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THE
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Vol. VIII.

TORONTO, SEPTEMBER, 1898.

No. 3

Original Communications.

The Significance of Pain in Gynaecological Diagnosis.

Translated and condensed from *La Gynecologie*.

By ERNEST HALL, M.D., Fellow of Br. Gyn. Ass'n., Victoria, B.C.

In the department of gynaecology, pain is a symptom of no little importance. It is frequently exaggerated by the sensitiveness, irritability and the sedentary life which many women follow. On the other hand, it is not rare to see some of the most painful conditions borne with apparent ease by those in the lower walks of life who are compelled to do manual labor, or in those in better circumstances, who, by peculiar temperament, or by determined will are able to control their feelings and to suppress any manifestations of suffering. Of these two classes the former contributes the greater number of our patients. It may be that there is a variety of pain of an emotional nature, or it may be that the peripheral impressions react too acutely upon the centres of sensation in the lumbo-sacral plexus. In order that we may understand the remote effects, the radiated pains and reflex spasms that lesions of the uterus and adnexa give rise to, we must remember that the genital organs have in this plexus a direct centre of sensation, and through the abdominal sympathetic are connected with all the neighboring

organs as well as with the nerve trunks of the epigastrium, loins, and lower extremities.

The painful spasms and uterine colic of young and delicate females depend principally upon a mechanical obstacle—congestive and inflammatory thickening of the mucous membrane upon which the muscle exerts its force in order to expel clots or masses of mucus. The pain is due to the contact of the substance to be expelled with the morbidly irritable and hyperæsthetic mucous membrane. The muscle also may partake of the morbid sensibility without inflammation of that structure being present.

In the early period of pregnancy we see in the sensations of tension and pain, the effects of the weight of the uterus and the stretching of the ligaments; in certain cases lumbar or lumbar-sacral fatigue caused by the irritation of sensitive filaments located in the utero-sacral ligaments. Ovarian pain resembling true neuralgia is frequent in the later months of pregnancy caused by the pressure exercised by the hard parts of the fetus against the sensitive coccygean nerve filaments. Radiations of this variety of pain are frequent upon the lower limbs, loins, abdomen and back. Chronic inflammations, hyperplasias, or tumors of the genital organs give similar sensations, which are increased by any morbid condition of the nerves included in the affected parts.

The importance of pain as a symptom in disease of the female genital organs should not be underrated, for it is largely by the intensity of this symptom that our patients measure the gravity of their complaints. It is sometimes more difficult to convince a patient who presents a painless epithelioma of the cervix of the necessity of surgical interference, than one suffering from citrical contraction secondary to periovaritis. We frequently see patients who, when informed of the urgent necessity of the removal of the diseased part, hesitate, and refuse to accept radical measures until the presence of pain impels them to return and submit to a second examination, when, too often, the disease has extended beyond the limits of possible cure.

On the other hand, pain is of no little import to the patient. A woman who continues to suffer after an operation cannot be expected to consider herself cured. How many deficiencies in the results of operative treatment depend upon the fact that the gynæcologist has neglected some detail in relation to the painful symptoms experienced by the patient! However subjective a symptom may be, we must agree that it finds its origin, its pretext, if you please, in some anomaly of pathological order. However minute this pretext may be, compared with the exaggerated sensations experienced by the patient, it is most important that it should disappear.

In passing, we may note that Charcot, Féré, and other neuro-pathologists, have described ovarian pain, and have refused to consider it as a special indication of a general morbid condition. It is not always the ovary that suffers in this condition. There is present a painful neuralgic point, analogous to those of neuralgia, generally located perhaps within the muscles of the abdominal wall.

VARIETIES IN PAIN.

That which we shall call varieties of pain represents sensations differently experienced by patients, depending upon many conditions which are described in almost identical language. Thus colic represents spasm nor uterine tenesmus, the painful expulsive effort. "Painful Points" correspond in a precise manner to certain fixed neuralgias, sometimes deep, sometimes superficial but localized; the sensations of weight, stretching, tension, weariness, and that of the presence of a foreign body coincide with the increase in volume or prolapse of the uterus, excessive congestion of the cervix or retroversion.

Painful contractions of the anus or bladder,—true reflex tenesmus of these organs are frequently associated with and dependent upon genital affections.

Localized pain of a burning character usually indicates chronic valpingo-ovaritis, or cervical parametritic adhesions resulting from a deep tear of the neck. This pain may be peripheral corresponding to the nervous connection.

Pain over the kidneys frequently indicates disease of the cervix or in the neighborhood of the utero-sacral ligaments.

In addition there are pains apparently without any material basis in the condition of the sexual organs. Their character is that of being variable in location and intensity, occurring in paroxysms sometimes periodic, at other times in connection with manifestations of similar nature as migraine or gastralgia. They are frequently accompanied with painful throbbings in the deeper parts of the pelvis, resembling a pulsating frontal or temporal neuralgia.

For convenience we shall adopt the following order in the discussion of the various manifestations of pain :

1. *Duration* : Continuous, paroxysmal, intermittent or periodic.
2. *Location* : Deep or superficial, general or localized, unilateral or bilateral.
3. *Character* : Dull, lancinating, neuralgic or spasmodic.
4. *Clinical aspect* : Spontaneous or caused by examination.

UTERINE PAIN.

In metritis pain is universally recognized. Dubois has described a condition of the uterus in which pain is alone the only abnormality desirable—a hyperæsthesia sometimes diffused, at other times more localized in the cervical region. The dysmenorrhœa of neuroæsthenics temporarily exhibits this condition.

The following classification will be found convenient for description :

- (a) Spontaneous uterine pain.
- (b) Pain caused by direct contact, or by examination.
- (c) Pain of a chronic neuralgic character associated with traumatism.
- (d) Uterine spasm and periuterine pain of variable reflex origin.

(a) SPONTANEOUS UTERINE PAIN.

- (a) Painful spasms of menstruation.

Pain of this character is present in :

- (1) Young females of a highly-nervous constitution.
- (2) Those of a rheumatic taint, and those subject to neuralgias, especially migraine.
- (3) Those of a lymphatic or debilitated constitution. The excessive tumefaction of the uterine mucosa during menstruation, owing to the feeble resistance of the tissues explains the painful sensations which are produced at the moment of excretion of the blood.

The pain occurs in these different conditions at the period of predisposition to neuralgic or spasmodic phenomena menstruation, when the canal is obstructed with turgid membrane, or by flexion due to an atrophied zone, or by a leucorrhœal secretion, increased previous to the flood, or by difficult excretion of mucous after the flood, by spasmodic reaction of the uterus, and varied reflexes.

The pain experienced during accouchement appears interesting here by way of comparison. The nervous distribution in the genitive organs is such that the sensitive impressions proceed parallel with the involuntary reflex contractions, and also with voluntary efforts.

In the period of dilatation the pain is due to stretching of the nerves of the cervix and upper part of the vagina, this being the most sensitive zone of the canal. The reflex uterine contractions are also the result of impressions localized at this point. In this mechanism we have exhibited uterine colic in its most complete form. More widely distributed reflexes also result from similar irritation. Circulatory and digestive disturbances, pallor, syncope, nausea, vomiting and also

alterations of the central nervous system, cerebral excitement, etc., indicate the nature and location of these reflexes. In extreme cases occlusive spasm of the cervical sphincter may result in temporary suspension of labor.

If these observations be correct it follows that those women who suffer abnormally during childbirth, suffer abnormally during menstruation. The researches which have been made in this direction have confirmed this conclusion.

The moment that the fetal head passes the cervical orifice dilated to its maximum extent, is the moment of most severe pain during the period of labor. This is also the stage of most active reflexes. But immediately this point in labor has passed, the distant reflexes disappear and the pain assumes a different aspect, more in keeping with the general sensitiveness and the sympathetic action is confined to the uterus itself to sustain and assist the expulsive efforts.

We thus have sufficient evidence to locate the painful spasms of menstruation in the cervical zone of the uterus, and more definitely in pericervical plexus which also penetrates the isthmus and upper part of vagina.

(b) PAIN CAUSED BY DIRECT CONTACT OR BY EXAMINATION.

Pain caused by contact has a double location—the cervix and fundus. The cervix in the normal condition is generally painless to the finger of the examiner. But in certain women the touch or simple pressure causes pain. Taking hold of the cervix with a tenaculum, in most cases, is not painful, but occasionally it causes acute pain. This painful condition is often associated with other hyperæsthetic conditions, as sensitiveness of the normal ovaries, contraction of the vulvæ, etc., which exists without any inflammation of the tissues.

The sensitiveness of the cervical canal varies greatly in different subjects, being greatly increased in certain nervous cases. The passage of the uterine sound when done with care is usually possible in those women whose sensitiveness is not altered. Even when cervicitis is present this simple operation may be painless. But in some cases of a decidedly neurotic temperament most acute pain and intense reflex phenomena result. The pain is sometimes so severe that she throws herself back with a sharp cry, and temporary cerebral derangement such as would be produced by fear or emotion. Occasionally the patient becomes pale, complains of pericardial constriction, palpitation, with a tendency to fainting, the face and hands become covered with perspiration, and frequently vomiting follows.

As a further illustration of the reflexes and of the sensitiveness of

the os internum, we may note the results of the os under chloroform, when the patient is of the neurotic type. Using Hegar's sounds we notice that when we reach the point when considerable effort is required to overcome the resistance, the pulse alters, respiration becomes irregular, and perhaps momentarily ceases. Contractile spasm may appear and the sound which had already passed easily is with difficulty reinserted.

The action of a faradic current of high tension, obtained from an ordinary induction coil and applied by the bipolar method causes a rapid reduction of the sensibility of the uterus, but when the current is of low tension an increase of the sensitiveness results. The direct current is generally borne without marked discomfort.

(c) PAIN OF A CHRONIC NEURALGIC CHARACTER, ASSOCIATED WITH TRAUMATISM.

To Emmet we owe the explanation of the painful conditions resulting from lacerated cervix, especially when complicated with inflammatory changes. Even after the laceration has apparently disappeared pain of a persistent neuralgic character frequently persists. This is explained by the fact that during the process of repair small nervous filaments become imbedded and compressed in the dense cicatrix. The pain from this condition is unilateral and of a tearing or lacerating nature. If the patient is subject to neuralgia or migraine, the painful point is often located at the neck of the uterus. The rhythmical pulsations are felt, and the observer's finger can easily locate the painful point.

This variety of pain is often wrongly attributed to ovaritis or to parametric adhesions.

In antifixion menstruation is always painful and difficult. It is probable that the menstrual spasm finds an additional element in this condition so common in nervous and debilitated subjects.

(d) UTERINE SPASM AND PERIUTERINE PAIN OF VARIABLE REFLEX ORIGIN.

The causes which produce a condition of extreme irritability in the genital organs of certain women are many. This irritability manifests itself in muscular spasms and acutely painful sensations.

The most common of these causes is the apprehension that the patient experiences at the moment of examination, especially if she be a virgin or nullipare, or if it be her first examination. Other causes are affections of the vulva, excoriations, lacerations, etc. Urethral

polypi may cause vaginal spasm, rendering examination absolutely impossible, severe dysuria may also result from such irritation.

The neuropathic disposition of many patients is sufficient of itself to produce painful reflexes at the beginning of an examination by the physician. One is astonished at times to encounter at a level with the cul-de-sac the parts resistant, fixed and painful, giving the impression of dense parametric adhesions. After waiting a few minutes until the patient becomes composed and accustomed to the manipulation the phantom adhesions vanish and the morbid condition gives place to the normal.

The use of cocaine greatly diminishes the irritation produced by contact with the examiner's finger.

LYCETOL. A HINT ON THE TREATMENT OF RENAL CALCULI.—There is a certain class of cases of renal calculi in which much benefit is derived from the internal administration of antilithic remedies. These are cases where the calculus has not reached any considerable size, and is composed for the most part, of uric acid. The demand for a remedy that will disintegrate concretions of uric acid in the kidney, and facilitate their elimination in the urine, has however, been only imperfectly realized by the alkalies which have been chiefly employed for this purpose. While alkalies, especially lithium salts, undoubtedly exert a solvent action upon uric acid, this is not sufficiently marked to render it likely that they will dissolve stone in the kidney. A much more promising remedy seems to be Lycetol, which has a specific solvent action upon uric acid, as shown in the decided increase in the quantity of this substance excreted in the urine after its administration. Lycetol is also well adapted for prolonged use in renal lithiasis, since it is extremely pleasant to take and does not disturb the stomach. Dr. James H. Taylor, of Indianapolis, writes that in cases of renal calculi he has employed this preparation with very gratifying results, and others are equally positive in their statements regarding its value in all forms of the uric acid diathesis.—*Memphis Medical Monthly*.

DR. LAPHORN SMITH has returned to Montreal from Europe, where he has been studying all summer. Following the example of the European gynecologists, he is forming a post graduate class limited to six practitioners, each course of demonstrations lasting one month.

Society Reports.

Canadian Medical Association.

FIRST DAY—August 17th.

THE thirty-first annual convocation of the Canadian Medical Association began August 17th.

The meeting was held in the Convocation Hall, of Laval University, being called to order at 2 30 p m. by Dr. Thorburn, of Toronto, in the room of the retiring president, Dr. Moon, who was unavoidably absent. After addresses of welcome from Alderman Foley, acting mayor; Drs. C. S. Parke and A. M. Ahern, extended to the Association a hearty greeting on behalf of the city of Quebec and the University.

Owing to the large proportion of the local French-Canadian members present, the somewhat unique feature presented itself of papers being read in French as well as English.

Dr. Beausoleil, in his "presidential address," thanked the Association for the great honor it had done him in electing him to the highest position in its gift, an honor that he regarded as conferred upon him, not so much on account of any particular merit of his own, as by way of compliment. He referred to the fact that the Association was founded at Quebec in 1867, the year of the Canadian Federation, the object being to promote medical science in Canada and to unite the profession. The first president was Dr., now Sir, Charles Tupper, recently Premier of Canada. The subject that he dwelt particularly upon was that of the "Inter-provincial Registration of Physicians." It is deplorable that a physician in one province should not be able to practise his profession in a neighboring one, and if the Association could this year bring about the destruction of this anomaly, it would be a noteworthy year in the annals of the Society. It might be that a lawyer in Quebec could not practise in Ontario, inasmuch as the legal profession worked under different codes, but medicine is the same the world over, and the present restrictions should be done away with, so that a degree in medicine from any British or Colonial university should carry with it the right to practise anywhere in the Queen's dominions. As it is now, owing to the provisions of the British North America Act, which confederated the provinces, each province has

autonomy in the matter of education. However, there is now a majority in favor of uniting forces and forming a Dominion board. Ontario alone hesitates, as special legislation is necessary in her case. Still it begins to look as if this difficulty might be overcome. In conclusion, Dr. Beausoleil expressed the hope that he might, even if in a very small degree, have contributed to this very desirable end.

The first paper, by A. Rosebrugh, of Toronto, was in his absence read by title, "The Duty of the Medical Profession in the Question of the Treatment of the Inebriates," and was referred to a committee consisting of Drs. Adami Thornburn and Muir, with instructions to bring in a finding.

Dr. G. Sterling Ryerson, of Toronto, then read a paper on "Monocular Diplopia, which, he said, deserves more attention, being only very inadequately referred to in the text-books. It is much more common, he thought, than was suspected. The overlapping of images was present in monocular astigmatism. He recognized three classes of cases: (1) those dependent upon diseases of the refractive media, such as astigmatism, facets on the cornea, opacities in the humors, punctures or dislocations of the lens; (2) those with traumatism about the zonule of Zinn, or disease of the ciliary body and iris; partial persistence of pupillary membrane is not often a cause; (3) disorders of the central nervous system. Dr. Ryerson recorded two cases. In the first, which he regarded as hysterical in character, there was diplopia of the right side, associated with slight facial neuralgia, tinnitus aurium, augmentation and reduplication of the sounds heard. There was also hyperopic astigmatism. A course of potassium bromide and valerian relieved but did not cure. The second case was one of injury to the left side of the head, the patient remaining unconscious for several days. There was diplopia of the right eye and blurring of the discs. There was probably some protusion of the posterior portion of the eye forward.

Dr. D. Marcil then read a paper in French upon "Septic Peritonitis Consecutive to Appendicitis, and its Surgical Treatment." He reviewed the history of operative interference and made the somewhat startling claim that the first operation was done in Paris in 1893. He thought that some patients might be saved by operation even after peritonitis had set in.

Dr. Ferd. C. Valentine, of New York, next read a paper on "The Genito-urinary Instruments Required by the General Practitioner." He pointed out the great improvement in the treatment of gonorrhoea that has taken place since the days when it was regarded as a skin disease. From Ricard to Neisser is a great step in the right direction

The general practitioner was deterred from treating cases because of the elaborate armamentarium that was thought necessary, but Dr. Valentine pleaded for more zeal on the part of the general practitioner, as much could be done with simple means. The instruments necessary are a microscope, a centrifuge, an irrigator, syringes, and various sounds and catheters. He described his own irrigator, which consists of a glass reservoir that can be elevated on a wooden frame by a cord and pulley. To this is fastened a rubber tube with a glass nozzle, about which is a metallic saucer. He prefers Benecke's sounds, except in a few cases, when he uses Guyon's modification.

Dr. James Thorburn, of Toronto, then read an interesting paper on "The Physician and Life Insurance." He alluded to the phenomenal growth of insurance companies in the past two or three years. The subject had, indeed, become so important that a special section had been made for it at the recent meeting of the British Medical Association in Edinburgh. In Canada and England, the amount of the policies was \$340,314,445, while in the United States it reached the fabulous sum of \$5,183,695,250. When such vast amounts are at stake, the utmost care and skill on the part of the physician should be exacted. He directed the attention of the younger practitioners to the following points in filling out a question-blank: All the questions asked should be answered completely and with discrimination. If a patient has had some disease mentioned, full particulars of this should be given, with dates, duration, and probable effects. With reference to the health of relatives, the physician should not answer "don't know," but should take pains by careful questioning to get some idea of the state of the case. A history of pulmonary tuberculosis, syphilis, or insanity in the relatives, demanded particular care in the examination. His whole advice may be summed up in the statement that a full and careful examination should be made in every case, and no part of it slurred over, Drs. Mullin, Muir, Dickson, Gauthier and Valentine took part in the discussion. Dr. Dickson advocated an attempt on the part of insurance companies to bring their question-forms into uniformity.

SECOND DAY.—August 18th.

Dr. James Bell, of Montreal, read a paper entitled "A Series of Cases of Calculous Obstruction of the Common Bile-duct, Treated by Incision and Removal of the Calculi." He felt safe in saying that in no department of surgery has greater progress been made in recent years than in the treatment of gall-stone disease by operation upon the gall-bladder and ducts. Such operations are now followed by a low death

rate comparatively. The first successful cholecystotomy was done by Lawson Tait in 1879, and the first attempt to remove stones from the common duct by crushing was also done by Tait in 1884. Later, Thornton introduced needling. Cholecystotomy is an operation now frequently performed and generally with the most satisfactory results, and in ordinary cases it is almost devoid of danger. To-day, incision of the common duct has replaced the cruder operations of crushing and needling. Dr. Bell then gave an abstract of six cases upon which he had operated. The patients had varied in age from 33 to 61 years. In two there was but a solitary stone, in three there were stones in the gall-bladder as well as in the common duct, in four there was obliteration of the cystic duct and a contracted gall-bladder that contained no bile, in two a large calculus was impacted in the ampulla of the duct within the duodenum, and was removed through an incision in the duodenum. One case ended fatally from pneumonia after the sixth day; another patient was submitted to a second operation five months after the first.

Dr. V. P. Gibney, of New York, then read a paper on "The Treatment of Convalescent Club-foot." He remarked that there is no more interesting condition in orthopedics than club-foot, and none more difficult to bring to a successful issue, although knowledge of the anatomy and pathology of the part is indispensable to the orthopedist. The reduction of the deformity and the preservation of the induced condition in permanency are two different things, and the latter is often more difficult than the former. Relapses occur from various reasons. Among them is the failure of the surgeon to effect perfect reposition of the parts, or the corrected position may not be maintained for sufficient length of time. Sometimes the neglect of exercising the atrophic muscles or the use of too complicated boots is responsible. In operating, Dr. Gibney aims at the production of an over-corrected position, but he thought it unwise to maintain this too long. He felt that it is best to endeavor to enlist the intelligent co-operation of the patient and friends, and frankly tell them that the trouble is tedious, and much depends on their effort. The child should be taught to walk properly, as this will correct the tendency to pigeon-toes. After operative procedures the foot should be put up in plaster for from three to six months. If there is obstinate projection of the cuboid, and head of the fifth metatarsal, a cuneiform incision should be made in the neck of the os calcis. If the foot still rolled Dr. Gibney advocated supra-malleolar osteotomy, placing the foot in the position of over-correction. He thought that the surgeon should himself supervise the construction of all appliances,

and should occasionally see the patient for months. Dr. T. G. Roddick, of Montreal, asked if Dr. Gibney had any method of developing the stunted limb outside of those mentioned in the books, massage, etc. Sir William Hingston said that the cases are often very puzzling, *e.g.*, whether to do tenotomy or osteotomy, what tendons to cut, or which to choose, the open or the subcutaneous method. In his experience subluxation is not common, but he asked Dr. Gibney's experience on this point. Dr. Gibney, in reply, said that he did not know of any other methods to improve a stunted limb, than massage, selected movements, and properly guided exercise. He advised the employment of an experienced masseur. In his experience subluxation is not common.

A discussion on "The Surgical Treatment of Empyema" was opened by Dr. Elder, of Montreal. He asked: "Was any other treatment to be advocated than purely surgical? In his experience children, and strong adults in the country sometimes, get well spontaneously, or upon repeated aspiration. On the whole, he thought that the old surgical rule was a good one, that where there is pus the surgeon should cut down and evacuate it. With regard to the operation, resection of one or more ribs is much preferable to simple incision. Only in children is it justifiable to make a simple incision. With regard to the point of incision he thought that the rules of the text-books could not always be followed, but he advised, when there is a localized pus-collection, incision over the centre of the region and drainage. He recommended also not placing the patient on the sound side, but to draw him somewhat over the edge of the table and operate from below. With regard to the anesthetic, chloroform or the A. C. E. mixture should be used. As to washing out the cavity, most authorities discountenance this now. In slow, prolonged cases in which an external opening occurs spontaneously or there is rupture into a bronchus, should one operate? Dr. Elder thought, as a rule, not, and never in tuberculous cases. In cases in which the general health is obviously suffering, a second lower opening should be made, with an attempt at drainage, except in amyloid cases; or Eslander's operation might be tried. Sir William Hingston said that each case is to be treated on its merits, as no two cases are alike. Having been prejudiced for years against the operation of resection, he had been converted to it by experience. He is in the habit of washing out the cavity, using weak carbolic solution or plain boiled water. He thought that pneumonia is generally the result of empyema, rather than the cause, as is usually taught. Dr. Roddick preferred a dependent drain. With regard to washing out the cavity

he held a mediate position. If the pus is very fetid, he always washes out. In those cases that hung fire for months he injected into the cavity weak iodine-solution or zinc sulphate, which, by their stimulating action, he thought, hastened a cure. If the pus has broken into the air-passages, he would still operate and could do a radical operation. He preferred a metal tube to a rubber drain. Dr. Muir thought that 99 per cent. of the cases were tuberculous. He preferred operation always in adults, and made his incision as near the backbone and as high up as possible. He also liked a metal drain, using a piece of flanged gas-pipe for the purpose. Dr. Dickson said that if he obtained more than twenty ounces of pus on aspiration, he concluded that the case would not be cured by this means alone. He would also wash out in fetid cases.

Dr. W. H. Drummond (of Montreal), the author of the "Habitant," then read an interesting historical paper on the "Pioneers of Medicine in the Province of Quebec."

Dr. Ernest Laplace (Philadelphia) then described an ingenious "forceps" that he had contrived, to replace the Murphy button in the operation of intestinal anastomosis. By its use the gut is held in position and can be readily sutured, and the instrument be then removed in halves. He stated that the instrument is simple, and possesses none of the disadvantages of the Murphy button, or Senn's plates.

Surg.-Col. Neilson, the medical head of the Canadian Militia Service, then addressed the Association, asking for their support and counsel in the reforms that it was proposed to introduce in this service. In consequence of the reorganization of the medical service in the Imperial army, something of the same kind is needed in the Canadian service, as the present system is antiquated. He had been desired by the Canadian Minister of Militia to bring the matter to the notice of the Association.

THIRD DAY—August 10th.

DR. T. D. REED, of Montreal, brought up the subject of the official recognition of the new British Pharmacopoeia for the whole of Canada. He pointed out that owing to there being a different medical and pharmaceutical association in each province it is difficult to get concerted action on the subject, which is one of the greatest importance, and he thought it would be proper for the Canadian Medical Association to make a pronouncement in the matter. It is important that some date be fixed for the coming into operation of the new book. By arrangement of the Province of Quebec Pharmaceutical

Association and the Montreal Medico-Chirurgical Society it has been settled that October 1st should be taken as the date. He learned that in Ontario the new book is also official for the coming College session. He therefore moved, and it was seconded by Dr. Mullin, of Hamilton :

"Be it resolved that the Canadian Medical Association in annual meeting assembled recommends that October 1, 1898, be taken as the date on and after which, in the absence of instructions otherwise, physicians' prescriptions should be compounded with the preparations of the British Pharmacopeia of 1898."

Dr. T. J. Roddick then read a letter from Dr. J. C. Leech, of Manchester, the chairman of the British Committee in the revision of the Pharmacopeia, in which he pointed out that the adoption of the British Pharmacopeia seemed to be an act of grace on the part of the various provinces of the Dominion, while Canada as a unit did not accept it officially. He thought this should be remedied.

The Association decided then to appoint a committee consisting of Drs. Blackader, Reed, Small, Marois, Cameron, Starr and MacCallum, to confer with the Federal Government, with a view to formally legalizing and appointing the British Pharmacopeia for Canada.

Dr. A. de Martigny then read an account of two severe cases of furunculosis that he had treated with "Marmorek's antistreptococcic serum" with gratifying results. He used 20 cu. cm., and brought the matter to the attention of his hearers, in order that the method might be further tested.

Dr. C. R. Dickson, of Toronto, contributed a paper on "Goitre." He had had opportunity of observing about 300 cases of various forms, and had made use of most of the methods of treatment usually advocated. He pointed out that swelling of the thyroid is the expression of several different pathological conditions. For exophthalmic goitre he had found the best treatment to be absolute rest in bed, a rigid milk-diet, and the exhibition of calomel. Galvanism of the sympathetic is valuable in some cases. In fibrosis of the thyroid, if the ordinary methods failed, he employed electro-puncture. When suppuration resulted, the abscess was to be opened and drained. In cystic cases he inserted an insulated cannula, cleared out the contents and then filled the cyst with saline solution. He then passed in a current of electricity sufficiently strong to destroy the lining membrane, employing pressure and trusting to the subsequent inflammation to obliterate the cavity. If calcification ensues hydrochloric acid can be used to dissolve the lime. Removal is only necessary in malignant cases. Thyroid and thymus extracts he had found useless. In the discussion,

Dr. Muir, of Truro, pointed out that exophthalmic goitre is very common in Nova Scotia, appearing chiefly in young females, particularly in blondes. As it occurs in young girls, he thought the pressure of school-work might have something to do with its production. He had not seen much benefit from electricity, but placed some reliance on intestinal antiseptics.

Dr. F. X. de Martigny then read a paper on "Genital Prolapse and its Treatment," contributed by Prof. Delaunay, of Paris, surgeon-in-chief to the Hospital Pén.

Dr. W. J. Gibson, of Belleville, detailed an interesting case in which a "bicornute uterus" had been mistaken for an ectopic gestation.

Dr. D. Campbell Myers contributed a paper on "Neurasthenia," confining his remarks mainly to spinal irritation and the relation of neurasthenia to insanity. Neurasthenia is a complex disease, that will be found in time to be divisible into special groups. Spinal irritation bears a close analogy to hysteria, and is clearly not due to an organic lesion of the cord, but to psychic disturbance. Dr. Myers thought that these forms of neurasthenia in which the higher centres and emotions were affected sometimes passed over into insanity. Treatment in the early stages is very important. Special stress was laid upon the necessity for removing the patient from his surroundings and restricting the approach of friends. The Weir-Mitchell treatment he used only in selected cases, but the underlying principles are of great value.

Dr. A. Gandier, of Sherbrooke, read a communication on "Tracheotomy versus Intubation in Diphtheria." He pointed out that some cases of diphtheria do not yield to the antitoxin treatment, and those in country practice are very difficult to manage. He emphasized the necessity of vigorous local treatment, as well as injections and the use of general supporting treatment. When it is a question of tracheotomy or intubation, he prefers the former.

A number of other papers were read by title. The session was conspicuous for the important matters that came before it. Besides the question of the British Pharmacopœia for 1898 the matter of "Interprovincial Registration" of degrees was advanced very materially. Hitherto the possession of a degree in medicine in one province of the Dominion did not confer the right to practise in the others. This is an anomaly that is undesirable, and for years attempts have been made to overcome the difficulty.

Last year all the provinces except Ontario signified their readiness to co-operate, and decided upon a suitable curriculum satisfactory to them. Ontario, however, hung fire. This year, however, representatives from all the provinces except British Columbia

met, and have fortunately succeeded in reaching a common ground of agreement. They submitted to the Association a scheme of study for the entrance to and the practice of medicine, fixing the minimum requirements and adopting a course of four years of at least eight months each. Twenty-four months of this time must be spent in hospital work. A central board of examiners for the Dominion is to be appointed by the Medical Councils of the individual provinces to examine all candidates for the Dominion license. This Dominion license will bring with it recognition throughout Great Britain and the other colonies. This finding was signed by all the members of the committee, and is to be sent to various provincial councils for adoption.

A committee to arrange the details of this scheme was appointed, consisting of Drs. McNeill (P.E.I.), Muir (N.S.), Walker (N.B.), Marsil (Q.), Thornton (Ont.), Bayne (N.W.T.), McKee'nie (B.C.), and Williams (Ont.). Dr. T. G. Roddick, M.P., was also appointed to bring the scheme before the Federal Government, with a view to obtaining legislative sanction to the new board. This result is very gratifying, as it brings within measurable distance a reform that is of the utmost importance and benefit to the medical profession in Canada.

The usual complimentary votes of thanks to the officers and the local committee were passed unanimously.

The following officers were elected for the ensuing year :

Presidents : Irving H. Cameron, Toronto. Vice-Presidents, Drs. James Bell, Montreal, Q.; J. A. Williams, Ingersoll, Ont.; J. McLeod, Charlottetown, P.E.I.; Kirkpatrick, Halifax, N.S.; L. N. Bourque, Moncton, N.B.; R. S. Thompson, Deloraine, Man.; Lindsay, Calgary, N.W.T.; S. J. Tunstall, Vancouver, B.C. General Secretary : F. N. G. Starr, Toronto. Treasurer : H. B. Small, Ottawa. Local Secretaries : S. R. Jenkins, P.E.I.; W. G. Putnam, N.S.; T. D. Walker, N.B.; Hon. C. Marsil, Que.; C. R. Dickson, Ont.; Geo. Clingan, Man.; Lowe, N.W.T.; R. E. Walker, B.C.

It was decided that the next meeting-place should be Toronto.—
Philadelphia Medical Journal.

DR. W. GRAHAM has removed from Toronto to Clinton.

DR. UREN has removed from Acton to 137 Church Street, Toronto.

Editorials,

The Toxic Origin of Disease.

THIS was the title of Professor T. R. Fraser's address at the Edinburgh meeting of the British Medical Association. One naturally turns to such a paper by Dr. Fraser with more than the usual expectation. It has long been known to the medical world that he was carrying on the most careful and extensive experiments on toxins, antitoxins, immunity and characters of germ infections.

He paid a fitting attention to the wonderful advances made in diagnosis. This great accuracy enables the physician to arrange symptoms into groups, and determine the disease. It turns out that when this is fully accomplished that the real cause of the disease, the vera causa, is some toxic product; and that the structural changes so often encountered, are only accompaniments and results of this poison. In other words, they are effects, not causes: they are symptomatic, not etiologic. This would apply to such conditions as syphilis, rheumatism and malaria. The cure is to be found in some agent that controls the poison. The disease is not truly a product of the structural changes that are present, but of the hurtful poison capable of producing these structural alterations. Many of the ordinary poisons are marked by similar structural alterations as seen in the neuritis, anterior cornuitis, and arterial sclerosis of lead: the steatosis and yellow atrophy of the liver from phosphorus: and the fatty degeneration, sclerosis in the liver, peripheral neuritis and atheroma of chronic alcoholism.

The doctrine of the toxic origin of disease took another step forward by the discovery of the ptomaines and leucomaines found in the body. The human body, even in health, is a storehouse of these poisons of an alkaloidal nature, and great toxic power. Nervine is lethal in small doses; many of the products of the glands, as the saliva and bile contain poisons of a most deadly nature. In disorders of function, even though slight, poisons not found in the healthy body are generated, and may give rise to serious disease. Cholæmia, gout, rheumatism, uræmia, diabetic coma, stercoræmia, and probably chorea, sunstroke, neurasthenia, asthma, and the idiopathic anæmias, receive in this way a sufficient explanation. In the domain of mental diseases this also holds good. The auto-intoxication of the system in many diseases of the digestive and urinary systems have often caused mental derange-

ments. Recently in cancer, a toxic product has been obtained that is hyperthermic and lethal. This may account for the wasting and fatal results much more than the changes in the invaded tissues.

The greatest advance, however, has been along the line of bacteriology. At various periods in the history of medicine the views have been held that the infective diseases were due to some fermentation, to a parasite, or small infusoria. The introduction of the compound microscope paved the way to many and important discoveries. In 1861 Pasteur discovered and made clear the nature of butyric fermentation. By this discovery it became apparent the important part played in fermentation by minute organisms. This led to the discoveries by himself, Koch, Devaine, and others of the relation that micro-organisms bore to disease, as in the cases of pyæmia, anthrax, and fowl cholera. It was shown by Koch that these organisms could be cultivated outside the body for many generations and then reproduce the disease. Step by step the process was worked out in swine fever, glanders, tubercle, Asiatic cholera, septicæmia, erysipelas, pneumonia, and other diseases.

At first it was thought that microbes caused harm to the tissues by obstructing the smaller vessels and producing asphyxia of organs essential to life. Another theory was that in their growth they removed from the organs of the body certain material requisite for their health, and the proper discharge of their function. Both of these views are only true to a minor degree in the case of some of them. The real explanation of the injurious effects of these microbes is to be found in the poisons they produce. These poisons are of the nature of alkaloids, and are often of a most violent character. For example, one milligramme of dry tetanus toxin will kill a horse, and one-tenth of a milligramme of dry tubercle toxin will give rise to active hyperthermal reaction. The poisons are capable of producing focal changes as in the eruptions of the skin in certain contagious diseases, the necrosis of nerve matter in diphtheria, the meningitis often met with in influenza, the anterior cornual degeneration found often in tetanus and diphtheria, and the hæmorrhagic nephritis in serpent's venom.

Large numbers of disease germs are constantly invading the body and making attacks upon it. How does the body resist these attacks? Some animals can receive large doses of certain poisons as the herbivora with regard to belladonna and opium. Man can become tolerant of some poisons, as alcohol, opium, tobacco and arsenic, to a considerable extent. In some of these exceptional cases of tolerance the explanation may be an unusual activity of the kidneys, or some power of the blood to disintegrate the poison, or the capacity of the liver to hold large quantities in its substance, and only let the poison pass on

as it can be disposed, or, more likely, by the fact that the tissues gradually become accustomed, probably by exhaustion, to their disturbing influences.

It became a matter of observation that certain diseases conferred immunity against further attacks. As the microbe theory advanced and the knowledge of these became more complete, it was found that the same results followed when cultured microbes were injected into the body. Thus it became clear that the microbe was the living factor in these diseases. But still further investigation proved that the filtered solution in which these microbes were cultivated produced the same results. Here it became manifest that the poison, produced by the germ, and not the germ itself, was the active agent in causing the reactions and establishing the immunity. From this position the great step was made that the blood serum of protected animals, itself free from poisonous properties, injected into the non-protected, conferred upon them a remarkable resisting power.

All this proves that infectious diseases are of the nature of poisonings. Much light is thrown upon the nature of protection from these diseases, and of that acquired by vaccination. Much valuable therapeutic results have already been obtained, and much more may be expected in the near future.

In the case of the mineral and vegetable poisons a portion of the acquired protection is due to tolerance of the action of the poison, as already suggested, but this could not last long, and the tolerance soon disappears. It may be admitted that the pathogenic organisms remove from the body some material that renders it unsuitable as a soil for them; but this material would in all probability soon be restored and immunity lost. The theory of phagocytosis can hardly explain immunity. The phagocytes are mainly instrumental in acting upon the germs. They can have but little influence upon the toxins. Since the doctrine of phagocytosis by Metchinkoff, the more complete theory of toxins has come in.

These various theories of immunity must give way. When immunity is obtained by injecting increasing doses of the toxin, it is found that the result is of short duration. In the case of diphtheria from five to seven days, in serpent's venom only for a few hours, and in the case of filtered vaccine, the protection is short-lived. Enough has been done to show that protection so obtained is brief compared with that from the disease itself. Thus a protecting serum is yet a desideratum. Under certain conditions the microbe loses much of its virulency and yet retains the power to protect, as in the case of vaccinia, fowl cholera, anthrax and swine fever. When the germs of these diseases are treated

in a certain way, their virulent characters become modified, while their power to produce immunity is still retained.

Professor Fraser now reaches the culmination of his masterly stated argument. Immunity equally with poisoning is due to a soluble substance produced by the micro-organism. When produced by the introduction of the toxin it is of short duration as when compared with the introduction of the germ. It seems, therefore, that immunity to disease is due to the fact that there remains within the system an altered or modified microbe, so that it loses its power to produce poisons, while its disease-preventing properties is retained. This view depends upon the other view, that concurrently with the production of the toxin there is an antitoxin; indeed, the antitoxin seems to be an ingredient of the toxin. If the characters of the germ can be so educated as to produce antitoxin it would be harmless in the system and yet protective.

When a dose of serpent venom, several hundred times larger than that requisite to destroy life by subcutaneous administration, is given by the mouth, no harm results to the animal, but so protects the animal that it can withstand considerably more than the minimum lethal dose. From this it would appear that some change takes place in the venom in the digestive canal, so that the toxic constituents of the venom are destroyed, while the antitoxic are not, and are taken into the system. Similar experiments have been performed with like results in the poisons abrin and ricin and in the disease rabies.

Such results are of profound interest, and must attract great attention. It would seem as if the prediction of Pasteur was about to be realized: "The hour has now arrived when we may enter the enchanted grotto full of priceless treasures."

Ichthyol in Erysipelas.

DR. W. ALLAN JAMIESON, in his address on Skin Diseases, at the meeting of the British Medical Association, stated that ichthyol was almost a specific for erysipelas. An ointment containing twenty-five per cent. of the remedy is made with a base of prepared chalk and vaseline. The inflamed area is smeared with this; and then covered with a layer of cotton wool. A feeling of relief and coolness follows the application. The disease ceases to spread and the temperature falls. This is one of the very best methods of affording the inflamed surface rest. This will promptly check cases if used freely at the beginning of the attack.

Curable Mitral Regurgitation.

SIR WM. H. BROADBENT, in his recent work on diseases of the heart, pays the high compliment to Dr. George W. Balfour that the latter had rendered good service to the profession by calling attention to the above condition. In saying this he endorses the views of Dr. Balfour.

Those who have studied the writings of Dr. Balfour will readily appreciate the truth of the foregoing statement. It must be a source of extreme annoyance to a physician to find that by overlooking the true conditions in many cases of mitral insufficiency, valuable time has been lost, and that a murmur at one time curable has drifted into a condition of incurable cardiac failure.

Dr. Balfour contends that the vigor of any muscle depends upon its metabolism. The heart is no exception. During pyrexial conditions, and exhausting illnesses that interfere with the nutrition of the heart, its power to contract and empty its ventricles becomes lessened. Residual blood remains in these cavities; and this, with the reduced strength of the heart muscle, ends in dilatation. The heart walls in the dilated condition hold back the valves, and allow of a certain amount of regurgitation. Judicious treatment, consisting of proper rest, diet and tonics, cures such cases; and may remove a condition that would end in chronic invalidism.

Chlorosis and spanæmia are frequently attended with well marked regurgitation. The same condition of faulty nutrition of the myocardium gives rise to dilatation and the accumulation in the ventricles of residual blood. In chorea there is often an associated regurgitant murmur.

In the treatment of these cases, the anæmic and chlorotic should be given iron in some form that is found to agree with them. Arsenic is another drug that is well-nigh indispensable. It has an excellent tonic effect on the heart and the lungs.

When the dilatation is of more serious character, and is giving rise to a good deal of discomfort to the patient, rest in bed for a month may become necessary. In these cases no drug is so useful as digitalis. In very severe cases, large doses ought to be given regularly until a decided effect has been produced, then omitting for a time, and continue with the iron and arsenic. In less severe cases the digitalis should be ordered night and morning in moderate doses of, say, gr. i; and in the interval the iron and arsenic.

Many cases that are regarded as fatty hearts, are simply weak

hearts. The administration of such tonics as iron, arsenic, and strychnine are of the utmost value. In some of these cases with a persistent tendency to dilatation, no drug has such therapeutic qualities as digitalis. It may be taken for years with no other than the very best of results.

Mens Sana in Corpore Sana.

SIR JOHN BATTY TUKE, in his very able address in Psychology at the British Medical Association, dwelt strongly on the great advances that had taken place in this branch of medicine during the past thirty years. When but little was known of the underlying pathology, it was thought the insanities were mental diseases *sui generis*.

The advances made in the anatomy and physiology of the brain has shown that there are certain nerves of special functional activity, and that there are other nerves that appear to associate the stimuli of the various sense spheres. One of the great results of the researches of Hitzig, Fritsch, Ferrier, Gowers, and largely Hughlings Jackson, has been to show that the essence of mental is the same as that of bodily life, the adjustment of inner to outer relations. As knowledge of the brain became more and more complete, the fundamental physiological principles could be laid down that mental action is a function of connection, and that interruption of connection is the cause of impaired mental action.

The central point is the demonstration of the mechanism by which impulses are carried from the periphery to the cortex and from the cortex to the periphery. The introduction of the term neuron, with a knowledge of the cell and its dendritic processes, has greatly changed the way in which the physiology of the nervous system is being viewed. As Gowers states, the older idea that impulses are generated in the cells must be abandoned.

Under the recent methods of study, due to Golgi, Bevan Lewis, and others, changes are found in the conditions of the dendrons and cells in many cases of insanity, where formerly nothing was detected as morbid. The dendrons lose their gemmulæ and the cells often undergo color changes. It has become clear, as a result of recent research, that one of the most important functions of the cerebral cell is a trophic one over the dendrons and neurons. Alienists are now alive to the fact that the lesions productive of solutions of continuity in the nerve currents are the essential part of the pathology of the insanities.

The effect of this change in opinion regarding insanity shows itself on treatment of insanity. Early cases are regarded as fit subjects of the physician's best attention. As the result of proper care in the early period of the attacks, setting aside general paralysis, epileptic insanity and congenital cases, eighty per cent. of recent cases are amenable to treatment. One great difficulty is that cases must be well marked before they can be admitted to an asylum, and hospitals will not admit insanity cases for treatment. The hopeful period is thus often lost, especially with the poor.

The Ontario Medical Library Association.

THE first meeting of the Directors appointed at the Annual Meeting in June last was held on the 22nd of July, when the following officers were elected for the ensuing year:

President, Dr. J. E. Graham; Vice-President, Dr. W. J. Greig; Secretary, Dr. H. J. Hamilton; Treasurer, Dr. Herbert Bruce; Curator, Dr. N. A. Powell; Assistant-Curator, Dr. W. J. Wilson.

The establishment of an academy of medicine, as urgently advocated by Dr. Osler at the annual meeting and reported in our last issue, came up for consideration. As the proposal had the unanimous approval of the Directors, it was thought that the scheme merited a full and free discussion and the serious consideration of the three medical societies, which are interested equally with this Association. It was therefore hoped that this subject would be brought to the notice of each society as soon as the autumn meetings are well under way.

For the purpose of making the Association more useful to its members and to the profession of the Province outside of Toronto, it was pretty well decided to have printed a catalogue of the more important and useful works now on the shelves—said catalogue to be distributed among the members.

Heretofore, the library has been open only from 2 o'clock to 6 each afternoon, Saturdays excepted. The Directors feel that the opening of the library during the morning hours would be of advantage to some of its members. Henceforth we understand the library will be open during the morning as well as afternoon. This, we are given to believe, depends somewhat upon the support and encouragement accorded by the Toronto members. We trust that the reading, progressive and advanced among our confreres will take steps, if they have not already done so, to identify themselves with an association

which was originated by the profession, is maintained by the profession, and conducted solely in the interests of the profession, and therefore indirectly for the benefit of the public at large.

Of the advantages of joining such an association as this, we propose to speak briefly in the next issue.

The University Senate Elections.

(From The Hamilton Times.)

IT is noticeable that of the sixteen candidates nominated to represent the Arts graduates in the Senate of the University of Toronto—only twelve of whom can be elected—no less than four, or one-third of the total number to be returned, are members of the University Faculty. These are Profs. Baker, Hutton, A. B. McCullum and Ellis. Considering the composition of the Senate under the University Act, this is too large a proportion and gives an undue preponderance to the purely academic element, the representation of which is already amply provided for by the statute. There can hardly be a doubt that the Legislature never contemplated that the academic bodies, to whom representation is largely given in various ways, should thus increase their representation by the elective process. The intention would rather seem to be to have these bodies represented on the Senate as the Act provides, and that the elective members should be chosen from the mass of graduates in Arts, Medicine or Law, who are unconnected with the faculty, or with the professoriate or teaching staff of the institution. This is evident from the Act itself under which the Senate is a mixed body composed of three classes of members, *ex-officio*, appointed and elective, representing different interests. Two of the *ex-officio* members, the Minister of Education and the Chancellor, seldom attend the Senate meetings. Of the other *ex-officio* members, the Presidents of University College, Victoria, St. Michael's, Wycliffe and Knox, all belong to the academic class. The same may be said of a majority of the appointed members. Of these the Council of University College appoints one representative, the University Council three, while Victoria, St. Michael's, Knox, Wycliffe, the Veterinary College, the Dental College, the Agricultural College, the Colleges of Music and Pharmacy the School of Science, the Toronto School of Medicine, the Trinity Medical School and Albert College, appoint one each. With a few exceptions, every one of these gentlemen belongs to the academic order. Of the five representatives of the Arts graduates, already

elected by Victoria, two are members of the faculty of that institution. In the last Senate there were twenty-four representatives of this class.

How unfairly the Act has been worked in the interests of the faculty is evidenced by the actual representation secured by the University Council. The Act gives that body three representatives, but as a matter of fact it has always had more. In the last Senate there were no less than nine members of the Council, the three to whom it was entitled under the Act, one appointed by the Government and five elected by the graduates in Arts and Medicine. Of the present Arts candidates three, viz., Profs. Baker, Hutton and A. B. Macallum, are members of the Council, and of the five medical candidates, only one, Dr. W. H. B. Aikins, does not belong to that body. All the others are members of the Council. The anomaly of the University Council thus increasing its representation on the Senate was never intended by the Act; but that is the almost certain result when the professors combine to elect themselves. They have such a pull with the electorate that other equally capable men, who have not had the same opportunities of cultivating it, are handicapped in the race. The remedy is in the hands of the graduates themselves, who should not hesitate to apply it in their own interests.

The numerical consideration is not the only one. Apart from the injustice to the other bodies represented, who are unable to enlarge their representation by the elective process, there must always be, in questions between the Senate and University Council relating to policy or administration, a conflict of duty on the part of gentlemen who belong to both bodies. That such questions have arisen and may arise again, everyone knows who has watched the course of events. Matters, too, are constantly coming up in the Senate which affect the personal interests of members of the faculty, and for this, it for no other reason, it is desirable that candidates elected by the graduates should be perfectly independent of the University Council, or of any similar body controlled by the professorial staff. The academic or faculty representation is quite large enough, if indeed it is not too large, and it should not be increased in the present elections either in Arts or Medicine.

The Patent on Antitoxin.

THE announcement that Professor Behring has been granted a patent as inventor of diphtheria antitoxin will be received by the medical profession with feelings of keen disappointment. The profession of this country has always sternly discountenanced any attempt on the part of its members to make scientific achievements opportunities of personal profit. Such discoveries as the medical profession have made have been fully and freely donated to the service of suffering humanity. Professor Behring's claim to be the exclusive inventor of antitoxin not only indicates a spirit of commercialism which does its possessor no credit, but it displays a disposition to assume credit for the labors of others, and to make of these an occasion of personal gain which can only indicate a high degree of moral perversity.

Professor Behring claims as his invention: 1. A process "of producing diphtheria antitoxin, which consists in inoculating horses or other animals capable of being infected with diphtheria with repeated doses of diphtheria poison or living diphtheria bacilli of gradually increasing quantity and strength so as to immunize them and form in the blood a counter-poison for destroying the poison secreted by said bacilli, drawing off the blood from said animals, separating the serum from the blood corpuscles, concentrating the former for use substantially as set forth.

"2. As a new substance, diphtheria antitoxin, consisting of the concentrated serum of the blood of animals treated with diphtheria poison and having the characteristic of immunizing test animals against infection with diphtheria, and curing them when artificially infected with diphtheria, said serum containing a counter-poison having the property of destroying the poison secreted by the diphtheria bacilli substantially as set forth."

It is almost superfluous to point out to any well-informed reader that Behring's claim to have done this is as preposterous as it is unjust. The principles upon which immunization to diphtheria was finally achieved were of gradual growth, the outcome of researches by thousands of untiring workers. The foundation of the work was undoubtedly laid by Pasteur in his method of immunizing against chicken cholera and anthrax. So long ago as 1887 Sewall immunized pigeons against the poison of rattlesnakes. He says, with genuine modesty, his work was undertaken with the hope that it might form a worthy contribution to the theory of prophylaxis, and it was a most worthy contribution. In 1887 Roux and Chamberland immunized animals

against malignant edema with sterilized anthrax cultures. In 1890, the same year in which Behring and Kitasato published their result in immunizing animals against diphtheria and tetanus, Fraenkel published his results in diphtheria after treating animals by weakened germs and filtered cultures. In the clinical uses of the serum Aronson's name must not be forgotten. His serum was first used in the Children's Hospital at Berlin in 1894. The serum of Roux had been used in one of the hospitals of Paris a month earlier than Aronson's in Germany. Emerich and Aronson both dispute the priority of Behring, and the French Academy of Sciences awarded their prize for antitoxin jointly to Behring and Roux, a fact which very clearly denotes the difficulty of estimating priority of merit in a scientific struggle in which the numerous competitors were so equally distinguished.

The principle which lies at the foundation of the invention of diphtheria antitoxin, and that which underlies all serum therapeutics, is that the blood of immune animals can be used in the treatment of others. Behring did not discover this principle, and in its application he was undoubtedly anticipated by the Japanese workers. If to any single man must be ascribed the distinction of being the inventor and discoverer of the beneficent principle of immunization, the honor belongs to the immortal Pasteur.

The manufacture of antitoxin has been carried on for many years in England, France, Switzerland, Italy, Russia and Japan, and in these countries no one has had the temerity to attempt to control exclusively its manufacture. In this country it is made by five Boards of Health and by several manufacturing firms. In this country alone has an attempt been made to monopolize its production, it being admitted that elsewhere the claims of any patentee are inadmissible.

If Professor Behring admits any merit in the work of his predecessors and contemporaries, his claim to be the exclusive inventor of diphtheria antitoxin is in contravention of all the ethics of a scientist's career. His claim is an offence against common morality. Had Simpson patented chloroform anesthesia, or had Lister patented antiseptic surgery, the world would have had two selfish empirics, and lost two medical heroes. If Behring, by the righteous judgment of mankind, can be adjudged sole and undisputed inventor of antitoxin, he has a place in the Temple of Fame for achieving the most beneficent discovery of modern times. It remains to be seen whether the temptation to be rich will overcome his ambition to be great, and whether for a tinsel crown he will barter a diadem of everlasting renown.—

Medical Age.

Correspondence.

The Editors are not responsible for any views expressed by correspondents.

Medical Men.

To the Editor of the CANADIAN MEDICAL REVIEW :

Pro Vera Gratias.

As one who for more than one-fourth of a century has been engaged in the active practice of medicine, I am of the opinion, as regards the profession being a gold mine, that such is not the case, and this opinion is based on the innermost acquaintance with fifteen doctors, resident of this and neighbouring counties. Those of the profession who are comparatively rich are few, and not in more than one or two instances do we find this condition the result of success in practice, of the major part of those who are stated as rich; such wealth has been inherited and they have other sources of revenue than their profession. In fact, in comparing the success in life, *ab initio*, of these said doctors with those who unaided commenced life as tailors, shoemakers or blacksmiths, I am, having had ample time for study, of opinion that the tradesmen have succeeded better financially. The richest doctors, therefore, are those who either have married riches or secured good government situations, or have been heirs of some farmers, or engaged privately in some financial schemes outside of the practice.

The following clipping illustrates a condition of affairs but too often noticeable, in which the "old farm" makes the doctor presentable and pose as rich to unsuspecting or credulous observers.

The result of having a "smart Alec" in the family often ruins it, and many farmers are coming gradually to know it, and well they should. To them or their sons the clipping is referred as worthy to be posted on every barn door in Canada—in fact, every common or high school door also. *We want more John Drydens than doctors.*

Nusquam, Aug. 5th, 1898.

MEDICUS.

MOTHER'S FOOL.

" 'Tis plain to me," said the farmer's wife,
 " These boys will make their mark in life ;
 They never were made to handle a hoe ;
 And at once to college they ought to go ;
 Yes, John and Henry— 'tis clear to me—
 Great men in this world are sure to be ;
 But Tom, he's a little above a fool—
 So John and Henry must go to school."

Now really, wife," quoth farmer Brown,
 As he sat his mug of cider down,
 "Tom does more work, in a day, for me,
 Than both of his brothers do in three.
 Book learnin' will never plant beans nor corn,
 Nor hoe potatoes—sure as you're born
 Nor mend a rood of broken fence :
 For my part, give me common-sense."

But his wife the roost was bound to rule,
 And so "the boys" were sent to school :
 While Tom, of course, was left behind,
 For his mother said he had no mind.

Five years at school the students spent,
 Then each one into business went :
 John learned to play the flute and fiddle,
 And parted his hair (of course) in the middle :
 Though his brother looked rather higher than he,
 And hung out his shingle—"H. Brown, M.D."
 Meanwhile, at home, their brother Tom
 Had taken a "notion" into his head ;
 Though he said not a word, but trimmed his trees,
 And hoed his corn and sowed his peas,
 But somehow, either "by hook or crook,"
 He managed to read full many a book.

Well, the war broke out : and "Captain Tom"
 To battle a hundred soldiers led ;
 And when the Spanish flag went down
 Came marching home as "*General Brown*."

But he went to work on his farm again,
 Planted his corn and sowed his grain,
 Repaired the house and broken fence,
 And people said he had "common-sense."

Now common-sense was rather rare,
 And the State House needed a portion there :
 So the "family dunce" moved into town,
 And the people called him "*Governor Brown* :"
 But the brothers, who went to the city school,
 Were compelled to live with mother's fool.

Too much free dispensary, hospital and lodge practice, with the too frequent use and recommendation of proprietary remedies of this or that company, weakened his standing and emptied his pockets, and disgraced him and his profession—*libera e nos a malis*.

Why do so many young graduates who visit Johns-Hopkins have an acute attack of "swelled head" ?

Book Notices.

Conservative Gynecology and Electro-Therapeutics: A Practical Treatise on the Diseases of Women and their Treatment by Electricity. Third edition, revised, rewritten and greatly enlarged. By G. BERTON MASSEY, M.D., Physician to the Gynecic Department of Howard Hospital, Philadelphia; late Electro-Therapeutist to the Infirmary for Nervous Diseases, Philadelphia; Fellow and ex-President of the American Electro-Therapeutic Association, of the Société Française d'Électrothérapie, of the American Medical Association, etc. Illustrated with twelve full-page original chromo-lithographic plates in twelve colors, numerous full-page original half-tone plates of photographs taken from nature, and many other engravings in the text. Royal octavo. 400 pages. Extra cloth, beveled edges, \$3.50 net. The F. A. Davis Co., Publishers, 1914 16 Cherry St., Philadelphia; 114 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St, Chicago, Ill.

We may remark at the outset, that as a specimen of book-making the above work could hardly be excelled. The plates are extremely fine, and aid the letter-press very much in making clear the conditions under discussion.

The many uses to which electric currents may be applied are handled with much care and thoroughness. An admirable feature of the work is that electricity is discussed as a therapeutic agent, and not vaunted as a specific for everything. The report of cases given in the work is very encouraging.

The descriptions of the different batteries and mode of use are good. The book would well repay reading, even though the electric treatment should not be adopted, as showing what is being done.

The Diseases of the Lungs. By JAMES KINGSTON FOWLER, M.A., M.D., F.R.C.P., Physician to the Middlesex Hospital and the Hospital for Diseases of the Chest, Brompton; and RICHMAN JOHN GODLEE, M.S., F.R.C.S., Professor of Clinical Surgery, University College, London, and to the Hospital for Consumption and Diseases of the Chest, Brompton, and Surgeon-in Ordinary to Her Majesty's Household. With 160 illustrations. London and New York: Longmans, Green & Co.; Toronto: The Publishers' Syndicate, 88-90 Yonge Street.

This work is the joint effort of two very distinguished members of the medical profession. Dr. Fowler takes the medical sections and Mr. Godlee the surgical ones. It is well known that these gentlemen have been making the medical and surgical diseases of the chest the

objects of their closest attention for many years. Both of them have been contributing for many years valuable papers upon the affections of this region. A work coming from two such authors is sure to contain much that is valuable.

The first chapter is from the pen of Mr. Godlee, and deals with the medical and surgical anatomy of the chest. It is well illustrated. The descriptions are of a most lucid character, and reflect great credit upon the author. This chapter is arranged in such a manner as to be of the utmost service to the student of thoracic diseases. This occupies fifty pages.

The second chapter is by Dr. Fowler, on the physical diagnosis of the lungs and pleura. The writer in twenty pages gives a masterly review of the general principles of physical diagnosis.

This is followed by diseases of the trachea and the bronchial tubes. The subject of bronchitis Dr. Fowler handles in a particularly able manner, under the headings of Acute, Chronic, Secondary and Plastic Bronchitis. Bronchiectasis in the adult and in children occupies about thirty pages. This chapter is specially clear and instructive. The favorite treatment is creosote inhalations. The treatment in the other affections is clear and decided. There is no halting between opinions. Bronchial stenosis and diseases of the bronchial glands receive a due share of attention.

We then come to an excellent chapter on Emphysema. The pathology, etiology, morbid anatomy, varieties, diagnosis and treatment are full and explicit. This chapter will well repay a most careful reading. Asthma the author speaks of under the headings, True Spasmodic, Bronchial, Cardiac, Renal, Hay Asthma. He highly recommends the hypodermic use of morphia in the attacks of true spasmodic asthma.

Pneumonia in its various forms of acute, chronic, lobar, lobular, sub acute, fibroid, etc., receive great attention. Some seventy pages are devoted to this group. Short chapters are assigned to Diseases from Dust, Congestion and Collapse of Lung.

Pulmonary Tuberculosis fills 120 pages. One might say that this section alone would render the work of the utmost value. The general discussion of pulmonary tuberculosis is followed by a chapter on the Surgery of Pulmonary Cavities, by Mr. Godlee. There is no great enthusiasm over the antiseptics and the use of creosote, etc., etc..

It is gratifying to see that the important subject of pulmonary syphilis has received due prominence. We remember a leading journal editorially stating some years ago that it was one of the rarest things in pathology to find syphilitic affection of the lungs.

Dr. Fowler still regards it as infrequent, but worthy of very careful study, as it may readily be confounded with tuberculosis, and treatment wholly misdirected, and the chance of recovery lost. Antinomycosis, mycosis, tumors, hydatids, embolism, thrombosis, hæmoptysis, aneurysm of pulmonary vessels, and the pulmonary complications of acute diseases all come in for their full consideration.

Of the remainder of the work, 200 pages are devoted to the medical and surgical diseases of the pleura, the diaphragm and the mediastinum. Strong ground is taken against opening into the pleural cavity in tubercular pleurisy with fluid, even though turbid. The management of empyema, by Mr. Godlee, is very clear and helpful. The opinion is expressed that it is seldom necessary to wash out the pleural cavity.

The entire work consists of 707 pages. It is gotten up in the publishers' ver, best style. Good paper, type, illustrations and binding add an attractiveness to the excellent matter that is to be found within its covers. All-in-all, this is a most suggestive and useful work ; and we congratulate the authors on the result of their labors.

DR. R. C. M. PAGE, Professor of General Medicine and Instructor in Physical Diagnosis at the New York Polyclinic and Public Dispensaries of the city of New York, died on June 19.

DEATH OF DR. WM. PEPPER.—In the death of Dr. Pepper the entire medical profession loses one of its ablest supporters and a representative, world-renowned. Dr. Pepper was born in Philadelphia, Pa., August 22, 1843, and his father before him was a man of unusual prominence in medical circles. He graduated from the University of Pennsylvania at the age of nineteen and took the degree of Doctor of Medicine at the age of twenty-three. At the age of twenty-five he became a professor of the university, where he has held different chairs with great distinction. Dr. Pepper is well known as the author of "Peppers's System of Medicine" and through his other numerous writings and contributions to the literature of medicine. The death of Dr. Pepper was very sudden and unexpected, and occurred in California while on a tour in search of rest and recuperation. Angina pectoris is assigned as the cause of his demise.—*Cleveland Medical Gazette*.

Selections.

Surgical Items.

As far as possible I introduce only my hand into the peritoneal cavity. In pus cases it is well to spend some time in the introduction of pads, pushing the intestines up toward the diaphragm. In such cases, even if pus escapes, it will do little mischief, providing the escaping matter is caught in the gauze. I have been so well satisfied with this plan of procedure that in my later cases I have entirely dispensed with intra-abdominal flushings.—*A. Brothers.*

Every tumor of the larynx suspected to be malignant, of intrinsic origin, of limited extent, and apparently within reach of free removal, justifies an exploratory thyrotomy in a suitable patient, in the absence of infiltration of the surrounding structures and of affection of the lymphatic glands.—*D. B. Delavan.*

Nephrectomy whilst the opposite organ is occupied by calculus is fraught with the greatest danger to life; whereas nephrectomy, after the opposite kidney has been freed of stone, will probably be followed by recovery from the operation, and possibly by very good health for many years afterwards.—*Henry Morris.*

Patients operated upon in the continued Trendelenburg position should, from time to time be placed in a horizontal position, as the pressure of the abdominal contents upon the diaphragm and the organs of the thorax impedes respiration.—*S. O. Goldman.*

In my own experience, in an active surgical service in hospitals, I am satisfied that alcohol is responsible for the great preponderance of grave surgical cases on the non-working days of the year.—*T. H. Manley.*

No case of ruptured tubal pregnancy is out of danger until after a good ligature has secured the bleeding points.—*Cordier.*—*International Journal of Surgery.*

CONDURANGO IN GASTRALGIA.—According to Dr. Jouvenel (*Nord médical; Journal de médecine de Paris*), condurango has a marked action on gastric pain and vomiting. Aided by rest and a milk diet, it has checked hæmatemesis. Powdered condurango in catchets is recommended to the extent of from thirty to sixty grains in divided

doses daily. Tinctures of a strength of one in five are also recommended, from a hundred and fifty to three hundred minims being administered daily. Watery preparations are not advised. Professor Lemoine prescribes pills containing a grain and a half each of powdered condurango, from five to eight being taken daily. — *New York Medical Journal*.

SOMATOSE. — By Prof. Dr. A. Christoph, Constantinople. Mrs. E. von Boichetta, 52 years of age, wife of a railway engineer of Anatolia, stationed at Estreschir, consulted me two years ago at Haider-Pacha (opposite Constantinople) with regard to an obstinate malarian fever contracted in the former locality, which is very marshy. The Railway Physician had prescribed for her during a long time, per os, up to 48 grains of quinine without appreciable result: she became weaker every day, was not even able to walk, and was obliged to remain constantly in bed: she refused all nourishment and could not even tolerate milk. It was under such conditions that her husband came to me with a request to attend to her. After having made a careful examination I ordered to be administered to her every day by clyster 16 grains of quinine, 3 hours before an attack, a dose which I decreased gradually as soon as I had obtained the desired effect. At the same time I prescribed as a stomachic, hydrochloric acid pepsin in solution and three teaspoonsful of Somatose; in view of the happy result brought about by this treatment I soon increased the dose to two tablespoonsful. Some time afterwards the former doctor who had prognosticated a fatal issue within a few days, came to see the patient. My prescription of Somatose, which drug my honorable colleague did not even know by name, as he reads very few scientific papers, provoked his mirth. In spite of his jests, my patient to whom I had foretold a quick recovery, gained rapidly in strength while, at the same time, her weight increased and her appetite improved; she soon recovered so perfectly that she was able to return to Asia Minor, whence she consults me regularly by letter with regard to herself and members of her family. She sent me yesterday a translation of the article of "Gautier," which appeared in the *Neue Freie Presse*: "In reading this article," she writes, "I experienced great pleasure in seeing publicly recognized the efficiency of Somatose which that Railway Doctor had turned into ridicule and which gave me back my health, making me at the same time your debtor for ever for having prescribed it. I think I am a living testimonial of the genuine value of this drug, which is recognized to-day even by the most incredulous. — *Clinical Excerpts*."