and convey the mark of the injury to their successors for generations, and the "memory," modification, or molecular vibration is preserved and shown ever afterwards. Every kind of activity peculiar to living creatures or parts involves a change of structure, and the formation of the newly-generated tissue receives such an influence from the conditions under which it originates that all subsequent activity displays this impress. The same sum of external and internal environment, which once received a modification, now preserves it. The cell is but the expression of certain internal and external conditions of existence, and it alters with these.

Another and distinct class of data going to demonstrate this interpretation of the question of immunity, and that the factors of evolution and heredity are the true ones, is that found in connection with the clinical history, pathological anatomy, and sequence of the chronic or non-immunizing diseases. While it is true that the evidence derived from this source is of a negative character, still it is none the less convincing in its illustration of the importance and efficiency of phagocytosis and heredity in arresting and preventing disease.

Upon what grounds can we explain the feature of persistence or chronicity of a disease? If the proteids are set free in the organism, as before described, in all germ diseases, why is it that the cells in chronic disease are never carried up to a condition of resistance which would enable them to successfully antagonize and protect themselves against future encroachments from their etiological agents? If the micro-organisms are continually destroying the cells, and thereby setting free their constituents (as we know from the periodical fever and constitutional disturbances), which in turn cause the surviving cells to exercise their highest

and best means of defence, how is it possible that they should ever become chronic, as in malaria, rheumatism, and other diseases? Why do the cells, when brought into direct contact with the micro-organisms, never achieve and immunity, but succumb time after time? Manifestly, to discover the causes for this failure to accomplish immunity, we must understand the negative phase of the subject. As a fact, experience shows that every germ-disease selects and locates upon some particular seat or tissue from which it lives, flourishes, and proceeds to produce its deleterious effects upon the organism attacked. Another noticeable fact is, that the type, nature, and duration of a disorder are always influenced and controlled by the tissues attacked. This is true in so far that all germ-diseases may be divided into those which occupy the solid tissues and those which occupy the fluid tissue—the blood. Among those of the first class we find the exanthemata, such as measles, small-pox, whooping-cough, and others. In the second we have malaria, rheumatism, dengue, relapsing fever, erysipelas, and influenza. Following this division still further, we find that the disorders of the first are all, or nearly all, acute or self-limited and immunizing, while those of the second class are chronic and non-immunizing in character. Guided by these distinctions, we find that there is an anatomical and physiological cause and basis for these discrepancies as to duration and consequence in germ-diseases. With these facts before us, we are warranted in assuming that these features are in some degree dependent upon the peculiarities of anatomical seat. It is necessary, however, that we shall be able to refer this assumption to some standard of appeal, in order to show that it has other grounds than those of mere analogy or active imagination. Let us turn again to the life-history of the cell, endeavor to trace its genesis as an element in the blood, and to ascertain if it be possible to explain why a blood-disease has no power of limiting disease or of conferring immunity because the foregoing factors, as described, in the conditions necessary for adaptation, retention, and transmission of impressions are absent or imperfect in their use. To do this will be to establish the theory of Metschnikoff both positively and negatively, and to demonstrate its authenticity to be almost certain.

Physiology teaches that the white-blood cells, the amoeboid, leucocyte, or phagocyte cells, have their origin severally in the spleen, the lymphatic structure, and the marrow of the long bones. It is from these sources that they arise, enter the current of the circulation, and finally pass out, under a number of circumstances, to become fixed cell-elements in the solid tissue. This being true, it is evident that the white-blood cell has an anomalous origin, in that it is the product of a tissue histologically different and possessing no mor-

phological or physiological resemblance to it. In this respect it occupies a position analogous to that of the ovum and ovary, and to the spermatozoon and the testicle. In the illustrations given in the history, environment, and destiny of the cell, when capable of taking on modifications from influences in its media, we saw that certain conditions were necessary for its accomplishment, and that heredity or transmission depended upon certain conditions. In the chronic diseases the specific agents have been demonstrated in a number of instances to occupy the blood exclusively, and clinical history corroborates this. It is here that they exist, flourish, and produce their peculiar poisons which affect the organism. This being true, the only resisting or bactericidal agents or agencies, with which they are brought in contact, would be the white-blood cells and the blood-serum. Now, it is a fact that while the white-blood cells do multiply prodigiously and fight vigorously, as is evidenced by the chills, fevers, sweats, and general disturbance of the organism, still the germs multiply and persist, the disease becomes chronic, and phagocytosis is unavailing. The cells or leucocytes multiply and destroy myriads and myriads of micro-organisms, and yet the disease persists. How are we to reconcile this process with Metschnikoff's theory of phagocytosis and vital resistance being one and the same? It is because the second and essential factor of all superiority and permanent exemption is absent. The heredity and acclimating influences are absent in the white-blood cells as such. Its existence in the blood is of an ephemeral nature and it originates *de nova*, having neither pride of ancestry nor hope of posterity as a resisting or bactericidal agent in the blood. It can never inherit, acquire, or transmit a superiority, since the conditions of existence upon which these depend are entirely absent in its case. They live, flourish, and destroy as leucocytes in the blood; but in this transitory character they do not remain, but pass out into the solid tissue when they and their past experience could never be of any possible service to those who come after them in the blood. The blood is to them now a foreign and remote locality, and under the conditions of their new environment has no possible influence upon them or they upon it. The blood-cell has the power of phagocytosis, but in a medium where everything is of a fleeting and transitory character, no accommodation can take place when the source of the supply is unlimited and the means of defence momentary in effects. Hence, the conditions of blood-diseases are such that no immunity can ever ensue, and the disease will persist unless the causes are all destroyed, or avoided, or artificial aid employed. *Having in this manner shown that it is the cells which acquire, retain, and transmit a superiority, and wherein they fail to do so, and the reason why, we may*

assume that a new quota of data has been added to the theory of phagocytosis. Thus, the entire series of facts and their interpretation are in keeping with the laws of development, evolution, and heredity, and the phenomena and philosophy of immunity are apparently explicable through them. Life, which seeks its own continuance, tends to repair itself without our help. It mends its spider's-web when it has been torn; it reinstates in us the conditions of health, and itself heals the injuries inflicted upon it. The wisest part of us is that which is unconscious of itself, and what is most reasonable in man are those elements in him which do not reason.—J. Wellington Byers, M.D., in *Climatologist*.

IMMENSE DERMOID CYST DEEPLY
SEATED IN THIGH; EXTIRPATION;
RECOVERY.

Very many, perhaps the majority, of dermoid cysts, other than those occurring in relation with the ovaries and their annexes, are met with in situations suggesting genetic relation with embryonic clefts, using this latter term in a very wide sense; but this explanation is not universally applicable, and the present is an instance of such exception, which, on account of its singularity, seems to deserve publication. A tall, stout, rather muscular brunette, aged forty-seven years, was admitted into Bird ward on Jan. 15th last, having an immense swelling in the inner part of the right thigh. It extended from the groin to one hand-breadth from the knee, and it had a transverse girth equal to if not greater than that of the thigh itself. Near its lower end the overlying skin in a circular area of several inches was red, and the subcutaneous tissues corresponding to this were matted and œdematous. In the middle of this red œdematous area was a small ulcerated spot from which oozed a turbid, milky, inodorous fluid. Except within this area where the wave was damped by the overlying œdema, this great swelling everywhere distinctly fluctuated. By its great bulk and position, the tumor embarrassed the patient much in walking, giving her a very awkward gait, in spite of which inconvenience she had continued to work until the skin inflamed and broke, which finally obliged her to seek advice. When lying on her back, as in bed, with her lower limbs extended, the inner part of the tumor covered her vulva and rested on the inner side and the front of the left thigh. It was observed that during active contraction of the adductor longus muscle the tumor became firmer, evidencing its compression by this muscle, and it was further noticed that the limb having been passively abducted, in which attitude the tumor rested flac-

cidly on the mattress, contraction of the adductor magnus caused the tumor to rise up off the bed and made it tense. At the upper and inner part of the tumor the adductor gracilis was traceable on to its surface; whilst lower down the front and inner part of the tumor was obliquely crossed by the sartorius. The finger-tips could be pressed down between the upper border of the tumor and the brim of the pelvis, so making it evident that the tumor did not extend under Poupart's ligament. The patient's account of the tumor was remarkable. It had existed from her childhood. In her eleventh year, the swelling being then as large as a small orange and at the "top of her thigh," her mother sought medical advice for it, and being told that any operation for its removal would be dangerous and could not be undertaken without risk to the child's life, she later exacted from her a promise that she would never permit any operation to be performed upon her. The patient had therefore uncomplainingly borne with the increasing inconvenience until at last her condition became unendurable.

Fluctuation was so apparent that of the cystic nature of the tumor there could not be any doubt; and the nearly equal distinctness of the percussion wave through the great swelling in every direction established its unilocular character. The character of the fluid oozing from the little opening described showed that sebaceous material was one of the contents of the cyst. The differential diagnosis was thus narrowed to the discrimination between a sebaceous retention-cyst, or wen, and a dermoid. But wens can only arise where sebaceous glands are present; they are therefore superficially seated in intimate relation with the integument; but this huge cyst was plainly seated under the deep fascia, amongst the muscles, and this circumstance favored the supposition of its being a dermoid. Its locality, the thigh, though unusual for a dermoid, could not be taken to exclude this kind, since, although, as already mentioned in numerous instances, dermoids show a distinct preference for the sites of embryonic clefts, into which it is conceivable that epiblastic tissues may become fixed and later give rise to cysts, yet other instances of dermoids have been met with where such mode of origin is less obvious—e.g., dermoids in the brain—and yet others have been recorded where such an origin seems quite excluded—e.g., dermoids in solid abdominal organs as in the liver. That this cyst had a pelvic origin was very improbable, seeing that its upper border did not transgress the line of Poupart's ligament; but a pelvic communication through the obturator opening could not be absolutely excluded and the possible existence of such was hinted by the ascertained relations of the cyst from the pelvis through the obturator foramen into the thigh appeared so extremely improbable that it was not

deemed necessary to settle this by a vaginal examination, the patient being an unmarried person. The practicability of a complete extirpation appeared highly probable, and since it offered the only prospect of relief, it was advised and was accepted by the patient. It was done on Jan. 17th, the removal of the cyst being effected through a long incision from the groin to the lower end of the tumor. The operation was a rather long one, owing to the close adhesion of the cyst wall to surrounding parts, and particularly along its outer side, where its close relation to the large vessels necessitated cautious dissection. At its uppermost limit, where the cyst had a leathery thickness and toughness, and which was presumably its oldest part, it was intimately attached to the periosteum of the front of the os pubis, just under the attachment to this of the adductor longus; and here, springing from the inner surface of the cyst, were two little tufts of black hair. Hæmorrhage having been arrested—a rather large number of arteries required tying—the wound was flushed with hot water and then with mercuric chloride, and its edges brought together with aseptic silk sutures. Three drainage-tubes were inserted. An attempt was made to keep the superficial and deep parts of the wound in contact by aseptic cushions and bandaging, and the whole limb was fixed by the aid of a long outside thigh-splint.

In spite of much care to secure and maintain an aseptic condition suppuration ensued at the end of a week. This seemed, probably rightly, attributable to much derangement of the dressings through the patient's great restlessness during the first days after the operation. The integumental incision closed in the greatest part of its extent during several weeks. On April 28th, the patient immediately, but troublesome sinuses persisted was sent to the seaside, whence she returned on May 12th, looking remarkably well. She then walked "with perfect comfort," and she said that her right leg was nearly as strong and able as her left. She has since resumed her occupation, cicatrization of the entire wound has long been complete, and she says she has better health than she had enjoyed for years previously.—*Lancet*.

THE TREATMENT OF UNCOMPLICATED FRACTURES OF THE BASE OF THE RADIUS.—At the recent meeting of the American Surgical Association Dr. John B. Roberts, of Philadelphia, read a paper, arriving at the following conclusions:

1. Fractures of the lower end of the radius vary comparatively little in their general characteristics, because but one form is usual.
2. Muscular action has little or nothing to do with producing or maintaining the deformity.
3. Immediate reduction of the fragments is the essential of treatment.

4. Many of the splints devised for the treatment of this fracture have been constructed in ignorance of the pathology of the condition.

5. The ordinary fracture of the lower end of the radius usually requires no splint, and should be dressed with a wristlet of adhesive plaster or bandage.

6. When a splint is required a narrow, short, dorsal splint, fixing the wrist, is all that is necessary.

7. The method of dressing here advocated is the best because it annoys the patient as little as possible by avoiding cumbersome appliances, and permits free voluntary movements of all the finger-joints.

8. Passive motion is unnecessary until union has occurred and the dressings have been finally removed.

9. Good use of the wrist and fingers is early obtained, and the anatomical conformation is restored as well as, and perhaps better than, by other more complicated dressings.

10. Old fractures, which have been improperly treated by omission of immediate reduction, may with considerable success be subjected to refracture at the end of six or more weeks. At later periods re-adjustment may be possible only by osteotomy, which is a legitimate means of treatment.—*Am. Prac. and News*.

A NEW TREATMENT OF EXOPHTHALMIC GOITRE.—Independently of the classified methods, digitalis, the bromides, continuous current, hydrotherapy, belladonna, veratrum viride, and we will add, antipyrine (about 30 grains a day, associated with bromide of strontium 30 to 45 grains a day), Professor Dieulafoy has proposed the following treatment.

This treatment is based on the analogy which exists in a tuberculous case when suffering from hemoptysis or when threatened with the same. In these cases he administers ipecac., and under the influence of this medicament it diminishes in force and frequency, the erethism ceases, and consecutively the hemoptysis is arrested or prevented.

Or, in a case of Basedow's disease the primary indication is also to contract the cardio-vascular excitement; for this purpose M. Dieulafoy treats this affection according to the above principle. He associates ipecac. to the digitalis or opium, in pills composed as follows:

R.—Powdered ipecac., gr. ½
 Powdered digitalis leaves, gr. ⅓
 Extract of opium, gr. ¼

For one pill. Four to six to be taken in the twenty-four hours.

He has treated by this method several patients suffering from exophthalmic goitre, and a considerable amelioration of all the symptoms has been

the rule; this was especially rapid and striking in two cases; certainly no other treatment would have given similar results.

The effect of this medication is noticed in a general amelioration of the symptoms of the malady appreciable at the end of a few days; very marked after several months and equivalent to a cure. The only inconvenience of this treatment is in certain cases of diarrhoea, which persists until tolerance is established.—*Times and Reg.*

A NEW REMEDY IN DIABETES MELLITUS.—Professor Winternitz, of Vienna, recently drew attention to a domestic drug that he thought had been neglected. He related several renal cases that he had successfully treated by an extract made from the wild bilberry. His first experiments with the extract were directed towards the mucous membranes of the mouth, and finding it successful, extended his observations to the bronchi, bladder, and renal organs, where he met with equal success. He admitted having combined with the treatment the hydropathic applications, which were considered to have modified the avowed action and efficiency of the drug. Weil, of Berlin, has now added new testimony to the record of value attributed to this plant, in assuring us that it has acted in a wondrous fashion in apparently curing a young man of diabetes mellitus.—*N. Y. Medical Record.*

POTASSIUM PERMANGANATE AS AN ANTIDOTE TO PHOSPHOROUS.—At a meeting of the Royal Society of Physicians of Buda-Pest, Bokai (*Deutsche medicin, Wochenschrift*, Na. 47, 1294), as a result of chemical investigation and experiments upon animals, commended from one-fifth to one-third of one per cent solutions of potassium permanganate as an antidote in cases of poisoning by phosphorus. Phosphorus in the presence of potassium permanganate is converted into innocuous orthophosphoric acid in the stomach, with the development of manganese chloride. Poisoned dogs thus treated were saved; untreated dogs died. Even one per cent. solutions of potassium permanganate exerted no injurious effect upon the coats of the stomach.—*Western Med. Rep.*

THE ORIGIN AND SEAT OF EPILEPTIC DISTURBANCE.—As the result of painstaking and long-continued observations, and of ingenious deduction, Horsley (*British Medical Journal*) concludes that, whatever the part first attacked by the epileptogenous agency, the principle seat of disturbance is in a general or idiopathic fit in the cerebral hemispheres, and especially their cortical layer. The condition of the cortex during the paroxysm is one of congestion and not of anæmia. In all probability the cerebral cortex is actually the point of origin of the disturbance.—*Med. News.*

THE MEDICAL DEFENCE ASSOCIATION

MEET THE MEDICAL COUNCIL, WITH SATISFACTORY RESULTS TO BOTH.

At the request of the President of the Medical Council, a meeting was held, between the Legislation Committee of the Council and a Committee of the Medical Defence Association, in the Council Hall, corner Bay and Richmond Streets, Toronto, on the 29th ult., with the view of adjusting the differences that exist between the Defence Association and the Council.

There were present on behalf of the Council:—Drs. Fowler, Williams, W. T. Aikins, Geikie, Bergin, Johnston, Britton, Day, Thorburn, R. B. Orr.

The following members of the Defence forming its Executive:—Drs. Meacham, Sangster, Armour, White, Coburn, McLaughlin, Comfort, Eastwood, Hutchinson, Hamilton, Corbett, Bingham, J. Gunn, and Mitchell. Dr. W. H. B. Aikins, editor of *Ontario Medical Journal*, and Dr. Wylie, M.P., were also present.

In opening the meeting, Dr. Williams said, that suggestions for a settlement of the differences between the Defence Association and the Council, would be entertained by the Legislation Committee.

Dr. Fowler said, he had called this meeting together on his own responsibility, to see if a settlement of the differences could not be agreed upon, and if an agreement was come to, it would be carried into effect. On enquiry, he had found much dissatisfaction throughout the Province at the action of the Council on certain matters. He called on the meeting to elect a chairman.

On motion of Drs. McLaughlin and Armour, Dr. Fowler was elected chairman.

Dr. Meacham wanted to know how far the Council was prepared to meet the Defence Association on the lines of the Bill he had presented at the last session of the Legislature? If the Association received certain concessions, they would be willing also to concede certain points.

Dr. McLaughlin said there were two points on which the Defence Association were determined to have redress. These were the re-organization of the Council on a more representative basis, and the abolition of fees. They also wished the power

of determining contested elections taken out of the Council's hands, and students' fees reduced. They wanted to know how far the Council's were prepared to meet them on these matters.

Dr. Williams replied, defending his action, and the Medical Act.

Dr. White—Does the Legislation Committee consider the present Medical Act perfection?

The President—No.

Dr. White—Then how far will you go towards remedying these imperfections?

Dr. Williams said there were differences of opinion as to what the so-called imperfections were. With regard to representation on the Council, the Legislature had forced representatives on it who were not wanted. The Council was unanimous in the opinion that there were schools represented that had no right to representation. The universities and teaching bodies should be represented.

Dr. Comfort said he was willing to compromise on other matters, but there was one thing that must be wiped out, that was the penal clause relating to the non-payment of fees.

He therefore moved, seconded by Dr. White, "That this meeting is decidedly of the opinion that Sec. 41 a, and the sub-sections thereto, of the Ontario Medical Act should be repealed."

Dr. White said the Defence Association would never rest until this clause was struck out of the Act.

Dr. Hutchinson said he had been sent to the Defence Association meeting from London to express the firm resolve of his fellow practitioners, more than 40, to have the whole fee and all such regulations abolished (applause.)

Dr. Britton wanted to know if the Defence Association thought any fee necessary. The old method of collecting was ineffectual. He thought it well to wipe the fee out altogether, but the Council was in debt and he didn't see how it could do without it until it was out of debt. When the property had risen in value the fee would not be necessary.

Dr. Sangster said the members of the Association were unanimously of the opinion, that this fee was not necessary, but that the legitimate assets of the Council were sufficient for its support. The Defence Association advocated the selling of the real estate in which the Council had speculated.

The property could be sold for...\$100,000

There was a debt of..... 60,000

This would leave..... 40,000

This would secure a lease in perpetuity of similar premises to those at present occupied, or even of the present structure, if properly disposed of.

Dr. Williams said the property might have

been sold some years ago for that amount, but not now, and there was no certainty the money would find profitable investment. The method of collecting the fee was considered by some as harsh, but the method of dealing with murderers was harsh, and so was the method of dealing with thieves harsh.

Dr. White pointed out to Dr. Williams, the amount of the fee was not in question at all.

Dr. McLaughlan—Give us a representative Council, and it will be given all the money it wants (applause.)

Dr. Armour, in discussing the necessity of an annual fee and retention of Sec. 41 a, for its collection, reviewed at length the financial statement issued by the Council, showing from it, that the necessity of the fee had been created by the Council by its investment in unnecessary real estate. In estimating the cost of carrying the building, he showed from the financial statement that :—

The building had cost.....	\$96,390
After deducting the mortgage of 60,000	
The investment account is.....	36,300
The interest on investment and mortgage at 5% amount to....	4,891
In addition to the interest account the cost of maintenance for the year was.....	4,510
Embracing caretaker, elevator-man, commission on rents, fuel, water, gas, insurance, repairs, taxes, and legal service, making the total yearly cost of carrying the building..	9,329
Now deduct from this the income from rents.....	4,099
<hr/>	
Making the net cost of carrying the building last year.....	5,232

It was estimated that when the building was all rented, the income from it would be \$7000, but as the cost of the maintenance for the past three years had increased about 36%, the income in the same time from rental, had not increased even to 6%. Even if the estimated rental was obtained, the cost of maintenance would so far exceed it, that to keep it up would be much more expensive than at present.

Referring to the receipts and expenditure of the Council for the past year, by omitting the annual fee and real estate speculation (both of which are deemed an unnecessary incumbrance), he drew attention to the fact, that the receipts alone from registration and examination fees amounted to \$12,872, while the necessary expenses for the year (omitting building account) were \$7,441, leaving to provide building accommodation \$5,431; one-fifth of which should be ample for the purpose. The net cost of carrying the building,

according to the statement of ex-president Williams, in his annual address was \$302! while the financial statement of the Council shows it to be \$5,232.

The Council has sent this address, containing this false statement, as well as others, three times to each member of the profession and at the profession's expense.

It ill becomes a person falsifying figures in this reckless way, to presume to lecture those who honored him with their confidence as their representative and the members of the Defence Association, upon the principles of honesty, regarding the payment of an annual fee, for him to squander in a useless speculative enterprise.

The Council should free itself of its real estate, even if it did not bring more than the face of the mortgage, and save the \$5,000 a year expended in carrying it.

This would remove the necessity of the recent resolutions of Dr. Williams' Council about the annual fee, and also permit the lowering of the students' fees.

Dr. Williams said he had not the opportunity of referring to the books of the Council, when preparing his address. The figures given, he had received from others (the Registrar and Treasurer) and he had uttered them, believing them to be correct. This fee was like any other honest debt, and honest men pay their debts.

Dr. McLaughlin said he was sorry Dr. Williams had seen fit to brand certain members of the profession as dishonest, because they differed from his views, and had refused to be assessed by a Council over whom they had no control. *Less than 100 men control the election of 14 members.* The other 12 members are elected by the 2600 men throughout the province. He would refuse to pay a farthing of fees, until the Council was made more representative.

If the profession were given control of the Council, they would gladly pay the fees, whatever they might be. In addition to taking fees from the profession against their will, the Council exacted from every boy or girl coming before them for registration, \$100, whereas the cost for the same in New York was only \$25.00, and in England \$35.00. The Council was extravagant. It had spent illegally \$96,000 in the building, on which there was a \$60,000 mortgage.

The \$36,000 investment would have furnished all the necessary building accommodation for years to come.

The members of the Council had paid themselves out of the funds, \$3.50 a day hotel expenses, illegally. A journal had been subsidized, and will likely be run in the interests of the Council, with the funds of the profession. The Medical Defence Association would never consent to the fee being

enforced in the obnoxious way attempted. The Council had taken into their hands a law, the enormity of which was not equalled by any other society in the Province or elsewhere.

Dr. Aikins, the Treasurer, said the finances of the Council were now in better condition than they had been for many years.

Referring to representation of schools in the Council, he said the schools had vested rights and would not give them up without a struggle.

Dr. Bergin thought it was a great pity their dirty linen should be washed in public. The members of the Defence Association should consider that perhaps the members of the Council were actuated by honest motives. The building had been handed down to the present Council as a legacy from former ones, some of whose members were raising the outcry against it to-day. The Council was trying to meet the views of the Defence Association. Referring to the charges of extravagance, he said that coming from those who made those charges they were unparalleled nonsense, for those people never paid a cent to the support of the Council.

A voice—No, nor never will.

The Defence Association being asked, then set forth their demand as follows:—

1. That Sec. 41a, be repealed.
2. That the matter of annual fees be held in abeyance until the profession is properly represented in the Council.
3. That the universities with teaching bodies, viz., Queen's, Toronto, Trinity and Western University, have one representative each, and the profession seventeen.
4. Protested elections be referred to the County Judge.

The meeting of the joint committees then adjourned.

The Legislative Committee met immediately afterwards and agreed to the following:

- 1 We consent to 41 a. remaining in abeyance until after the next election and the electorate pronounce upon it.
2. We do not consent to suspend Sec. 27, but will still rely on the honor of the profession to pay the fee.
3. We will favor adding five additional territorial representatives, making 17.
4. We will not object to institutions, which neither teach nor grant degrees, being deprived of representation.
5. We are in favor of protested elections being referred to the Senior County Judge in the division in which the election took place.

Prof. Hare says that as a circulatory depressant, veratrum veride is a much safer remedy than aconite, as in large doses it is an emetic.

THE CANADA LANCET.

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AGENTS.—DAWSON BROS., Montreal; J. & A. McMILLAN, St. John, N.B.; Geo. STREET & Co., 30 Cornhill, London, Eng.; M. H. MAHER, 23 Rue Richer, Paris.

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TYPHOID FEVER.

During the fall months, typhoid makes its presence known in nearly every part of this continent, and almost every practitioner of medicine is watching the course of one or more cases of the dreaded malady at the present time. The etiology of the disease is still shrouded in mystery, although the researches of many notable scientists makes us hopeful that the specific organism, to which typhoid is no doubt due, may be isolated at an early date. For some time "Eberth's bacillus" did duty as the causative agent, but strong doubt has been expressed as to the correctness of the view.

The germ, whatever it may be, seems to exist for the most part in contaminated water supply, the dejecta of patients polluting the lake and river water of large cities, and soaking through the porous soil surrounding privies in country places, thus entering neighboring wells, where the drinking water is used. Thus we see the great necessity of boiling the liquid used at the present season, or whenever the disease exists in the locality. What is known as "sewer gas," in many cases looks to be the source of trouble, and frequently enters houses from some deficiency in proper plumbing, or sewer connections.

It is commonly supposed that sewage becomes oxidized and rendered innocuous after being carried a certain distance by running streams, but it is altogether probable that any organisms of disease, if present, are not destroyed in that manner. A

peculiar, and scarcely to be explained, feature of typhoid, is its existence in our far Western country. The writer has met with dozens of cases, originating in cow-boy camps, mounted police barracks, ranches, and on the open prairie, where every possible apparent condition of cleanliness existed; where the water used was procured from large, rapidly flowing rivers, uncontaminated by sewage, the air constantly changing, owing to the wind storms which prevail in the country. The name commonly given to the disease was "mountain fever," and some practitioners declared that it was not typhoid, yet the cases all presented the characteristic progress and symptoms of that disease, the deaths which occurred being due to hæmorrhage, or peritonitis. Four perforations and five *post-mortems* made by the writer, revealed the usual pathological changes incident to enteric fever, namely, enlargement of the spleen, swelling and ulceration of the Peyerian patches, and solitary glands, all of which facts cause typhoid to present the appearance of a continuous malarial disease, the germ entering the air and water from decaying vegetable matter washed down by the mountain streams.

As to the symptoms and course of typhoid, any remarks would be superfluous, yet we cannot but utter a word of warning as regards treatment. Of thirty-five cases treated by the writer in Alberta, where nursing and careful supervision of the dietary could be made, every case made a recovery, except two, in both of which antipyrine and phenacetin was used, and only in moderate doses, compared with those usually given, therefore, we have come to the conclusion that neither of those drugs should ever be used, their powers of depression acting upon an already lowered condition of system, rendering them highly dangerous. This being a self-limited fever, everything depends upon the thoroughness with which the nursing is carried out. As to medical measures, nitromuriatic acid in small doses acts very beneficially to cool the parched mouth, the acidity causing an increase in the flow of the saliva. Tr. hyoscyami and camphor water, with or without pot. bromide, as a means of procuring sleep, after other means, such as sponging have failed, whisky or other alcoholic stimulants, when the pulse lags, and the tongue becomes dry and brown, but we do not believe in more than six ounces of whisky in the twenty-four

hours, any more than that quantity only increasing the debility of the patient, the habit of ordering twelve to sixteen ounces of liquor in the day being sufficient to bring a healthy person to the verge of delirium tremens if kept up for weeks, as it is sometimes done in typhoid fever. With these few remarks and trusting our readers will realize the danger of too active medical interference in these cases of disease, we bring the subject to a close.

DIGESTIVE DISORDERS.

In the second volume of C. A. Ewald's work on Digestive Disorders, which treats of diseases of the stomach, he gives a formula for the administration of iron which seems to combine in a high degree the merits of ease, absorption, non-irritability, and inexpensiveness. He says that the most delicate stomach can assimilate it, as it is an albuminate of iron made by adding to an egg-water (white of egg, one part; water, five parts) enough tincture of the chloride of iron to make a two % to five % solution, thus.

R.—Tinct. Ferri. ℥j. = part one.

Aq. albuminosæ. ℥vi " 48

M. Sig.—℥j p.c. ex. aq. sum.

This gives the tincture only in $1\frac{1}{4}$ minim dose. The expense of such preparations as Pizzala's Peptonate of Iron is thus avoided and the same good end attained.

In the same volume Ewald treats of rectal alimentation in an original way, to which his clinical experience certainly should give authority. He declares that peptonizing nutrient enema is unnecessary and for patients of the wealthier class, orders them to be prepared as follows:—a pinch of best flour is cooked with a half cupful of a twenty % solution of glucose, and a wine-glassful of good claret added. When this has cooled, so as not to coagulate the albumen, two or three eggs are beaten smooth, with fifteen gr. of sodium chloride to each egg, and a tablespoonful of water added to them; the egg is then poured slowly in and well stirred, the whole to measure not over half a pint. For the poor, or in hospital practice, he orders three to five eggs beaten smooth, with fifteen gr. common salt to each, in five oz. of fifteen % or twenty % solution of glucose, adding mucilage of starch, if necessary, to thicken it. Whichever

enema is ordered, it should be preceded by a warm water enema of eight oz. or so, for cleansing purposes. When this is fully expelled and the gut is in a quiescent state again, the nutrient enema is given, the patient being in the dorsal or left lateral position, and retaining that position for some time afterwards. He insists on the introduction being very slow; if possible by gravitation, and allows no unyielding metal or hard rubber nozzle to be used, as too irritating where a more or less prolonged period of rectal alimentation is in prospect. He also insists that the enema should be placed as high as possible in the rectum, and uses a large soft catheter or an œsophageal tube, with large openings, and carried well up. The glucose is a most rational and efficient substitute for the starches, which for the time being cannot be given by the stomach.

A MATERIALISTIC VIEW OF SEXUAL IMPOTENCE.

A paper on this subject was read by Dr. Bransford Lewis, of St. Louis, before the recent meeting of the Mississippi Valley Medical Association, at Cincinnati. After calling attention to the lack of unanimity, definiteness or precision with which the pathology of sexual impotence was viewed by the profession in general, each physician treating such cases with his favorite aphrodisiac formula, with a vague idea that the generative powers needed stimulation into renewed activity, the author offered what he claimed as more rational views of the subject, based on the physiology and pathology of the parts affected.

Physiologists, he said, taught that erection, that pre-requisite in the male organ for copulation, was established by an active increase in the amount of arterial blood flowing into the penis, together with a co-incident and abrupt decrease in the amount of venous blood flowing out of it; that the influences which stimulate to these processes come from the erigent nerves of the spinal genital center. Tracing these physiological sequences still further back, it was known that such erigent nervous influences originated in three different localities of the organism: (1) in the brain; (2) in the spinal chord; (3) at some part of the periphery. Illustrations of these parts of the body, as such erigent sources were seen in (1) the man who gets

an erection from viewing an obscene picture (originating impression in the brain); (2) the painter, whose spine is injured by a fall, and who gets prolonged priapism therefrom; (3) the masturbator, who arouses erection by friction of the penis, scrotum, etc.

Therefore there were three sources of primary origin for erection; and, conversely, if either of these was diseased, the organism was liable to lose it as an erigent center. And if the conducting mechanism became disordered, the same result was liable to ensue. Our aim, then, should be to study the conditions that produce disorder of these four parts of the economy. Using the classification of cases of impotence which he thought most convenient—that is, organic, psychic, and symptomatic—the author confined his discussion to the latter variety. Noting, but not dwelling on, the various debilitating influences, such as diabetes, consumption, fatigue from either mental or physical overwork, sedative medicines, etc., as factors in the production of male impotence, Dr. Lewis wished to bring into especial prominence the relationship existing between impotence and such causes as masturbation, excessive sexual indulgence, chronic gonorrhœa and other directly genital affections.

Since the prostatic urethra was the sensitive area, the focal point, of nervous impressions on the genital system; the seat of the pleasurable sensations in intercourse; and the point to which by virtue of its intimate nervous relationship with the various other parts of the genital apparatus, irritations from them were referred, it was the point which naturally bore the brunt of abuses or disorders of these parts. So that in cases of organic stricture, of prolonged or adherent prepuce, etc.; of sustained (especially ungratified) sexual excitement, of repeated masturbation, chronic urethritis, etc., it was natural to expect disease of the prostatic urethra as a result. And when it was known that disease of the prostatic urethra was, in turn, capable of so deranging the spinal genital centre as to deprive it of its power of sending out the nervous influence previously mentioned as inciting erections; in other words, that disease of the prostatic area was capable of depriving a man of his virility, then the key to impotence from these disorders and habits was furnished, and paths for appropriate treatment were supplied. The rational plan for thera-

peutic action, consequently, was based on, first, the removal of the habit or disease that was producing the disordered prostatic urethra; second, the remedying of the prostatic urethral inflammation, and in that way restoring the health and functioning capacity of the genital or erectile center in the spinal cord.

The mode of conducting this plan of treatment was detailed, resort being had to the use of antero-posterior urethral irrigations of astringent (preferably zinc) solutions; of deep urethral injections of silver nitrate solutions in progressively increasing strengths; the intermittent passage of increasing sizes of steel sounds; endoscopic treatment; the psychrophor, perineal douches, etc. In the author's opinion, it was manifestly improper to give aphrodisiacs in such cases, since they excited erethism by congesting the genital organs—an effect directly opposed to the one desired for an inflamed posterior urethra. The end aimed at was the restoring of the health of the affected parts rather than goading them into unnatural activity with unnatural stimulants.

THE MEDICAL DEFENCE ASSOCIATION OF ONTARIO AND ITS OBJECTS.

To the Editor of the CANADA LANCET.

DEAR SIR,—I have been asked to state briefly the objects of the Medical Defence Association. The Medical Defence Association consists of a goodly number of leading practitioners throughout the Province, among whom is to be found past members of the Medical Council, members of Parliament and others who have taken an active interest, and been identified with many of the most important movements in the progress of our profession in the past.

Necessarily when circumstances arise which justify the union of such a member of the profession for some definite concerted action, it becomes the duty of every one to make inquiry into the conditions which provoke such actions. To these our *confrères* are invited to enquire.

The objects of the Defence Association are to secure the removal of recent amendments to and other sections of the Medical Act, which they believe to be objectionable to the best interests of the profession in many ways—such as the old section No. 27, giving power to make a limited tax

annually upon all who pass the Council's examinations, for that body's proper support; the recent action of the Council doubling this same disputed fee, and currently known as the "double or quit" resolution; the issuing of a yearly license called the "Pill Pedlar's Certificate" to practice upon conditions which the Defence Association consider intolerable, as also the Council's action in placing in the hands of a single individual, one of its employees, the autocratic power, under certain circumstances, of cutting off the professional head of every practitioner in the Province.

The Defence Association also voice that latent conviction in the profession which has been forcing itself more and more strongly to the front every Council election, that the present number of elected members (12), the number 2,800 of us hope in, is too small, while 15 are sent by the votes of less than 80. These 12 are insufficient in influence or strength to rule the Council. When it comes to a question of Medical School interest against that of the general practitioner, they invariably succumb to the mixed blandishments and snubbings, the alternate hospitality and cool indifference, practised so skilfully on them. The result follows that the Council is ruled by the teachers sent there by bodies not representing a tittle of the interests of the profession, and often opposed to them; that it is desirable to increase the number of elected members from 12 to 17; that all election disputes be referred to the County Judge, and not to a member of the profession; that, however justified past Councils may have thought they were, in involving the profession in immense expense of the present building, or all the pressing need of funds, which the Council says exist, though the Treasurer states the contrary. It is claimed by the Defence Association such a condition could not exist, if it really does, if proper financial skill had been used. That the duty of this Council was not to attempt extorting from students and the profession, but to relieve them of the burden of this building, year by year growing more irksome, and cut down the expenses where-ever possible.

They hold that the Council should have only one Confirmatory Final Examination; that tests of the progress of a student are nothing to the Council, and may be safely left to the teachers of medical subjects, who will take good care that

students go fully prepared to the Council's final test; that so many examinations are needless, expensive and vexatious; that neither the public nor profession are interested in the elementary steps of the students career in this regard; that universities having medical faculties engaged in active teaching, send one of that faculty as its representative to the Council annually, so long as that faculty is actually teaching with a full staff; that this representative will assume in his person, the duties performed by the two representatives heretofore sent from university and medical faculty; that no one will be received from any Senate, not approved of by its medical faculty; that no teacher in any university or medical school, nor one holding any position upon any faculty, nor connected in any function with the staff of any school where medical students are being taught, shall *hold any office whatsoever* in the control of the Council. That the term of office for the elected members be reduced from five to three years. That all notices of motion relating to any change in existing laws or regulations, given at the final meeting before the term of the then Council shall expire, shall be published in an Ontario medical journal, and accompany every official notice of that election, whenever or however printed or sent to the profession, that the profession may have full notice of all such matters, and their opinions expressed by their votes at the election.

There are many other matters—the great tax on students for examinations, the needless number for the purposes of the public or profession, the degree, which the ex-President Williams states so explicitly, the graduates receive no value for; the functions of the various offices, the effort to make the Medical Council, the exact reflex and power of the whole profession, to do away with all factors of antagonism, which have made the Medical Council appear more like a tyrant in the eyes of the profession than a righteous and powerful protector. In the carrying out of these briefly expressed and other much needed repairs, all who believe it their duty to join hands with the Defence Association will be welcomed.

Believe me, yours truly,

Oct. 6th, 1892.

J. E. WHITE.

To the Editor of the CANADA LANCET.

DEAR SIR.—Not having had an opportunity to correct the proof for my article in your valuable journal for this month, permit me in this way to make the needed corrections.

Page 42, 4th line from the bottom, "Fig. 8 is Fig. 7 after treatment," should read "Fig. 8 is Fig. 1 after treatment."

Page 43, for the word "stern" read stem. In 14th line from the top, for the word "bear" read bend, and follow by a comma.

Yours truly,
B. E. MCKENZIE.

14 Bloor St. West,
Toronto, 10th Oct., 1882.

GOLDEN RULES OF SURGICAL PRACTICE.—Continued—(Times and Reg.):

HERNIA.—Never treat a case of vomiting without inquiring about hernia and examining abdominal rings.

Do not diagnose a "strangulated" hernia without first feeling, in the male, for each testis.

Never be satisfied with the reduction of a hernia without putting your finger fairly into and through the ring, and ascertaining by comparison of the two sides that no unnatural fulness is left.

Remember that no age is too young for a truss, and that no hernial protrusion should be without one.

In cases of strangulated hernia, if you are in doubt as to the advisability of operating, do not hesitate, but operate.

Do not hesitate to return the gut in herniotomy in all stages of inflammation short of gangrene.

Never procrastinate in cases which will certainly require colotomy.

JOINTS.—Do not be hasty with a knife in dealing with fluctuating swellings near a joint.

[There are changes in the synovial membrane which produce thickening and suppuration, which can with difficulty be distinguished from an external circumscribed abscess.]

Never forget that synovial tissue of theæ embracing tendons, may pour out a considerable amount of fluid or even pus.

[The accumulation of fluid in a joint or in the layers of the synovial membrane, or in tendons and bursæ, rarely affect the integument. There-

fore, unless there is external redness never use the scalpel hastily.]

Never probe the joint in clean cut wounds opening a joint, unless a foreign body is known to be lodged therein.

Always persevere with rest and counter-irritation in disease of the shoulder joint as long as there be pain produced by motion, but no longer.

[Too long confinements is apt to produce adhesion of the lower part of the capsule, and to permanently deprive the patient of the power to raise the arm.]

Always trace all sinuses near the shoulder to their source, because the tendons often direct the pus to some point distant from the joint.

Always consider the chance of subacromial bursal disease before you diagnose disease of the shoulder-joint.

Do not hesitate to aspirate a joint for diagnosis, but remember it is criminal to do so without strict aseptic precautions.

Never neglect to put all strumous joints at rest.

[Rest should be maintained for three months after all signs of disease has vanished, and active exercise must even then be very gradually renewed.]

Never neglect early movement in chronic rheumatic arthritis; never allow early movement in strumous arthritis.

(To be continued.)

PEROXIDE OF HYDROGEN IN GASTRIC DISTURBANCES.—A. N. Iakovleff (*St. Petersburg Inaugural Dissertation—Br. Med. Jour.*) has made nine experiments on eight subjects, of whom some were suffering from chronic gastritis, some from nervous dyspepsia, one from cancer of the stomach, and one from hyperacidity of the gastric juice, while the eighth was healthy. In all but two cases the patients were given a three per cent. solution of H₂O₂—four cubic centimetres before breakfast, dinner and supper. The patient with magliquant disease and the one with hyperacidity took a two per cent. solution, four cubic centimetres from three to six times a day. The following is a summary of the results of these experiments: (1) Under the influence of H₂O₂ the general acidity of the gastric juice and the proportion of free H C₁ invariably increase. (2) The proportion of lactic acid always decreases while in later stages of

digestion the acid disappears altogether from the gastric contents. This phenomenon should be attributed to the well-known antifermentative properties of H_2O_2 . (3) The digestive power of the gastric juice is markedly intensified. (4) In the case of hyperacidity (as well as in another case in the author's private practice) the administration of the peroxide was followed by a distinct aggravation of all gastric symptoms, while in all others, including that of cancer, marked improvement was observed—the appetite improved, the epigastric pain ceased, eructations and vomiting decreased or entirely dissappeared, the bowels became more regular, etc. The author further made experiments on frogs and dogs, his object being to elucidate the effects of H_2O_2 on the circulation. The results agree pretty closely with those published by Guttman and Schwerin, the essential point being that H_2O_2 is decomposed by the blood, and hence can give rise to gaseous embolism with its consequences, such as dyspnoea, dilatation of the cardiac cavities, etc. From these facts Iakovleff concludes that injections of H_2O_2 into the circulation for therapeutical purposes, as suggested by some authors, are absolutely inadmissible.

MEANS OF DETERMINING THE SEX OF THE FŒTUS IN UTERO.—Lassier (*Gaz. Médicale*) considers the theory of determining the sex by a fecundation just before or after the menses ridiculous. He says: "Before exposing my theory, which allows the accoucheur to determine the sex of the fœtus, let us establish first that in woman, as in all animals, there are two ovaries, of which one produces male germs, the other female germs, turn by turn, that is each in its turn. As the Creator has left nothing to chance, it cannot be otherwise. Besides this principle is amply proved by the ovipara, whose eggs are always paired. In the pigeon, the female lays two eggs, which hatch out a pair. With the canary and thrush the eggs are usually four in number, and are mated. If the eggs of the same hen are hatched, the sex of the chickens is equally divided, the same occurs in the case of the goose and turkey. This granted, let us apply the same rule to women, and we shall see that we have two means for the determination of sex. The woman emits an ovule every month, the ovaries

produce each in turn; the germs are alternately male and female. A remarkable fact is that the period of gestation in woman is nine months, an unequal number. The same thing occurs in all uniparous animals; the mare eleven months; the cow, nine; sheep, five; in such a manner that while a female drops her young she sheds at the same time a germ of opposite sex. It is easy to understand why a woman who lies on her left side, has nine chances to two of having a boy, because in this position the ovary which produces the male ovules has more chances of its ovule being fecundated than the other, and *vice versa*. I have established that the procedure of ovulation alternates in the production of the sexes. This also permits us to determine the sex by calculation. If the woman is a primipara, the accoucheur has the *decubitus* for a guide. If it is her second or third pregnancy, he has only to find out the sex of the last child. If it was a male at term, the ovule corresponding to the lying-in was female, and so on. A woman becomes pregnant at the ninth month after delivery; if the last was a boy, this will be a boy also. If at the tenth it will be a girl.

SANTONIN AS AN EMMENAGOGUE.—On April 10th, 1892, I was called to see Mrs. A. B., aged thirty-six years, and, says Dr. Bergey in *Therapist*, found her in great agony from uterine colic. The pains had lasted for several days, and gradually assumed a graver form, notwithstanding the various domestic remedies which she had employed. Hot water bags were applied and frequently changed. Hot drinks were freely administered and frequently repeated, but without affording any relief. The pain was so severe that it was necessary to resort to large doses of morphine to get it under control. In the meantime a ten grain dose of santonin was administered. The menstrual flow became fully established by the second day after administering the santonin, and the patient rapidly recovered. To avoid such serious crises at future periods, I prescribed several ten grain powders of santonin, one to be taken at night, at the first approach of the menstrual molimen. In this manner the suffering has been warded off at each subsequent period, and menstruation established each time without any disturbance, to the profound gratifi-

cation of the patient. Mrs. A. B. is the mother of seven children, of highly neurotic temperament, and subject to these attacks on exposure to cold and dampness, or on becoming greatly fatigued. The attack described was brought on by exposure to draughts while over-heated. These attacks are, therefore, of the nature of suppressio-menstruum, and the santonin relaxes the engorged uterus. I have used santonin in a number of other cases of similar nature, and in every instance with most happy results.

A SUBSTITUTE FOR DECALCIFIED BONE IN SENN'S DISCS.—Baracz (*Centrabl. fur Chir.*) states that in experimenting with Senn's discs, the idea struck him that decalcified bone might be replaced by some other and more readily available material, which could be used by the practical surgeon without much preparation, and consequently with less trouble. After trials of numerous edible vegetables, such as potatoes, turnips, and carrots, from which sections of firm, flexible, and moist discs can be obtained, the author found that the most suitable substance for his purpose was afforded by the Swedish turnip. Sections of this vegetable, it is stated, form a reliable material for use in gastro-enterostomy and in establishing intestinal anastomosis, and one which can be more readily obtained and prepared than decalcified bone. That sections of a fresh turnip present a trustworthy substitute for decalcified bone is shown by the results of the author's experiments on animals, and also the success of an operation for gastro-enterostomy which he performed on the human subject early in May. The result of this operation, which was performed for the relief of carcinoma of the pylorus, had been very favorable.

LANCING THE GUMS.—In the *University Medical Magazine*, Dr. H. C. Woods makes the following statements about this procedure: Clinically, I am absolutely sure that I have seen convulsions, sick stomach, great restlessness, fever and various other functional disturbances in young children, immediately cured by the use of the gum-lancet, after the failure of various other well-directed measures for relief. Theoretically, I am in accord with Dr. Kirk, in believing that Dr. Forchheimer absolutely misses the point of the matter, by his failure to understand that the good achieved is

not due to the local blood-letting or to the relief of the inflammation of the gum, but to the removal of the backward pressure upon an extraordinarily sensitive, and, at such times, congested nerve-pulp. As was long ago pointed out by Dr. J. W. White, at the period of eruption the roots of the teeth are yet incomplete. "Instead of the conical termination and minute foramen, which characterize a perfected tooth, the aperture is nearly as large as the root itself, and thus when the sensitive pulp composed of connective tissue, blood-vessels and nerves, is in a condition of irritation because of the morbid activity of the process of dentition—augmented vascular and nervous action—there may be produced a hyperæmia sufficient, possibly, to cause the protrusion of a part of the mass from the incomplete aperture of the root, giving abundant cause for extreme constitutional disturbance."

I have myself seen a seemingly incurable epilepsy in an adult permanently cured by the removal of a persistent milk or first dentition tooth. Amaurosis and various other conditions in the adult, are well known to be the result of irritation of the trigeminal nerve by faulty teeth. How much more evil is to be expected from teeth irritation in the child!

In conclusion, I reaffirm that whatever the theory in the matter may be, I am positive that gum-lancing is a most important therapeutic measure. It is essential, however, that it should be thorough and with the object of dividing the dense tissues that bind down the teeth.

SLOW PULSE.—Among the causes of slow pulse Dr. D. W. Prentiss, in *The Doctor's Weekly*, enumerates the following, saying that the causes which produce slow pulse may be classified as follows:—

1. Diseases or injuries to the nerve centres, producing either irritation of the pneumogastric or paralysis of the sympathetic (accelerator) nerves of the heart.
2. Diseases or injury of pneumogastric nerve, increasing its irritability.
3. Disease or injury of the sympathetic nerves of the heart, paralyzing them.
4. Disease of cardiac ganglia, by which the influence of pneumogastric nerve preponderates.

5. Diseases of the heart-muscle (degeneration), whereby it fails to respond to the normal stimulus.

6. The action of poisons, as lead or tobacco, either on nerve endings or centres. The poison generated in salt fish.

Also the poison of certain febrile diseases, as pernicious fever.

Another possibility is *malarial poisoning*.

A SMART HUSBAND.—*Stranger* (midnight)—“I should like you to go to No. 999 Suburb Avenue to see my wife.”

Doctor—“All right. I'll be ready as soon as I can get my carriage. Wait and you can ride with me.”

Doctor (two hours later)—“I can see nothing the matter with your wife, except that she seems pretty mad at being waked up.”

Stranger—“Remarkable recovery, I must say. Here's your dollar.”

Wife (five minutes later)—“Why in creation did you bring a doctor to see me?”

Husband—“The street-cars had stopped running, and it was cheaper than hiring a cab.”

OSMIC ACID IN GOITRE has been employed by Auerbach. He used it by means of parenchymatous injections. The dose administered was five mill grammes and this was followed by a massage for fifteen minutes. After three weeks there was a diminution of one-half in the size of the tumor and the disappearance of the subjective symptoms.

RESORCIN is said to act admirably in cases of nausea and depression following a carouse. It is given in the dose of from five to ten grains in plenty of water flavored with syrup of orange peel, and may be repeated once or twice at intervals of half an hour. A single dose of ten grains is, however, said to be usually sufficient.

Books and Pamphlets.

A MANUAL OF OBSTETRICS. By A. F. A. King, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc. Fifth edition, 1892, with 150 illustrations. Philadelphia: Lea Bros. & Co.

This new edition makes the work a model of its kind, condensed so that every line tells, and apparently omitting nothing necessary in a scientific course of instruction in midwifery. The author is evidently a teacher. One is loth to encourage among students the habit of reading short works, especially on so important a subject as obstetrics; but in the 450 pp. of this text-book everything necessary is found for success in practice, and few if any would remain content without a larger book for reference after the ordeal of examinations is over. The chapter on version is most perspicuous, those on the mechanism of the various presentations admirable; the introduction to the anatomy and physiology of the subject is full enough for practical purposes, and the final chapter on obstetric jurisprudence excellent, though it would seem like a mixing of two subjects usually kept distinct in Canadian medical schools. Mention must be made of the peculiar conciseness and yet fullness of the chapter on the signs of pregnancy.

AN AMERICAN TEXT-BOOK OF SURGERY FOR PRACTITIONERS AND STUDENTS. Edited by William W. Keen, M.D., LL.D., and J. William White, M.D., LL.D. Philadelphia: W. S. Saunders. 1892. Toronto: Carveth & Co. Pp. 1209. Price, \$7.00 net, cloth; \$8.00 net, sheep; \$9.00 net, half Russia.

This work is an excellent one. Among the contributors are, Drs. Nancrede, Senn, Park, Pilcher, and others whose names are household words in surgery. We have had occasion to consult this book on several occasions since its arrival, and have always been well satisfied with the arrangement of the matter. It is up to the latest date. We gladly and conscientiously recommend it to both students and practitioners.

PICTURES FOR PHYSICIANS' OFFICES AND LIBRARIES. Prof. Billroth's Surgical Clinic at the Vienna General Hospital. Size, 24x32. Price, \$2.00. William Wood & Company, Publishers, New York.

We have just received the above picture. It forms the last of a very interesting and beautiful series. They are exact copies, not photographs, of India proof engravings and oil paintings, painted on extra heavy paper, and suitable for framing.