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## THE TREATMENT OF ECLAMPSIA.

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Eclampsia is generally conceded to be a toxæmia,—a form of auto-intoxication. As to the source of the toxin there is at present no unanimity of opinion. It is thought by some that the toxin is developed as a result of the failure in function of the maternal organs, the liver, kidneys, thyroid. Others advance the view that the toxin is developed by the fœtus, and that eclampsia results from failure of the maternal organs to deal with the excess of waste material. Recently the opinion has gained ground that the placenta is the source of the toxin, either by a specific action of its cells or by defective function.

Dealing with the maternal origin of the toxin Berkley suggests that there are different varieties of eclampsia, just as there are different varieties of puerperal fever, and that a failure of the kidneys, liver, thyroid or intestines to perform their functions properly results in an accumulation of the particular waste products which they customarily deal with, and a consequent general poisoning of the body, so that all the organs are more or less affected, and eclampsia results.

Zangemeister's investigations in the Leipzig Clinic to determine the relation between eclampsia and the renal function prove fairly conclusively that eclampsia does not depend on changes in the renal secretion, nor is the toxin eliminated by them. Variations in diuresis and in concentration of the urine occurring in the course of an eclamptic attack, indicate that disturbance of renal secretion and convulsions depend on one and the same cause. He points out that a diminution in the excretion of the chlorides is, with the lessened quantity of the urine, the most marked and constant change which the urine undergoes in eclampsia. With the cessation of the attacks, increased excretion of the chlorides takes place. From an examination of the blood in these

cases, it is evident that its constitution plays no role in the diminution of the chlorides in the urine.

Karanyi has proved that the excretion of the chlorides depends on the circulation in the kidneys, and when this is interfered with there is diminished excretion, therefore it is evident that in eclampsia there exists an active contraction of the vessels of the kidneys. Zangemeister proves that a similar condition exists, to a minor degree, in normal labour, and considers that all the phenomena of eclampsia may be due to arterial spasm giving rise to periodic anæmias of kidneys, liver, pancreas or brain. Since eclampsia only occurs during period of active uterine contraction, he suggests that the arterial spasms are brought on with the uterine contractions, or by them.

The view that the toxin develops in the foetus receives some clinical support from the fact that as a rule the disease comes on in late pregnancy when the foetus is well developed; and that with the death of the foetus, in many cases, the symptoms of toxæmia rapidly subside and the patient recovers. Kaltenbach and Fehling are strong supporters of this theory.

Dienst holds that eclampsia results from insufficiency of the maternal excretory organs in the presence of the foetal waste products, this arising from their previous morbid exudation, or resulting from the deleterious action of the foetal toxins upon them. He particularly dwells on the harmful action of these toxins on the maternal heart and suggests that the impairment of its function is the most important factor in bringing about the accumulation of toxin in the maternal organism. Dienst has drawn attention to the frequent development of convulsions in the children of eclamptics, and in several such cases has found the characteristic changes, associated with eclampsia, in the foetal liver and kidneys. He explains this by suggesting that when the maternal blood is saturated with the toxin, a "reinfection" of the foetus follows, setting up kidney and liver changes in it, which leads to its death, either before or after its birth.

The view of the foetal origin of the toxin has received a severe setback in a recent paper by Hitschmann, who reports a well marked case of eclampsia in a ii. para at the 18th week of pregnancy. She was delivered of a large hydatid mole and no trace of a foetus was found. It is thus evident that foetal toxins cannot be the sole cause of eclampsia.

Recent investigation certainly seems to favour the view that the source of the toxin is in the placenta or the tissues entering into its formation.

Veit and Schmorl think that the deportation of the cells of the foetal

villi, leading to the formation of a syncytiolysin in the maternal circulation, is a probable explanation of the toxæmia; in short, that eclampsia is an auto-intoxication due to a poison of syncytial origin. This view was elaborated before this Society at some length recently, so I will only recall it to your attention on this occasion.

Bandler supports this theory, and in a recent paper advances the view that the placenta is a gland giving off into the maternal circulation an enzyme from the trophoblast and syncytial cells. That the ovary is an organ furnishing an enzyme which has among its attributes the property of resisting or modifying the action of the foetal enzyme. This he terms the maternal enzyme. Eclampsia, he suggests, is due to a mal-secretion of the foetal enzyme or a relative mal-secretion or insufficiency, due to the action of the maternal enzyme.

The action of the toxin, however it may be produced, upon the maternal tissues must now claim our attention.

The eclamptic attack is simply a symptom of the action of these toxins. The most evident clinical fact, outside of the convulsions, is the irritation of the vaso-constrictors and increase in arterial tension. The whole brunt of the attack is borne by the nervous system.

The oliguria and anuria result from this vascular spasm, which also leads to laceration of the finer blood vessels and results in hæmorrhagic exudations into the tissues. The coagulation necrosis found in various organs may thus be explained, especially when the fibrin of the blood is increased, as is reported to be the case by Dienst, who calls attention to the increased formation of fibrin in this condition. In fatal cases he has found it to be tenfold over the normal. The role of the leucocytes in the formation of fibrin ferment is well known, and Dienst has established the occurrence of well marked leucocytosis in eclampsia; hence it is evident that these poisons have a distinct leucocytic tendency. Their rapid manufacture, due to the toxæmia, results in their lessened resistance, so that they, in breaking down, thus indirectly contribute to the formation of fibrin ferment and pave the way for extensive thrombosis.

I trust that this brief review of the etiology and pathology makes it evident that in eclampsia we have to deal with a toxæmia, which, however produced, is of more or less gradual onset and that the toxin acts by giving rise to arterial spasm and affects certain organs as the kidneys, liver, and heart; and when in sufficient quantity in the maternal organism, precipitates itself on the general nervous system, producing a storm which wrecks the mother and child, or if only the latter tends to subside with or without permanent damage to those structures which bore the brunt of the attack.

There is not much to be said concerning the prophylactic treatment of eclampsia, but it would be a great help to us if we had some idea of those who are prone to attacks of this condition.

In my experience two classes of women are subject to eclamptic attacks. These are, the spare, active, nervous women, with a sluggish bowel action and a torpid skin. In this class the œdema is not marked as in the other, and, as a rule, the poison seems to attack the liver or kidneys, hence bloody urine and the speedy development of jaundice. The second class are those women of lymphatic chloræmic tendency, with feebly acting hearts, and poor circulation. In this class œdema is a marked symptom, and it is probable that heart and circulatory system first yield to the pernicious influence of the toxin. If patients clearly belonging to one or other of these classes give a history of an attack of nephritis in early life, the course of pregnancy must be carefully observed.

Prophylactic treatment would mean in the first class, stimulation of the sluggish bowel and skin by appropriate hygienic, dietetic and therapeutic means. Strain of the nervous system should be avoided, and plenty of rest secured. In the second class attention should be directed to the condition of the blood and heart; iron, arsenic and strychnia being chiefly indicated. It is unnecessary here to reiterate the importance of careful examination at short intervals of the urine for albumin, urea and casts. In suspected cases the total daily quantity excreted should be recorded.

Time does not permit discussion of albuminuria, deficiency of uræa excreted or other urine conditions associated with the development of this condition, nor is it necessary to refer to the premonitory symptoms which are too well known to all.

A severe attack of what the patient is apt to consider severe indigestion is always to be viewed with suspicion after the fourth month of pregnancy, and should lead to an examination of the urine for several days in succession.

In the pre-eclamptic stage, that is, when the patient gives evidence of developing toxæmia, the object of treatment is to prevent the accumulation of the toxin, and to assist its elimination. Hot baths, milk diet, rest in bed, free purgation, and copious draughts of water, make up the general line of treatment.

Oliphant Nicholson has advanced the theory that the secretion of the thyroid gland plays a distinct role in preventing the occurrence of eclampsia, by promoting the metabolism of nitrogenous substances. Iodo-thyroidin appears to be an ideal vaso-dilator and it is probable that it is thus the secretion of the gland operates. Nicholson states

that in the pre-eclamptic stage he has had excellent results from the administration of from 15-20 grains of thyroid extract daily. I have had experience in this treatment and feel that in a few cases it has been of distinct value promoting diuresis and increased elimination of urea. Many have reported favourably of its action in this stage.

In the convulsive stage, when anuria is a marked symptom, Nicholson recommends that 30-40 grains be given at a dose, and a second dose of 20-30 grains six hours later may be required, as the subject is to produce thyroid intoxication as rapidly as possible, and in his experience there is less danger from giving large doses than from the continuous administration of smaller quantities.

Sturmer of Madras has used the thyroid treatment extensively, and reports that it almost invariably leads to prompt increase in the diuresis, acting thus more promptly than salines, which take 24 hours. He reports a mortality of 12.2 per cent. in forty cases treated in this manner; his mortality in the previous year was 44 per cent. under other treatment.

The treatment in the eclamptic stage is directed towards. (a) controlling the convulsions; (b) assisting elimination, and (c) dealing with the pregnancy.

A review of recent literature on this subject leaves one in a bewildered condition, as the want of unanimity is its chief characteristic. Roughly speaking, the profession is divided into two classes as regards the treatment of eclampsia, the point at issue being the method of dealing with the pregnancy.

The conservative element, represented in Germany by Pfannenstiel, Ahlfeld and Krömer; in Great Britain by Herman, Ballantyne, Lockyer and Munro Kerr, and in America by Williams, and also the French school in general, look upon emptying the uterus as only a part of the general treatment of eclampsia, directing attention particularly to controlling convulsions and assisting elimination. The conservative element does not approve of inducing labour in all cases, but leaves it to nature until such time as interference can be undertaken without increasing the risk of the mother. Version, forceps, or embryotomy (if the child is dead), after the os has dilated, is the course adopted. They claim that, as a rule, labour rapidly sets in after the development of convulsions. The fact that eclampsia develops in not a few cases after the delivery of the child lends support to the view of this class.

Those who believe in active treatment, that is *accouchement forcé*, are probably the more numerous. Certain it is that the weight of opinion at the Congress in Geneva in 1896, was in favour of emptying the uterus as quickly as possible, and, if anything, this opinion has become

more general since. The argument of this class is that eclampsia is a product of pregnancy, and that, therefore, the sooner the pregnancy is terminated the quicker will the source of the toxin be removed. The fact that the eclamptic frequently improves upon the death of the child in utero, is advanced in support of this view. This class is again divided, particularly in Germany, where the argument is heated in the extreme, as to the method to be adopted in terminating the pregnancy. There are three parties, one devoted to dilating the os by means of instruments, or manually; the second preferring incision; while the third, by far the smallest class, advocates the abdominal route, *i.e.*, Casarean section.

The conservative treatment then is directed towards controlling the convulsions and securing the elimination of the toxin, leaving the pregnancy to be dealt with when the os has dilated sufficiently to permit delivery by forceps or version. What might be called the active treatment is first to clear out the uterus as rapidly as possible, and then to endeavour to secure elimination of the toxin.

Believing the convulsions to be due to toxic nerve irritation, resulting in spasm of the vaso-motor system, nerve sedatives and vaso-dilators are administered in order to secure control. The Germans use but few drugs—chiefly morphia and chloroform—while many, as in the Giessen clinic, use no narcotics.

The nerve sedatives employed are chiefly chloral, morphia and chloroform. Both English-speaking and German physicians employ chloroform to control the actual convulsion, while many limit its use to the time of delivery. It is believed to relieve the venous congestion by lowering arterial tension.

Morphia is usually administered in large doses,  $\frac{1}{4}$ – $\frac{1}{2}$  grain. It is believed to inhibit metabolism, thus stopping the formation of toxin, and to overcome the vaso-motor spasm, thus favouring urinary secretion. Veit, who thinks that generally an insufficient amount is used, has given as much as three grains in four hours, but, as a rule, the maximum dose in 24 hours should not exceed two grains. Berkeley, who has canvassed the obstetricians of Great Britain upon the treatment of eclampsia, states that the majority of English physicians employ it. He quotes Löhlein, who has collected 325 cases, with a mortality of 13.3 per cent. where this drug was used.

Chloral is employed by a few Germans, but the majority of English physicians have abandoned it. Charpentier recommends its use in large doses, he giving as much as half an ounce in 24 hours. Many concede that it may be of use in the milder cases, but should not be employed when coma is marked.

The vaso-dilators employed have been numerous and not a few physicians pin their faith to various of these as panaceas for eclampsia; but few of them have many friends and most of them have but few friends.

Pilocarpine, at one time popular, has been abandoned as uncertain and often dangerous. Veratrum viride is employed chiefly in America. It acts by dilating the arteries and depressing the heart. It is said to promote the activity of the skin and to favour diuresis. It is best administered hypodermically, 20 minims of the fluid extract as an initial dose, followed by ten minim doses at intervals of half an hour, till the pulse is kept below 60. It is a powerful cardiac depressant so is contraindicated when the pulse is weak and irregular. It is difficult to form an opinion as to the value of this drug, for its friends claim too much for it and its failure in the hands of men of large experience and of good judgment, do not inspire faith. My personal experience is that it has not been any more successful than other drugs of its class and I have practically abandoned its use.

Reference has already been made to the use of thyroid extract as a vaso-dilator.

Helme, of Manchester, in May last, suggested the employment of subarachnoid puncture in eclamptic convulsions, believing that the convulsions and stupor are dependent upon increased intracranial pressure. In November, 1903, he successfully treated a severe case by this means. He withdrew a drachm and a half of cerebro-spinal fluid by lumbar puncture, and mentions that the fluid escaped rapidly as if under considerable pressure.

Kröning, of Jena, in the *Zentralblatt für Gynäkologie* for October 1st, 1904, has a paper on this subject in which he fails to notice Helme's case, seeming to have been independently led to the same conclusion. In view of the marked increase in the blood pressure of eclamptics he was led to investigate the degree of pressure upon the cerebro-spinal fluid in these cases, hoping thus to possibly find some therapeutic results by removing a certain quantity should the intracranial pressure be found to be augmented. He reports three successful cases so treated. The first of these was a severe case and may be referred to in some detail: To the needle used in the lumbar puncture was attached a Quincke's apparatus for estimating the pressure under which the cerebro-spinal fluid escaped. The pressure was found to rise between 430 and 540 m.m., water pressure. On withdrawing 20 c.c. of fluid the patient had a convulsion which raised the intracranial pressure to over 600 m.m., the capacity of the Quincke apparatus. In all he withdrew 37 c.c. of cerebro-spinal fluid, the intra-cranial pressure then varying be-



tween 80 and 120 m.m. No convulsions occurred after this time. The patient was then delivered by vaginal-Cæsarean section. The other cases were identical. He concludes his paper by stating that no conclusions can be drawn from these cases as in all three, other important therapeutic means were employed. But he is certain of two points: that no harmful effects resulted from any of the cases, and that the general satisfactory condition of the patients seven to eight hours afterwards could not be wholly ascribed to the withdrawal of the cerebro-spinal fluid.

From the results reported it is apparent that further investigation along this line is warranted.

The elimination of the toxin is promoted by means of venesection, purgation, salines and hot packs and baths.

Venesection is of value in sthenic cases, where cyanosis is a marked symptom. It is also indicated when the right heart is over-dilated, and engorgement of the lungs is present. Williams thinks that it should be employed in all cases where the fits continue after delivery of the child. He withdraws 500 c.c. of blood, and injects the same amount of saline solution.

Many believing that the toxin is generated in the digestive tract, urge purgation. The same method of treatment is urged by others in order to favour the elimination of the toxin from the system in general. The Germans do not pay so much attention to active purgation as do the English and French. Magnesium sulphate is the favourite drug, but croton oil is used by many. Personally, I am strongly in favour of saline purgation, as I think it favours elimination of the toxin.

The Germans generally, rely on bowel and stomach washing to clear out the digestive tract. Usually warm saline solution is employed in large quantities and the treatment is repeated at intervals of four to six hours.

Dienst, believing that the alkalescence of the blood favours the oxidation metabolism, suggests the free use of bicarbonate of soda as a drink or clyster. In comatose cases he injects it into the stomach.

Subcutaneous saline injection is also generally employed and with very beneficial results. Acetate and chloride of sodium in the proportion of one drachm to the pint, at a temperature of 100 deg. may be injected into the sub-mammary tissue. The salines are supposed to dilute the toxins and to favour both diaphoresis and diuresis. As a rule the diuretic effect of saline injections is not apparent for at least 24 hours.

Hot baths are useful in the pre-eclamptic stage, but packs and hot air give the best results in the eclamptic stage.

Pfannenstiel reports 35 cases treated by hot packs, without a death.

Ahlfeld wraps his patients in woollen blankets, a broad towel being tied around the body at the level of the elbows, and another at the knees, to secure the coverings. A hypodermic of morphia is given and the patient kept free as possible from all disturbance in a warm, well ventilated room. He reports a mortality of only 6.25 per cent. in a series of 32 cases.

Renal decapsulation has been recently suggested by Edebohls as being of value in the treatment of eclamptic anuria. He reported, eighteen months ago, a case of post partum eclampsia treated by this means. The anuria was overcome, no more convulsions followed the operation and the patient made a good recovery.

Sippel, in April last, making a post mortem section on an eclamptic was impressed by the evident tension of both renal capsules. On slitting up the capsule of both kidneys the renal substance seemed to escape under pressure, while the capsules retracted, the condition being comparable to glaucoma. He suggested, as a result of this observation, the employment of nephrotomy in anuric eclamptic cases, evidently unaware of Edebohls' case.

Recently Edebohls has performed decapsulation two days before delivery and claims a brilliant success. The case was in the 38th week of pregnancy. Twins were diagnosed; but 360 c.c. of urine containing four-tenths per cent. of urea was passed in 24 hours preceding operation. The general condition was grave, and the amaurosis severe. The kidneys were found enlarged, the capsules being loosely wrapped around them, there being no evidence of tension. The kidney surfaces presented a "dirty-grey, turbid, sluggish and stagnant appearance." The operation took but 45 minutes to perform.

For 24 hours after the operation there was complete suppression of urine; then diuresis began, 1,000 c.c. was measured, besides which a large quantity escaped into the bed in the second 24 hours, and the sight greatly improved. Then labour began and was uneventful except for a slight convulsion, and two attacks of twitching. He states that during the four or five days succeeding the delivery there was a "perfect deluge of urine, the quantity of solids and urea contained being simply enormous."

I can find no record of Sippel's suggestion having been acted upon in Germany, but trust that encouraged by Edebohls success, reports of further investigation of the value of this procedure may be forthcoming.

The third point in the treatment of the eclamptic is the important one of dealing with the pregnancy.

The conservative element, as here stated, leaves the case to nature, at least until the os is dilated or easily dilatable, when delivery by

forceps or version may be undertaken, as in their opinion labour will result from the stimulating effects of the toxins. Alhfeld and Pfannenstiel state that they have never had occasion to induce labour in cases which had developed convulsions.

In cases where prophylactic treatment fails and the general condition threatens actual eclampsia, and in rapidly developing amaurosis, it is evident that in many cases to save the child, as well as in the interest of the mother, it may be necessary to induce labour.

In such cases there are three methods of procedure, and all have their enthusiastic advocates, each armed with statistics favourable to the operation extolled.

Where rapid delivery is not demanded, the introduction of bougies, as recommended by Krause, may be adopted. One disadvantage is its uncertainty. Partial dilatation of the os by steel dilators and the insertion of a Champetiere de Ribes bag, or other forms of hydrostatic dilators, is a more certain method, and, in the opinion of Williams, is to be recommended instead of the "forcible and brutal dilatation" of the rigid cervix by means of metal dilators.

Those having surgical experience prefer the prompt incision of the cervix, the so-called hysterotomy or vaginal Cæsarean section, urging in its favour speed and certainty of result, without undue shock to the patient.

In the status eclampticus *accouchement forcé* is preferred by all but the definitely conservative school.

As to the relative advantage of the expectant over the active treatment it is difficult to formulate an opinion from the results so far published. The figures advanced by Herman show that in 1,500 cases, the fits continue after delivery in 52.5 per cent. of cases and that fits stop on delivery in 47.5 per cent. of cases.

While Williams quotes the results of Dührssen, Ohlshausen, and Zweifel, who noted a cessation of the seizures either immediately or soon after delivery in 93.75 per cent. 85 per cent. and 66 per cent. of their cases respectively, while Zweifel reports a mortality of 28.5 per cent. under expectant, and 11.25 per cent. under active treatment.

Thus in general it may be said that speedy termination of the pregnancy gives a better result, but the balance in favour of operative procedure is by no means pronounced.

Rapid manual dilatation of the os uteri is rarely possible, especially if the cervix has not been completely taken up.

Of the metal dilators, that devised by Bossi is at present the most satisfactory. The original instrument has but four branches, their separation being operated by a screw in the handle. The original

instrument has been modified in many ways, but chiefly by addition to the number of branches. This instrument has evidently come to stay and is now in very general use.

Ballantyne, reporting eight cases in which he had used the Bossi dilator, expresses the opinion that "there are cases of eclampsia in which the safety of both mother and child may be better assured by means of the use of Bossi's dilator, than by any other known plan."

The instrument being very powerful must be used with caution, but by means of its careful employment dilatation can be obtained in from 10 to 80 minutes without damage to the maternal tissues. The chief danger from its use is that of laceration and consequent hæmorrhage. To avoid this accident it is important to keep the distal ends of the blades well within the os internum, and to take plenty of time. Many have reported severe lacerations following its use, but when such a powerful instrument is placed in the hands of careless operators accidents of this sort are bound to occur from time to time.

I have employed it four times and in but one case was there any laceration noted, and in that case I am not altogether satisfied that the instrument was to blame.

Probably the most rapid means of terminating pregnancy is by the employment of deep incisions of the cervix. This method was first recommended by Bumm under the name of hysterotomy. The operation was perfected by Dürrssen in 1896, and is now generally termed vaginal Cæsarean section. The operation must not be confounded with the method of dealing with the rigid cervix by means of multiple incisions previously recommended by Dürrssen.

To perform the operation a median incision is made in the anterior vaginal wall reaching to the cervix. The bladder is then pushed back and the anterior lip of the cervix split in the median line right into the uterine cavity. If sufficient room is not thus obtained for the passage of the foetal head a similar incision is made in the posterior wall of the uterus, care being taken not to open into the sac of Douglas. In primiparæ, where the vulvar opening is small, the perineum is split so as to avoid the rectum. The child is then delivered by version and the placenta expressed in the usual way. Should hæmorrhage from the uterine cavity be severe it may be packed with iodoform gauze. Four to six sutures of catgut usually repair the uterine incisions, and two or three, the anterior vaginal incision. Occasionally it is necessary to employ a gauge drain in the space between the bladder and uterus at the upper end of the vaginal incision.

Hofmeier and others have reported cases in which severe hæmorrhage has followed this operation from extensive tearing of the uterus by the

after-coming head. Dührssen has never seen a case of severe hæmorrhage in the large number of operations he has performed.

Time does not permit an extensive review of the literature pertaining to this operation, but it may be said that in Germany it has won for itself a permanent place in the field of obstetric operations. Munro-Kerr, of Scotland, has reported three cases thus operated upon and says the operation is not attended with difficulty, the stitching being the most difficult part. He considers the operation requires some surgical experience, and is consequently not suited for ordinary general practice. Yet several successful cases have been reported by general practitioners both in England and America.

Webster and Bacon have reported a number of cases operated upon in America. Bacon in reporting favourably of the operation draws attention to the following advantages it possesses: The peritoneal cavity is not opened, thus the dangers of peritoneal contamination are avoided, as well as the disadvantages of peritoneal adhesions. There is much less hæmorrhage than from abdominal Cæsarean section, as the site of the placenta is not infringed upon. The scar in the uterus is probably in a less dangerous location than in the case of abdominal Cæsarean section. The scar and consequent weakening of the abdominal wall is avoided, and in general the consent of the patient to such an operation is more readily obtained than for abdominal Cæsarean section.

Halbertsma first suggested the use of abdominal Cæsarean section in eclampsia, and since then the operation has been frequently performed in such cases.

Pollak, of Vienna, has recently published a comparison of the comparative results of abdominal Cæsarean section and dilation by means of the Bossi dilator. He has collected 82 cases of abdominal Cæsarean section performed for eclampsia, with 48 maternal deaths and 33 foetal deaths. In 71 cases delivered by dilatation by means of the Bossi instrument, the maternal mortality was 12 and the foetal 10. Hammerschlag reports 21 cases of vaginal Cæsarean section collected from literature. Nine mothers died, six of eclampsia, two of sepsis, and one of pneumonia. The foetal mortality is not given.

It thus seems that the more conservative method by Bossi dilation gives, on the whole, better results than either abdominal or vaginal Cæsarean section.

Hammerschlag of Königsberg, has well summed up the present treatment of eclampsia in a recent paper and I cannot do better than quote his conclusions which give full expression to my own opinion:

He distinguishes between light, moderate and severe cases, according

to the number and frequency of the convulsions, the coma, and especially, the quality of the pulse.

In light cases we must depend upon stimulating the excretory functions of the body by hot packs, subcutaneous salines, and the use of narcotics in full doses, especially morphia and possibly chloral; then awaiting the spontaneous onset of labour, deliver the woman as easily as possible.

In moderate cases labour may be induced by Krause's method or by means of hydrostatic dilators, and delivery accomplished by version or forceps.

In severer cases, where the convulsions follow one another rapidly, and possibly after the first convulsion coma persists and the pulse rapidly fails, we must resort to, besides the above methods, *accouchement forcé* by means of the Bossi dilator in multiparæ, and, in cases where the cervix is particularly rigid in multiparæ, as well as in most primiparæ, vaginal Caesarean section.

#### Discussion.

DR. LAPHORN SMITH: Many of the facts mentioned in the paper this evening are, I presume, merely brought forward because they occur in the literature and not because the writer agrees with them. Some, however, I agree with heartily, especially the theory of spasm of the arterioles of the brain as the cause of convulsions. This theory I brought forward some years ago at this Society and I think Dr. Wesley Mills was the only member who seemed to think there was something in this, and I may say that my paper was noted in many of the German, French and English medical journals at that time. What interferes with the circulation in the kidneys of the mother? It is pressure on the renal veins which prevents blood from getting out of the kidneys. Why do I believe that this is the beginning of the trouble? Statistics prove beyond doubt that it is much more frequent in twin pregnancies where there is greater pressure on the renal veins, and also that it is much more frequent in primiparæ, where the abdominal wall is much more tense. I also believe that this is the cause, because as soon as the pressure is relieved, the kidneys begin to act immediately, or they will gradually resume their functions, and, as Dr. Evans says, one of the most certain ways of putting an end to the convulsions is to empty the uterus. For my part I do not believe in either the liver, thyroid or placenta theories, because we do not need to go further than the kidneys themselves for sufficient cause, for the whole trouble can be found there. A very important question for the practitioner is what to do when he has a threatened case of eclampsia? When a preg-

nant woman has her urine loaded with albumin, the kidneys are not working properly. It is ridiculous to say that the kidneys have nothing to do with the convulsions which are imminent. Dr. Decotret, director of the largest maternity hospital in Canada, has collected several hundred cases of albumuria of pregnancy, and in no case has eclampsia supervened when the albuminuria was recognized one month before delivery. Although the urine may be loaded with albumin, if the patient is put on a milk diet for a month before delivery, convulsions have not occurred. Acting on this suggestion, I treated a case I had sent me a few months ago in the same way, the albumin cleared up and she had no convulsions. In a case of convulsions I believe that a  $\frac{1}{2}$  grain of morphia hypodermically would be the best thing to give. Three cases which I reported each received first a  $\frac{1}{2}$  grain of morphine, then 10 minims of veratrum viride, and then an injection of a pint of salt solution, and neither of these cases had convulsions after this treatment was begun. Dr. Decotret employs this treatment in his cases of eclampsia and he has had no deaths in over 50 cases, with the exception of two or three who were comatose when brought in. The  $\frac{1}{2}$  grain of morphia will relax the tension to some extent, but the veratrum viride repeated every quarter hour until the pulse falls to forty is the best means of relieving the terrible vascular spasm and allowing the blood to get into the brain and kidneys. Some 30 members of the American Gynæcological Society are strongly in favour of its administration, some giving it until the pulse comes down to 40. Some objection has been made to the morphia on the ground that it dries up the secretion, but as the kidneys are not secreting at all this does not need to be taken into account. With regard to the emptying of the uterus immediately I was at one time in favour of this if the kidneys were likely to suffer permanent damage or ruin, but since I have seen the results of absolute milk diet before, and the morphine and veratrum if convulsions come on, I no longer feel that that is necessary. If the convulsions were not soon stopped, I would be in favour of delivering the woman as soon as possible. I am not in favour of using powerful instruments, and I may say that on speaking to several prominent doctors in Europe, I found that they were all of the opinion that the Bossi dilator was a dangerous instrument. Hydrostatic pressure was more natural and much safer.

DR. SHAW: In mentioning the various theories as to the cause of eclampsia, Dr. Evans omitted to mention one which appeals to me very strongly, I refer to Herz's theory, that the toxins circulating in the blood cause a functional paralysis at first of the liver, and secondarily of the kidney, and also in the spleen, which may account for the non-

appearance of pathological conditions in these organs after death, where death results soon after the eclamptic attack. At most, a condition of fatty degeneration is seen. McEwen, of Cornell, has gone so far as to state that he has never performed an autopsy in either a case of the toxæmia of pregnancy or the pernicious vomiting of pregnancy but he has found this fatty degeneration of the liver.

The following table is the result of several years' work upon the urine of pregnancy, done with the view of obtaining clinical data that would be useful in the early diagnosis of toxæmia:—

	Normal non-pregnant woman.	Healthy pregnant woman.	Pregnant doubtful cases in which albumin develops with nervous symptoms.
Quantity .....	1100 cc.	1350 cc.	655 cc.
Specific gravity .....	1021	1022	1022.8
Urea .....	20.5 grms.	18.08	12.38
Phosphoric acid .....	2.6	1.95	1.46
Total solids.....	53.7	71.2	34.51

Now, what conclusions are we to draw from these figures? If we consider the condition as an irritation of the liver and kidney causing a functional paralysis, we come to these clinical facts that the poison, whatever it is, whether urea, or a product of liver insufficiency, or some enzyme found in the placenta, starts up an irritation of the liver and secondarily in the kidney, and causes a functional paralysis of the organs and the first thing to be affected is the excretion of water. The water seems to be unable to pass and we have then a retardation of the usual excretion of water. That accumulates sometimes to an enormous extent. Next, we have the urea held back and acting as an irritant to the kidney, and the phosphoric acid also to a small extent is held back. The enormous quantity of total solids that are retained shows that here we have a leading cause. These are not able to get into solution on account of the small quantity of water passing through. Is it right when we have a kidney functionally unable to excrete water, to add more water? This is where the mistake is made in some of these early cases. One of my cases shows this very nicely. I examined the urine about the beginning of September and found the total quantity to be, 769 c.c., the specific gravity 1030, the urea 16.14 gm, and the total solids 53.75 gm. The percentage of urea was fairly high, but the total quantity was somewhat diminished but not markedly. On the 23rd of that month I again examined the urine and found, quan-



tity 799 c.c., sp. gr. 1030, urea 17.58 gm. total solids 55.85 gm, and a slight trace of albumin. The patient was confined that evening and six hours afterwards developed convulsions. An examination immediately after gave—quantity 533 c.c., sp. gr. 1020, urea 8.52 gram., total solids 24.83 gram, and .1 per cent. of albumin. Here a month previously there was no albumin, but there was a remarkable falling off of water and the total solids and this was the time to treat the patient for eclampsia.

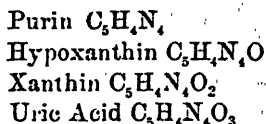
As to treatment, first the hyperæmia present should be relieved by encouraging the patient to refrain from drinking freely and to administer a good dose of salts on rising—these patients not being ill enough to stay in bed—followed later by the use of acid tartrate of potash, which has a marked influence in throwing off water into the intestine. Acid tartrate of potash requires to be followed by a purgative such is the compound jalap powder or some drug of that kind. Cream of tartar also acts directly on the kidney. Other drugs that are safe and which may be used as soon as the kidney has commenced to excrete more freely, are caffeine citrate, which tones up the circulation and acts directly upon the kidney, without producing any inflammatory action; it is related chemically with urea and uric acid. With regard to the exclusive milk diet, it has been pointed out by Von Noorden that a patient requires about three litres of milk a day, and as there is in this a large quantity of proteid, it is better to modify it somewhat by adding cream and carbohydrates. It has been proved that a patient on modified milk is able to live on less amount of proteid than one on ordinary milk. With soups and some of our cereals like oatmeal, flour, etc., some butter and fruits, we have a mixed diet which is better for our patient than a milk diet alone. Phosphoric acid is not difficult to get rid of, as by adding a little carbonate of lime to the food it will combine with the acid and most of it goes by way of the bowel.

In a recent dissertation, by W. Louis Chapman, on Auto-intoxication, he says in regard to urea and uric acid.

“The pendulum of opinion as to the toxicity of urea and the part it plays in the causation of uremia has swung from one extreme in which it was thought that it did not participate in any material way in its production, to the other, in which it was considered as the sole cause of uremia. Bouchard has claimed that it has but little toxic action, but the more exhaustive results of Herter have shown that it is a very important toxin factor, symptoms of uremia invariably following whenever the percentage of urea in the blood of animals exceeds 4 or 5 per cent., death resulting when it reaches 6 per cent.; or 1 per cent. of the body weight.

“Uric acid  $C_5H_4N_4O_3$  Haig has proved that its retention in the system is attended by a great variety of morbid symptoms.

“The purin bodies are the antecedents of uric acid, as shown by their chemical symbols, are much more poisonous, and their toxicity “decreases with their oxidation.”

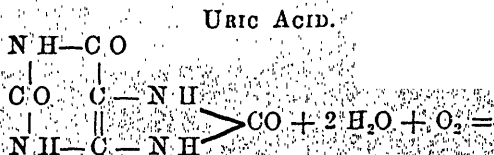


In the fœtus the place of urea is taken in part by allantoin. The toxicity of this body has not, I believe, been determined. During the past year I have been doing some work on this substance, but am not prepared yet to report my results.

Allantoin is found in allantoic fluid, more especially in the calf, but also in fœtal and amniotic fluid; it occurs also in the urine of many animals for a short period after their birth. Traces of it are sometimes detected in the excretion at a later date.

It is obtained in the urine after the internal administration of uric acid. Allantoin is very readily converted into urea, as is shown by the following chemical formulæ:

Uric acid, when oxidized with potassium permanganate (care being taken that the temperature does not rise) takes up water and oxygen, forming allantoin and carbonic acid.



further oxidation results in the formation of Urea and Allanturic Acid.



I feel than until the toxicity of allantoin is determined this substance must be considered as a possible cause of the toxæmia of pregnancy.

DR. REDDY: Dr. Clifton Edgar in his last edition shows, in my

opinion conclusively, that the liver is to blame for the vast proportion of cases, and, as far as my experience has gone, I absolutely agree with him, and I believe this to be so from the clinical condition and the treatment of it. Bouffe St. Blaise, one of Bouchard's students, shows the striking similarity between insufficiency of liver action and this special condition which arises in pregnancy.

Hertz advances the theory of paralysis of the function of the liver, which may possibly play a part in this condition. Dr. Edgar quotes Dr. Ewing, of Cornell, who has been making a special study of this subject for the last seven years. He regards necrosis of the hepatic cell as inseparable from the acute toxæmia of pregnancy and gives the following degrees; necrosis limited to individual isolated cells throughout the lobule, or involving the zone of cells between the central vein and periphery, or the lobule involved except a slight peripheric rim of cells.

Every one, I think, looks upon the kidney as being only of secondary importance. On looking over the last hundred cases at the Women's Hospital, I found that there were undoubted signs of toxic poisoning in 92 per cent.—that is, there was a serious diminution of uræa, 300 grains or less. If I have 400 grains of uræa or over I do not mind, as the toxin, whatever it may be, is apparently excreted in direct proportion to the uræa, as shown by Bouchard. Out of these hundred women there were only eleven in which there was from a trace to a fair quantity of albumin. I agree with the view that convulsions should not occur in a case under one's care, where, as a rule, it is simply a question of proper management. I would also join in the hope that this subject will receive more attention in the future than it does at present, and that every case which any medical man undertakes will be examined carefully, and if such abnormalities are found, be treated for them. In the last thousand cases admitted into the hospital, we had twelve cases of eclampsia, one case was brought in after labour, and one case had been in the hospital for three days before confinement. This last case was not examined by the House Surgeon, and the patient developed convulsions and died. I blame this neglect for the result, and I have no doubt that had a careful examination been made in this case we could have saved the woman's life. In only one of the twelve cases was marked dyspnoea noticed, which is supposed to point more to true uræmia. That there are cases in which nothing can be done is undoubtedly true, but in the average case, where only limited liver areas are affected, they should as a rule be saved. We know that toxins are produced gradually and have a cumulative action. If there be any signs in the first pregnancy, and should there be other children,

my experience has been that it is likely each time to be more serious, and if neglected may end in convulsions. The kidney condition is, as a rule, nothing more than a kidney which has a certain amount of fatty change, with more work thrown upon it than it is able to do, and, as a rule, it returns to its normal condition after labour. I do not believe that the kidney or its deranged function is, as a rule, the cause of convulsions. As to remedies I have found during the convulsion guaiacol of great service. As we all know the pulse and temperature rise considerably as a rule, and I find 20 drops of guaiacol rubbed on the abdomen, and repeated if necessary in half an hour, will, within a very few minutes make the pulse soft, or in other words, bleed the woman into her own veins—the temperature also comes down rapidly. *Veratrum viride* is an uncertain drug. As regards the operative treatment I agree with Dr. Edgar that, practically speaking, when you have a case of convulsions the child should be removed. Deep incisions of the os and cervix are recommended, but I have not personally used them. I have found the Bossi dilator a very excellent instrument in certain cases, it takes at least twenty-five minutes to dilate the os, and if care is not used it is apt to tear the os badly. In one case in which I used it I had a bad tear, but the instrument was not to blame, as I had dilated to the utmost capacity of the instrument without a tear, but there was a very large head, and it was impossible to deliver it without tearing. I certainly feel that the sooner the uterus is emptied the better. Only last week I had a patient who had nine convulsions before entering the hospital and six afterwards, but, as soon as she was delivered, the convulsions ceased.

DR. LAUTERMAN: I have had occasion to examine the available literature on eclampsia during the last year, and it may be interesting to note that in addition to the theories already referred to there is the view advanced by Müller and others, to the effect that eclampsia is a general intoxication derived from micro-organisms in the uterus. It is, however, with reference to a few facts that have occurred in my own experience that I wish more especially to speak. I have been unfortunate enough to have patients develop eclampsia in spite of the most rigid prophylactic measures—milk diet, skimmed milk, and later Von Noorden's modification with cream and vegetables, but have not fared any better until, acting on the suggestion of Oliphant Nicholson, who believes that the chief symptoms of eclampsia are due to what he defines as thyroid inadequacy, I administered iodo-thyrin with the result that in the two cases under observation at the time, there was a large increase in the amount of urea, with a total disappearance of

albumin, and both cases went to full term and a successful issue. Dr. Evans, in the course of his remarks, spoke of iodo-thyrin as a vasodilator, let me add that it is a great deal more, it is one of the most powerful stimulants to metabolism that we have, and one of my patients, a woman weighing nearly 300 lbs., has continued its use in order to reduce her weight, without any injurious effects.

DR. G. A. BROWN: What is the lowest percentage of urea that one would consider dangerous? Several cases with Bright's disease I have followed through pregnancy with the urea down to 150 grains in the 24 hours, and yet the case went on to full time and delivery; one case, indeed, yielding only 125 grains in the 24 hours, which caused the death of foetus, but no convulsions in the mother. This would further seem to prove that the kidney is not alone at fault.

DR. EVANS: With regard to prevention, I have come to the conclusion that it is not always possible to prevent eclampsia, no matter how careful you may be in your prophylactic treatment. Dr. Shaw's work is the kind which we want to throw light upon this subject,—a careful study of the urine and a careful record of cases, until enough evidence is accumulated to make the study of material benefit. Zangemeister's work extended over two and a half years and all the cases occurred in the Leipzig clinic. He examined the urine under all conditions of rest and exercise and diet, every two and a half hours, from every single case, and the facts accumulated were difficult of explanation. His main conclusions are that the kidneys are not to blame. He says he does not know what the disease is nor where the toxin arises, but offers the opinion from his statements that possibly after all eclampsia may be a neurosis. With regard to the Bossi instrument, it is a dangerous instrument in careless hands; the shoulder pieces have a rather disagreeable way of working loose; it is a difficult instrument to hold in place, and it has a great many objections; but, with a good deal of care, it will give good results in selected cases. Vaginal Cæsarean section will prove of value in particularly urgent cases; for example, in cases where the heart is rapidly failing, or where œdema of the lungs is developing. The operation is not difficult and its dangers can be avoided with attention to detail in carrying out Dührssen's technique.

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A PAGE OF HISTORY:

THE ORIGIN, EVOLUTION AND PRESENT CONDITION OF  
 THE PRACTICE OF MEDICINE IN CANADA.

BY

A. A. FOUCHER, M.D.

After preliminary remarks appropriate to the occasion, Dr. Foucher proceeded to describe the origin of the practice of medicine in Canada:

To retrace the origin of the medical profession in this country and follow its gradual development unto our own day, would be a useful undertaking; and this moment, above all, it appears to me, is one suitable for the task. This page of history, interesting though it appears from the far distance of our origin, I could not describe without having at my disposal, first, the documents, then the frame upon which to display them in proper order and place them in full view. To display those documents, which cover a period of 300 years, is a task requiring more time than I can devote to it, and even the frame of a discourse is too restricted for treating of such a vast question. I desire, however, to lift a corner of the veil that obscures the past. It will be but a bird's-eye-view of the ground covered up to the present day and of the means employed for arriving at the present point.

The physicians who came to this country at the beginning of the colonization brought from France a new medicine, which had issued

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President's address at the opening of the Second Congress of French-speaking Physicians of North America. Montreal, 28th June, 1904. [Translation]

from the clouds of mysticism. It was a positive medicine, derived from the observation of nature on the principle of authority on the experimental and logical method. It was really not till the 17th and 18th centuries that medicine was erected on a really scientific basis. It was the epoch of the great discovery of the circulation of the blood and of the lymph and of the phenomena of nutrition. Its history is sufficiently well known to us, and I need not recall the great names which are connected with it nor indicate the wonderful influence this discovery has had on those who have come after.

The physicians who brought these new ideas needed not a right to practice here or get a special commission to that effect. One of the first doctors mentioned in our history is Bonnerme, who came with Champlain in 1608. Champlain says in his works (iii., 153): "I had six pairs of hand-cuffs made for the instigators of this mutiny (a conspiracy to kill Champlain) "and one of them was for Surgeon Bonnerme."

Later on is mentioned, as first physician at the Hotel Dieu in Quebec, one Robert Giflard, a nobleman, seigneur of Beauport, physician to the King and Counsellor to His Majesty at Quebec. Jean Madry is mentioned as a practising doctor of the Corporation of the Surgeon Barbers of Paris. His permit to practice in this country reads as follows:—"Commission of Master Barber Surgeon, issued in Paris, the second of April, 1658, by Frs. Barnouin, first surgeon to the King, in favour of Jean Madry, living in Quebec." (Edicts and Ordinances III., 12). He was given power, moreover, to name deputies in the profession, and he was sworn in as first alderman of Quebec the 10th of October, 1663. (Edicts and Ordinances II., 6-10).

That Jean Madry is therefore for us an authentic ancestor, though we cannot conclude from the fact that he came here invested with full powers in medicine that the surgeon barbers monopolized the practice. J. Baptiste de Mosny used to sign himself Lieutenant to the first barber surgeon to the King, but there is nothing to indicate that he was himself a surgeon barber. As to the other doctors mentioned in the history of the Hotel Dieu of Quebec, we have Timothée Roussel, Michael Sarrazin, Michel Berthier and others signing themselves doctors or master surgeons.

The surgeon barbers formed a class intermediate between the doctor and the surgeon. The great discoveries of the 17th and 18th centuries enlarged the horizon of the general practitioner, and now those second-class surgeons became again what they should have been at the beginning, simply nurses. The surgeons saw with pleasure the end of

that hybrid union that gave them such discredit in the eyes of the public. Some wits may say that atavism is the cause of surgeons still "shaving" nowadays—"mais glissons, n'appuyons pas." We can suppose that the privileges of the surgeon barbers were more extensive in this country than they were in France. The population was scattered over a large territory, and the doctors of that time were as busy in saving lives endangered by the neighbouring savage tribes as by sicknesses. The result of this created a very unattractive condition for those doctors well established in France, but in revenge a very favourable occasion arose for the surgeon barbers to create for themselves an honourable position here. We are allowed to suppose that the medical practices of the savages of the country exerted some influence upon our ancestors. The medicinal flora of New France was announced as a new panacea for numerous ills. Even the light of science in this 20th century has not sufficiently enlightened us as to the value of the primitive medicines, so our ancestors cannot be blamed for giving to them more importance than they deserved. Everything tends to prove that at the beginning of the 17th century there were few doctors in North America. We hear of Wootton in 1607, and Russel in 1608 in the United States, but they remained only for a short time, as it is recorded that John Smith, when he was wounded, had to go to England to be treated. In the same year we have seen that the surgeon whom Champlain brought with him, if we believe the rumour, did not begin by very conservative efforts in surgery, as he was suspected of having conspired to kill the founder of Quebec.

Later on, mention is made of Lamontaigne in 1637, and of John Clark from Boston in 1638. However, there must have been a certain number of doctors in Quebec in 1639, as the Duchess d'Auguillon, niece of Cardinal Richelieu, founded in that year the Hotel Dieu of Quebec, to treat indigent patients, the crippled and idiots. That was the first hospital instituted in North America. Later on, in 1643, to answer the same purpose, Mademoiselle Mance founded the Hotel Dieu of Montreal. We read, however, in the history of that institution that its foundress dislocated her shoulder in falling on the ice, and that Surgeon Bouchard did not recognize the nature of the accident and did not succeed in remedying it, as Mademoiselle Mance went to France to be treated.

From 1660 to 1684 l'Abbé Souard, S.S., was authorized by the Pope to practice medicine in Ville-Marie, and he practiced surgery at the Hotel Dieu de Montreal. In 1675 there were two surgeons in attendance at the Hotel Dieu, namely, Gamelin and Gaillard, and the remark-



able fact here is that the salary received by them was superior to the salaries given nowadays, as those two surgeons received each year the sum of \$7.50.

The number of poor patients having become of considerable proportions, there was erected l'Hôpital Général de Quebec, to admit especially the old, the cripples, idiots and foundlings. In 1747 Madame D'Youville took hold of the Hotel Dieu de Montreal, founded for the same purpose by a Congregation of Brothers a few years before. There were at this period only four hospitals in North America—two in Quebec and two in Montreal; and in the United States we read in Burdett's "Hospitals and Asylums of the World" of only one in Pennsylvania, of which John Crosby was the first president, and Benjamin Franklin the first secretary in 1750.

Canada at that period was almost exclusively composed of French, though we see in D'Youville's history that his mother becoming a widow was married again, to the great discomfiture of her family, to an Irish doctor, a graduate of the University of Dublin, who changed his name later on to Sylvain. The flattering appreciation in which the Sisters of the Hotel Dieu of Montreal held that doctor makes us believe that he was connected with their establishment.

#### *Evolution.*

At the time of the accession of Canada to England in 1763, the medical profession became strongly Canadian. Of the 60,000 French who remained in the country there were at most 30 of them who were doctors. With the Conquest the French emigration stopped, which up to that time had brought us a contingent of French exiled from their country. They were nobles and ecclesiastics, and in the list of their names there was no mention of a doctor.

The doctors were then obliged to recruit among themselves and to transmit medical instruction to others and create a Canadian profession. The communications with Europe were then scarce, hard, long and expensive, and nowhere have we found any indication that a French-Canadian went to study medicine in France previous to the beginning of the 19th century. On the other hand, there was no school of medicine in existence in the country, and those privileged by fortune with the possession of money and a sufficiently good understanding of the English language went and studied in the United States.

The first medical school in that country was one established by John Morgan and William Shipman in Philadelphia in 1765, and was known

under the name of the Faculty of Medicine of the University of Pennsylvania. However, the University of Harvard is the oldest in the United States, existing since 1638, one year before the foundation of the Hôtel Dieu in Quebec. Medicine was taught there privately in 1647 by Gillis Firmin, and a medical faculty was organized in 1683. The first diploma of M.D. was given in New York in 1670 to S. Kissan and Robert Tucker, and it is only from that period that one can regard the serious medical teaching in North America. Our neighbours had taken the lead in forming the first University and the first school of medicine; they also led us in the matter of medical literature. John Foster, of Boston, wrote the first treatise of medicine in 1670. It is called "Measles and Scarlet Fever, Rules for Treatment, etc." There were three reprints and 20 bindings. The first regular publication of a journal of medicine dated from 1690, and was entitled "Grand Journal de la Pratique de la Médecine de la Chirurgie et de la Pharmacie, dans les Hôpitaux Militaire de France."

It was an American, William Brown, who came to Quebec in 1763 to begin the *Gazette de Quebec*, the first Canadian political paper. It was the third in age on the Continent. I say "political" to use the circumscribed term given to those publications, but that paper treated of everything except the politics of the country. The spirits then were easily inflamed, and to assure the necessary patronage and the financial success of such an enterprise, they had to respect the susceptibilities of everybody, so it was much better consequently to fill the columns with advertisements and the reproduction of articles from abroad, which the editor and manager did in a patois half-French and half-English which is well worth reading were it only for amusement. For a literary effort it was not encouraging. Medical literature could not appear to advantage at that moment, and the first regular medical publication began only at the beginning of the 19th century.

At the time of the foundation of the *Gazette de Quebec* the population was 90,000 French Canadians, an increase of half in 50 years. In 1784 it reached 128,000, and if we estimate a proportion of one doctor for 3,000 population, there were enough doctors to receive recognition, and in 1787 George III. made an ordinance exempting the doctors from service as constables in Quebec and Montreal. The following year he decreed that no one could practice the profession of doctor or surgeon in Quebec and Montreal without the permission of the Government or the Commander-in-Chief, and with a commission to the persons in charge to examine the applicants. That edict marks the first start made in the direction of a body to control professional interests. We

will see it reappear in 1847, under the name of the College des Physiciens of the Province of Quebec, with more extended privileges and powers.

In 1880 there were in the United States five schools of medicine, and at the time of the War of Independence there were 3,500 doctors in a population of 3,000,000. If we suppose the same proportion in Canada, with a population of 420,000, of which 335,000 were in Lower Canada, there must have been in 1811, 400 doctors at the most. No French doctor is mentioned; the last, Jacques Denechaud, of the Hotel Dieu, had died in 1800.

At the beginning of the 19th century we find doctors interesting themselves in the political and literary movements of the country. Dr. Jacques Labrie started *Le Courier de Quebec* in 1807, and formed a literary club in 1809. Already in 1806 Dr. François Blanchet is mentioned as one of the founders of *Le Canada*, and as early as 1800 he published researches "On the Application of Chemistry to Medicine." He was a member of Parliament, in which he played an important part, was surgeon of the militia of Quebec and doctor of the Emigrants' Hospital.

François Blanchet was born at St. Pierre de la Rivière du Sud. He took a course of studies in the Seminary of Quebec, and afterwards went to study medicine in New York. He was one of the first Canadian doctors to graduate in North America, and we owe to him an active co-operation in the foundation of the first medical journal started in Canada, *Le Journal de Medicine de Quebec*, founded in 1826. He was the directing spirit of these two important events, and also erected the basis of medical teaching in this country, in that he gave in Quebec private courses in chemistry—courses which were much sought after and much appreciated. He wrote a great deal in the *Journal de Medicine de Quebec*, and his writings are characterized by great originality. During the fever epidemic in Quebec in 1826, Dr. Blanchet expressed himself in the following terms, "Is typhoid fever contagious? In the actual condition of our knowledge it is hard to give a satisfactory reply; but the facts seem to authorize us to answer that the air of an apartment, the house, and even the whole street can be changed so as not to support life. But what are those exact changes? That has not been taught us, and remains to be known. The words 'miasmus, etc.' have no significance unless they express the changes brought about in the atmosphere by the breathing of animals and the decomposition of animal and vegetable substances." Further on he adds, "The doctors now agree that good air, abundant bleeding and sprays are the best

weapons to fight those fevers. If I were allowed to give an opinion, I would say that the spray does not only act on account of the cold it produces, but that water, a conductor of electricity, has moreover the effect of ridding the system of the accumulation of electric fluid that happens in fevers on account of the lack of perspiration. And if, as Sir Humphry Davy, Brezelius and his disciples suppose, fire, heat and electricity are one thing, my theory becomes probable." From these reflections it will be seen that he adopted Brand's method.

At that period great importance was given to the nature of the atmosphere, and this first journal contained in all its numbers a meteorological chart of Quebec and Montreal. Dr. Kennedy, in 1800, attributed to the use of over-heated stoves a great number of cases of consumption observed among Canadians at that period. The numerous diseases that devastated the country at that time induced Dr. E. Paschal Tache to publish "Studies on Hygiene and the Development of Physical Strength." These writings appeared towards 1821.

At this period there were in the country a greater number of surgeons than doctors, at least by denomination. The proportion is completely reversed nowadays. For example, I find in a subscription list in aid of the Emigrants Hospital 19 names of doctors, who had, with the exception of two, subscribed themselves as surgeons. It is evident that the title of surgeon had not at that epoch the significance we give it to-day; several of those surgeons even practised active medicine and were only surgeons occasionally. We must infer from this designation rather the fancy of the doctor of that period than the expression of an exclusive specialization. At that time we saw Surgeon Pinchaud, of the First Battalion of Incorporated Militia, Jacques Labrie, surgeon of the Second Battalion, just as we see now surgeons in our battalions who never practised any other surgery than that consisting of the opening of cutaneous abscesses.

In mentioning François Blanchet, we have designated him as a pioneer in medicine. The period that marked the maturity of his activity is worthy of attention for an instant. The *Medical Journal of Quebec* was started in 1826, and was, as we said before, the first medical publication in this country. It was printed and published by Xavier Tessier, and its motto was the following aphorism of Hippocrates: "Vita brevis, ars longa, occasio preceps, experientia fallax, judicium difficile." The profession now began to be numerous, but everything yet remained to be done to establish it on an honourable and scientific basis.

In studying separately with patrons the pupils of yesterday became

the doctors of to-morrow, and spread themselves everywhere according to the most pressing needs, hardly knowing any of their confrères, and having rarely the occasion to meet them. The time had come to keep the medical profession posted on the progress of science with the help of a publication, the time was propitious to start a medical society. The first Canadian Medical Society was started in Quebec in 1826.

Joseph Morin was the first President of this society, and François Tessier the first Secretary. In the Medical Journal of Quebec and in this new society was first opened up the question of professional interests, and great changes began to be made. Until then the hospitals of Quebec and Montreal were not used as a means of medical instruction. Drs. Caldwell, Robertson, Stephenson, Holmes and Loedel gave lessons in Montreal, and François Blanchet and Whitelaw taught in Quebec. The hospitals were closed to students, and were reproached with being rather a refuge for the poor and incurable than abodes for the sick. The selection of their doctors was arbitrary, and those favoured owed their nomination rather to their rank or their fortune than to their personal achievements. The foundation of the Emigrants Hospital, under the control of the Government, gave a hope of a new era, but all in vain. By a ministerial decree, the care of the sick was left open to all, each doctor treating his own patients. One can hardly conceive of such a state of things nowadays. As might have been expected, jealousies arose, and the quarrels that resulted from it forced the Government to take other measures. This time it appointed four doctors, selected from the oldest who were then in Quebec. These doctors, whose age rendered them incompetent, gave satisfaction to nobody, and the measure that appointed them to that position was subjected to very severe criticism.

The English General Hospital, founded in Montreal in 1819, had in its regulations the following decree (Art. 3, Chap. 3), "The position of doctor or surgeon will only be given to those having a diploma of a University or College within the limits of the British Empire." This measure made access to the hospital impossible for those who had acquired their medical education in the country. If on one hand it guaranteed to the hospital the aid of doctors who had followed regular courses, by that very fact it gave to those favoured by fortune positions that their personal merit might not have obtained for them. However, the first doctors of that institution played such an important part in the history of the country that it is only just to recognize that these remarks do not apply to them. In fact, we have seen that Drs. Caldwell, Robertson, Stevenson, Holmes and Loedel taught medicine private-

ly, and they were the first doctors in the English General Hospital, and it was they who later founded the first regular school of medicine.

The Honourable James McGill left an endowment to establish a University in a period of time limited after his death, in default of which his fortune was to go to his heirs, the DesRivières family. The time allowed for that foundation was perhaps overdue, but McGill University was created just the same, and the doctors above mentioned constituted themselves into a medical faculty, first known under the name of the Montreal Medical Institution, and later on as the medical faculty of McGill University.

The first course of lectures was opened in the winter of 1829-30. The city had then a population of 15,000, and there were two streets with well-built houses and near each other, St. Paul and Notre Dame Streets. All the rest of the city looked like the country, as the following notice of Dr. Arnoldi in the *Gazette* of Montreal will show:—  
“A cow and an ox have been for some time past at the subscriber’s farm; the owner is desired to prove property, pay the expenses and take them away.”

An advertisement of the same doctor, well known at that time, gives us an idea of the morality of the time: “Dr. Arnoldi requests the person who borrowed his brass pump and breast glasses some time ago to return them as soon as possible, as he has an urgent occasion for them and does not recall to whom he has loaned them.”

The foundation of McGill University was a remarkable event, as the medical profession would at last feel itself with really Canadian support. The success that has continuously favoured that institution is a matter of gratification for the whole of Canada. Those who mastered the English language were favoured without doubt. However, a great number of our countrymen found means to instruct themselves and prepare themselves to possess similar institutions. Some of our doctors had obtained degrees in the United States, among them Dr. Blanchet; others went to the expense of going to France and Edinburgh to study. We read in the October issue of the *Quebec Medical Journal* a thesis on Cancer of the Uterus, presented and discussed by the Faculty of Paris, May 10th, 1826, by Guillaume J. L. Vallee, of Montreal, Lower Canada. He was a bachelor of arts, surgeon and doctor of Canada, accoucheur and surgeon of the Edinburgh University. Dr. Laterrière was also a graduate of the University of Edinburgh, and after practising some time here established himself in England.

The friction which resulted from the conflicting interests of the two races does not seem to have disturbed the harmony that existed then

between the members of the profession. A farewell dinner was given to Dr. P. DeSalles Laterrière on the occasion of his departure for England is evident proof of this. The most prominent doctors of the two races were gathered there. Toasts were given to John Hunter and to the charitable institutions of Canada, the Countess Dalhousie; and English songs alternated with the popular songs of Old France. If we add to this fact that the Medical Journal was published in both languages, we have a still further proof that the relations between the doctors were of the greatest cordiality.

While those events were happening, the doctors of the two races worked with the same accord to promote the interests of the profession, and now began for the French-Canadians the greatest struggles mentioned in our history, for the conservation of the inheritance of the mother country, struggles which ended with the events of 1837, and resulted in the final recognition of responsible government and of the free use of our language, our religion and our laws. We owe to those events the privilege to gather nowadays as a congress of doctors speaking the French language. During that epoch for more than a century France was so disinterested in us as to leave us to be absorbed by the English race, therefore great was its surprise to learn one day, at the same time with a lesson in geography, a lesson in history that revealed that the snows of this country are not eternal, and above all that the 60,000 children that she had abandoned, poor and humble, had become a people of two millions, and that with continuous perseverance and activity they had preserved their language, their customs, their laws and defended with pride their rights to their civilization. Moreover, not satisfied with preserving in this country the character of those who discovered and colonized it, some of our ancestors went to the United States, and there are some cities in the United States where one hears French spoken just as in Montreal, where they keep with fervour the French tradition, and it is only just to mention that amongst those who worked most efficaciously for that patriotic enterprise were many French-Canadian doctors, who had joined our compatriots in their voluntary exile. In fact, the French-Canadian population who emigrated to the United States represented a whole people, and B. Sulte wrote, "When the wind scatters the ashes of our past, it spreads the seed of the people." France, in looking closely at us, was right in being astonished at our progress. That surprise, from which she has not recovered, accentuates itself year by year. Is it not surprising to see the providential protection which guarded our fate when we saw so many other people being fatally absorbed and anni-

hilated, and to be able to show ourselves to France, after 141 years of separation, in the flourishing condition we find ourselves to-day, taking an active and prominent part in the government of the country, and making our influence felt everywhere, and finally bringing to the general prosperity our portion of labour?

I might be reproached perhaps with abandoning the medical history of the country, as is it not the field of general history that interests us so much in these days of national holidays. If I have insisted upon that digression, it is to show the credit due to the doctors by the immediate events that happened in this country.

Foreigners who visit us do not see a great number of monuments erected in public places to our great men, and yet not far from here, in front of Place Viger, there is a bronze statue that perpetuates the memory of a doctor. In looking at Dr. Chenier in the attitude of a belligerent, a gun in one hand and with the other pointing to an invisible enemy, the idea does not come to us of giving to him the title of benefactor of humanity, and yet Chenier is the only doctor having a monument in this country. If he has not great medical discoveries to his credit, he owes the halo of glory to the sacrifice of his life, which he made for a gift more precious than health, a gift of right, of liberty. It was another compatriot, and this one a great surgeon, who undertook to erect that monument. I refer to the Honourable Dr. Marcil.

Let it be remembered that the end of the war in 1760 and the Treaty of Paris, signed in 1763, left the French-Canadians the creditors of Old France to an amount of forty millions of francs. As Garneau says, it was a thunder-clap to the Canadians when they learned that the paper money of the mother country was repudiated; indeed, the discontent, which was the natural result, was no doubt a great factor in their easy acceptance of the English domination, an acceptance more willing than one might have expected. Later, when LaFayette and Rochambault offered their services to the United States in the struggle for independence, the movement which would have had its natural effect—the turning of French sympathy towards Canada—even if it had been approved or solicited by England, would not have received encouragement from us, we should have remained attached to England in spite of herself.

It is easy to understand that the two important factors which prevented our compatriots from crossing to France for their medical education were, on the one hand, the deep poverty in which Old France left us, and on the other hand the natural discontent which resulted from it. But Time, that great master, finally calmed all feelings and



smoothed out resentments. By dint of work and perseverance, the material condition of the country gradually improved.

Whilst this period of epoch-making events was passing in France, the old *régime*, which had been so fatal to us in the reign of Louis XV., gave place to the Revolution, and it in its turn to Napoleon I. The awakening of France under the intense inspiration of the victories of the first empire gave rise also, in this country, to an awakening of patriotic enthusiasm. We forgot our ancient griefs against the mother country, we remembered our origin, and we claimed proudly to belong to the race of heroes which was dotting the map of Europe with victorious battle-fields. On the other side, the exactions which were laid upon us, and the struggle which we had to maintain in order to preserve our language and our laws were the cause of a sincere and enthusiastic return in sentiment towards the mother country. The defeat of Napoleon at Waterloo was doubtless a death-blow to the schemes of the United States with regard to the acquisition of Canada, and by the same token assured to England the peaceful possession of this country.

Once calm was restored, there were founded the University of McGill in Montreal, and at about the same time King's College in Toronto in 1827. This latter university assumed later the name of the University of Toronto. Then arose in succession the Victoria University of Coburg in 1836, started by the Methodists, and Queens University at Kingston in 1841, founded by the Presbyterians. The year 1843 saw the founding of the Montreal Medical-Chirurgical Society, which lived only two years. Sir William Hingston was present at its decease in the quality of President. At one of the meetings of its second year Dr. Godfrey maintained the thesis that typhoid fever was due to drinking water, and advised its purification by boiling. As one may see, the Society was even then doing good work. The Society was reorganized in 1870, and since then has enjoyed a continuous existence.

A school of medicine and surgery was founded in Montreal in 1842, and was affiliated to the Victoria University of Coburg, with the power of conferring the diplomas of this institution. It continued the teaching of medicine up to 1893, when it became amalgamated with Laval University of Montreal, of which it has remained an integral part. The School of Medicine in Quebec was founded in 1848, and was replaced later by Laval University. Trinity College, University of Toronto, was founded in 1851; then came Laval University in Quebec in 1852. The Canadian Medical Association, which meets every year in one of the principal cities in Canada, was founded in 1867. The

*Union Médicale du Canada* and the *Société Médicale de Montréal* were founded in 1882. Bishop's University, of Lennoxville, founded a Faculty of Medicine in Montreal in 1872, and finally in 1878 there was established the Laval Medical Faculty of Montreal.

The first medical journal founded in Quebec had a short existence, and there was no French medical journal existing when the *Union Médicale* was founded.

#### *Present Condition.*

The foundation of the French schools of medicine in this country brought far-reaching results. We were enabled to study the science in a language familiar to us, and to form bonds of union with the great French school and with the geniuses which have decorated it. Then was born a taste for more serious and deeper study, and a desire to cross the ocean and absorb at its very source the science of the great masters. The professors of the new schools were to a certain extent pupils of the Paris Faculty. From year to year the need of going to complete one's studies in France and England was felt more and more widely; one may easily count scores of those who have studied medicine in London; while among ourselves we are able to count at least 10 who are graduates of the Faculty of Paris. Our English confrères are able to say as much concerning their graduates who on their side have gone to England and Germany for the completion of their medical education.

What has been the influence of these scientific pilgrimages to the other side of the Atlantic? I do not hesitate to say that it has been immense. One by one these physicians, scholarly and cultivated, have become dispersed in our Faculties, in our cities and even in the country. They had acquired the taste for work, together with a confidence in themselves and in their art; and they have handed on to others the sacred fire. They have bent their energies towards modifying the curricula of our studies and the methods of teaching. They have founded new chairs; they have established laboratories, museums and libraries. In short, they have been the principal agents in the happy transformation which has been accomplished among us within the last 50 years. It is no more than just to recognize this fact in this public manner, and to give honour to whom honour is due. Nevertheless, we must not lose sight of the real origin of our teaching medical institutions and of their development. In so far as the French-Canadians are concerned, it is above all Old France which has given us the basis; it is the learning which our physicians have acquired there that has

been the cause of such marvellous development. And what we must all especially recognize is the liberal spirit in which this teaching has been given us in Old France. The zeal and self-sacrifice which we have everywhere met among French professors, these merit our praise. You will tell me that they certainly owed us all this; and, thinking of our history, I feel ready to agree with you. Yet Frenchmen of to-day might with full right invoke the law of prescription and claim forgiveness for a desertion which they condemn and regret, and, after all, took place without their consent and participation.

Our misfortunes will at least have had the effect of eliciting their sympathy; and for the last 30 years, during which they have renewed acquaintance with us, this sympathy has been manifested under all circumstances, in politics, in arts, science and letters. A few years ago the Faculty of Paris granted us, as an act of grace and in perpetuity, a copy of all the theses for the degree of Doctor given by that University. One official position, that of Interne in the St. Michael Hospital in Paris, has been by the help of Dr. Recamier granted to a deserving young Canadian physician willing to profit by this advantage. Finally, this last act of the Faculty of Paris in sending an official delegate to this convention indicated still further their kindly feelings toward us. We hope much in the future from these cordial relations, for although the obstacles in the road already passed have been in great measure smoothed out by their help, there still remains a long road to travel, a great deal of hard work to accomplish and many difficult hills to climb.

The guiding idea of our medical future consists in favouring the movement of our young graduates towards the great centres of teaching; to the one end of completing the knowledge which they have acquired here, of enlarging their view and of securing that the rising generation shall be more learned in their art than those which preceded it. Our medical future depends also upon the scientific relations which physicians as individuals shall establish among themselves; medical societies in all the important centres, a diffusion of work accomplished, a greater harmony in professional relations—such things will strengthen our faith in our profession and its noble destiny. A greater determination in the direction of co-operative work will strengthen the confraternity towards a realization of the idea of service—service both to science and to the race to which we are proud to belong.

I should be lacking in that courtesy which is owing to our English confrères if I did not render homage to the great value of the example

which they are constantly setting us in the maintenance of a high degree of medical culture.

Let me close by saying that if patriotism consists in the best service of one's country, that man will serve it best who, unbound to any school or to any idea which is narrow and mean, knows best how to seize his good where he finds it, no matter what flag may cover it, and who knows best how to spread it abroad in his turn, intelligently, and in such a way as that it shall come to its highest fulfilment.

## CARCINOMA OF THE GALL BLADDER.

BY

H. A. LAFLEUR, M. D., and B. D. GILLIES, M.D.

DR. GILLIES: This specimen was taken from a patient 61 years of age, who came to the hospital complaining of a mass in the right flank. At the autopsy, on opening the peritoneum, a mass presented immediately in the right flank, and attached to it was the ascending and part of the transverse colon. At this point it was not possible to say just where the growth sprang from. The cæcum, instead of lying at the brim of the pelvis, was drawn up immediately beneath the growth. The colon was readily dissected from the growth, and showed no infiltration whatever of the intestinal wall. On making a dissection of the duodenum the bile flowed readily through the common duct. On removing the liver and making an incision into the gall bladder it was found that the walls were extensively involved with a soft medullary or encephaloid growth; this involved all the walls of the gall bladder and extended into the liver tissue itself directly. On the convex upper surface of the liver a small mass was seen, which was also of the same nature as the tumour itself, and on section it broke down readily. In the gall duct, common duct, and gall bladder, numerous gall stones were found, about 45 in number, but in spite of this there was no jaundice. At the hilum of the liver a few enlarged glands were found, not much larger than a bean. On section most of these proved to be enlarged from simple inflammatory tissue, but one showed definite infiltration with spheroidal cells.

On microscopic section of the tumour it was found to be made up of cells which showed no definite structure except that they are united together with a slight alveolar tissue. Many of the cells are multinuclear and many are polymorphonuclear, showing that an inflammatory condition was present. The same forms of cells are seen in the growth directly in the liver tissue and in the metastatic growth. These spheroidal cells were also seen in the one gland already noted.

Carcinoma of the gall bladder is not a frequent occurrence, and some of the following facts might be interesting. It is said by some, with regard to the etiology, that heredity plays a part in 17 per cent. of the cases; this is denied by Schueppel, though numerous leaders of the English school show 11-17 per cent. of frequency. Compared with malignant disease in other parts, Leichtenstern collected 10,007 cases of malignant disease in only 6 per cent. of which was there carcinoma of the liver, and in this he included primary as well as secondary growths. In 100 cases in the Cancer Hospital, London, four were found to be primary carcinoma of the liver. With regard to the relative frequency, out of 258 cases of carcinoma of the liver at the Pathological Institute at Berlin only 25 were primary in the gall bladder itself, six primary in the liver, and two of these doubtful; only two were primary in the bile ducts themselves. In Virchow's Archives, 1902, is an article in which are collected all the cases known of bile duct carcinomata. There were only 41, and the most frequent site was on the papilla and at the junction between the cystic and hepatic ducts. With regard to the age it is found to be greater in gall bladder cases than in those where the liver is affected; in the former the average is about 60 years of age, whereas in primary carcinoma of the liver 40 years is the average. This case is interesting also as being a male, as women are more liable on account of their greater frequency to gall stones; some say four times more frequent, others three times. Cholelithiasis also seems to play an active role. Osler puts it as present in 87 per cent. of all the cases, and nearly 5 per cent. of all the cases of cholelithiasis showed cancer of gall bladder or ducts, though other statisticians have put it as high as 17-18 per cent. As to the nature of the tumour we frequently find it is the schirrous carcinoma which is the most common. There is also the encephaloid tumour, of which this seems to be an example; colloid degeneration may take place also in the tumour, and the other form is the epithelial. The histological appearances, according to Mayo Robson, may be of the cylindrical or mucous type and the spheroidal-celled type, of which this is an example, and the last is the squamous epithelial type.

DR. LAFLEUR: In this case there was no suspicion when I saw it that we had to deal with a carcinoma of the gall bladder. Malignant disease of the intestine was thought of as the patient passed blood by the bowel on two or three occasions, which could not be attributed to any condition about the anus or rectum. The points of interest in the history were the apparent rapidity with which this tumour grew and the short time during which the patient complained of being ill, also the fact that although he had gall stones in the cystic duct to an extraordinary extent, yet the history was absolutely negative on that point,

with no subjective symptoms of cholelithiasis—that is, from the history which we were able to obtain, there being no mention of any previous illness. He seems to have been perfectly well until about the first of August, when, he says, he thinks he strained himself lifting a heavy bale of cloth, after which he felt vague pains for some time, though it was not till the middle of August that he felt his strength failing. In the third week of August he noticed for the first time a lump in the right side of the abdomen low down. It was firm and somewhat tender to pressure. This grew gradually and became very tender. He never had any gastric symptoms, and when he first came to hospital there was no blood in the stools. There had been loss of flesh, which had extended over a year and he was much emaciated, anæmic, with flabby muscles and a distinct cancerous cachexia. There was slight elevation of temperature, slight enlargement of the right and left inguinal glands but no fixity. In the median line about midway between the umbilicus and the ensiform cartilage a small subcutaneous mass was noticed, described here as a gland. There was nothing special in the respiratory or cardio-vascular systems. There was poor appetite, and constipation, with pain and tenderness in the right side of the abdomen. The mass corresponded apparently to the first four inches of the descending colon. On palpation the mass was firm, skin not adherent, descending on inspiration and ascending on expiration. Colon tympany could be made out to the outer side of the mass. The mass gave the impression of being more moveable from side to side, and probably if a little more stress had been laid upon this the condition of the gall bladder might have been suspected, but the size of the tumour was much against this. I changed services on October 1st and, therefore, was not able to follow up the case, else I think the diagnosis would soon have become clear. On September 29th some dark streaks of blood were seen in the stools, and again on October 1st. On October 5th the patient refused his food; the cancer mass progressively enlarged, though there were no obstructive symptoms. The patient continued in this state for another week and died in a condition of profound asthenia.

### GLIOMA OF THE RETINA, AFFECTING BOTH EYES.

BY

GEORGE H. MATHEWSON, B.A., M.D., and J. J. ROSS, B.A., M.D.

The case which we are exhibiting this evening was brought to Dr. Ross early in September of this year, because of a peculiar yellowish white reflex which was observable in the pupil of the right eye; and it was referred to me for diagnosis on the fifth of that month.

The patient was a healthy girl two months' old, and was the first child of young and healthy parents. On looking at the child's face one was at once struck by the abnormal appearance of the right eye, for the pupil, instead of being black, had a peculiar yellowish-white colour, and on looking into the eye one could readily make out that this change in the pupil was due to a tumour which occupied about two-thirds of the temporal half of the eyeball. The tumour was yellowish-white in colour, and its surface, which was irregular in contour, was covered by a network of small bloodvessels. On three sides the tumour sloped gradually down to the level of the retina, but on the mesial side dropped perpendicularly, so that it was impossible to see the base of the tumour on this side, even when the pupil had been dilated by atropin. The left eye seemed normal on casual examination, but when it was turned to the temporal side a slight white reflex could be seen in the pupil. On careful ophthalmoscopic examination, it was found that there was a white tumour in the left eye, which was of small size, and (as in the right eye) was confined to the temporal half of the eyeball. It was about five millimeters high, and could be seen to encroach on the temporal border of the optic disc. This tumour resembled that in the right eye in every respect but size, being not more than one-fourth the size of the other. The pupils were of medium size, the right being slightly the larger.

There was little increase in tension. The mother stated that she had first noticed the peculiar reflex from the right pupil three weeks previously when the child was five weeks old, while she had discovered that at times the left pupil had a similar reflex only a day or two before coming to me.

With these facts to go on, a diagnosis of glioma of the retina—bilateral—and doubtless congenital was made and absolutely unfavourable prognosis was given. Operation was proposed but not insisted on, since the optic nerve was involved in both eyes, and the idea of removing both eyes in an infant seemed too horrible, even if the child's life could have been saved. The mother refused to have the operation performed.

A week later the tension in the right eye was distinctly raised (x1.). The interior chamber was shallow, and the pupil dilated. The left eye was not changed. Up till this time the child suffered no pain.

On October 17th, 1904, five weeks later, the condition was as follows: Right eye in a state of acute glaucoma, eyelids red and swollen, conjunctiva much swollen, and oedematous, cornea opaque and steamy-looking, with considerable pericorneal injection. The eyeball is very tender and painful. The mother states that this condition has been

present for the past three days. In the left eye the tension is decidedly raised, and the white reflex is more noticeable. The condition of the eyes to-night is the same as it was on October 17th.

Schöbl describes the glioma of the retina as "a malignant intra-ocular tumour found in infancy, which starts from the retina, and after a period of intra-ocular growth, leads, through increased pressure, to ectasia, piercing the eyeball with a constant tendency to local relapse, and metastases, until it finally kills the patient in from two to three years." While these tumours have doubtless occurred and been observed by physicians since the earliest dawn of medical knowledge, it is not until the nineteenth century that we find a description which can be positively identified as relating to glioma (Schöbl), and it was not until after 1853 that the work of Virchow, Kirschberg, and Von Graefe brought our knowledge of those interesting growths to any degree of completeness. Even up to the present time there is considerable controversy as to their nature and origin. Von Graefe, however, has proved by the Golgi-Cajal impregnation method of staining that gliomata are really composed of hyperplastic neuroglia cells, with a few ganglion cells and nerve fibres. A section of a glioma stained by ordinary methods is seen to consist of small round cells, with a very small amount of protoplasm and a correspondingly large nucleus. The cells have branching processes, and are cemented together by a scanty intercellular cement substance. Ganglion cells are not commonly met with.

Intra-ocular glioma always arises from the retina, and usually from the inner granular layer. Clinically, these growths present the following symptoms and course.

*1st Stage.*—A small white spot may be seen ophthalmoscopically in the retina.

*2nd Stage.*—A yellowish-white reflex is seen in the pupil, and by focal illumination this is seen to be due to a tumour in the depth of the eye. Tension is generally raised and the pupil dilated. (The left eye of our case illustrates this stage).

*3rd Stage.*—Tension is raised to such a degree that glaucoma ensues, the cornea becomes dull and steamy, the sclera and conjunctive are congested and the lids swollen. (The right eye of our case is in this 3rd stage).

*4th Stage.*—The tumour has grown to such a degree that it breaks through the eye-ball and keeps on growing extra-ocularly, extending either backward into the orbit or forward beyond the eyelids. Metastases may occur, or the tumour may invade neighbouring organs by direct extension, especially along the optic nerve.



The prognosis is extremely bad. Cases where operative interference is not carried out are, without exception, fatal, death as a rule occurring in from one to three years, either from exhaustion or from the invasion of vital organs.

Operation is of no avail unless undertaken early, and even in the most favourable cases, recurrence is very common. In 1886 only fifteen cases of permanent surgical cure were on record. Glioma is a disease of childhood, and may occur at any age, from foetal life to twelve years, the vast majority of cases occur before the age of five years. It is usually monocular, but many bilateral cases are on record. Congenital cases are usually bilateral, and seem to be due to some developmental defect.

As regards the frequency of occurrence, glioma is rare. Schöbl saw only 100 cases in 200,000 eye cases of all kinds, equal to one-twentieth of one per cent., and Arbt gives the same percentage.

## THE PROGRESS OF MEDICAL SCIENCE

BY

SIR JAMES GRANT, M.D., K.C.M.G.

*Gentlemen:*

Permit me to congratulate you on the arrival of a new session of the Medico-Chirurgical Society, and to wish you a long continuance of the vigour of youth, and the enjoyment of a liberal share of public patronage in discharge of the duties and responsibilities of our profession. The history of our profession has been too little taught, and the absence of a thorough knowledge of the thorny path of its advancement may have led to the want of due reverence to the work of the past.

How cheering and gratifying it must be to con over the labours of those who have built the very foundation of what is true and ennobling in our profession. How actually little we know of Hippocrates, Dioscorodius, Aretaeus or Galen, who mastered many of the great problems of life, and left an imperishable reputation. True, we know more of Vesalius, Morgagni, Ambrose Paré, Boerhaave and Scarpa, who lived near our time and surroundings. Their life history is an object lesson, and requires careful study and observation to gain even a moderate knowledge of their labours for the good of humanity. The illustrious names of Harvey, Sydenham, John Hunter, Simpson, Lister, Laennec, Bright, Graves, Addison and many others, brighten the paths of science even at the present day. We must not discard the work of the old medical masters as effete and of little service in this twentieth century.

Samuel Johnson carefully summed up his impressions: "If no use be made of the labours of the past ages, the world must remain always in the infancy of knowledge; if every man was to depend upon his own unassisted observation, every man would be marvellously ignorant, and the science of medicine stand still, or cease to be."

As Sir Dyce Duckworth has charmingly expressed it: "The present condition of our profession at home and throughout the Empire is better fitted to inspire hopefulness for the future than has ever been the case. The investigation now in progress with reference to cancer, the study of malaria, due to Manson and Major Ross; the School of Tropical Medicine, enlarging our knowledge as to a clearer conception of those grave diseases, which cut off by the hundred our brethren in distant parts; the introduction recently of trained nurses into the New York schools, to observe closely the initial causes of disease—such are fruitful lines of work, and according to a world-renowned authority, Sir Joshua Reynolds, 'those who were determined to excel must do their work, whether willing or unwilling, morning, noon and night, and they will find it no play but, on the contrary, very hard labour.'"

During the few months elapsed since the close of our last meeting, the scientific world has been truly active, and I will advert briefly to a few subjects of deep and abiding interest to our profession.

A national Association for the Study and Prevention of Tuberculosis was formed at Atlantic City in July, 1904, with Dr. Edward Trudeau, of Saranac Lake, as first President. The ovation given when Trudeau appeared on the platform surpassed anything the large audience had ever witnessed, which was a marked tribute, not only to the pioneer of the sanitarium treatment in America, but as well to the widely known qualities of Trudeau as a physician, scientist and humanitarian. This Association is thoroughly representative of the leaders of the medical profession, and there are evidences of a determination to make it of direct practical value, in legislation, in the education of the public, and in bringing about a co-ordination of philanthropic, medical and educational agencies, for the conquest of the great plague. This Association will doubtless be a source of pride and gratification to physicians, and, in fact, to all who take a sympathetic interest in the warfare against tuberculosis, and will prove a supreme council on all disputed points, as well as a scientific centre, for encouragement in all good work in the investigation of tuberculosis.

According to Dr. Knopf, the work of the past two years on this subject has far exceeded the work of the past five years. There are now in the United States 27 Associations for the prevention of tuberculosis. He advocates in the strongest terms possible a plea for a Ministry of Public Health at Washington, to be in constant touch with

all state and city boards of health, and with effective laws to combat tuberculosis, in man and beast, throughout the Union. To check this plague, we require the combined action of a wise Government, well-trained physicians, and an intelligent public. Such action accomplished would prove an object lesson to Canada.

*The Neurons.*—The neurone theory, with its protoplasmic processes, or dendrons, and the single axis-cylinder process, with its cone of origin, its collaterals or side branches, and its terminal arborisation, in fact, declares that our nervous system consists of innumerable such anatomically independent nervous units, in contiguity, but not in continuity. A recent discussion at Johns Hopkins Hospital on the surgical importance of the visceral crises in the erythema group (Bulletin July and August, p. 259) brought to light some interesting and instructive manifestations, closely allied to neurotic conditions of the system.

Dr. Osler called attention to the classification of colic:—*First:* Colic associated with intoxications, as in lead poisoning, uraemia, and less frequently with morphia. In the morphia habit, when it is gradually withdrawn, colic may be of a severe character. *Second:* A large class of cases of abdominal pain, associated with functional and organic disturbances of the nervous system. Hysteria is sometimes associated with pain, simulating peritonitis or appendicitis; abdominal pain, with disease of the lung or pleura, the initial stage simulating appendicitis. *Third:* A group of cases with cardiac conditions, referred to the epigastrium, and in angina pectoris the attacks of pain may be below the ensiform cartilage. *Fourth:* There is a large class of cases in which pain is due to lesion of abdominal organs. *Last:* Abdominal pain associated with pelvic diseases, a common form, and difficult to diagnose; also a striking class of cases in which the abdominal pain is of such importance that cases have been admitted to the surgical wards, and laparotomy performed for functional colic, due to angio-neurotic oedema, or puncture of the intestinal wall. Dr. Osler has grouped those cases as follows: *First,* those in which the colic occurs in connexion with a pure angio-neurotic oedema (Quinck's disease); *second,* those in which the skin lesion is simply an urticaria, and the pain supposed to be a colic, may really be part of a nervous affection.

A third class developed arthritis with erythema, purpura, and colic, defined by Henoch, and known by his names; *fourth,* there are cases in which the lesions are multiform erythema with or without oedema, associated with more or less redness and purpura; *last,* a remarkable group of cases with only recurring colic. The surgical and neurotic aspect of these conditions are worthy of serious consideration, in order to avoid a laparotomy, for a case of doubtful abdominal colic.

*Medical Inspection of School Children.*—The recent report of Dr. Kerr, of London, is well received in England by the Medical Department of the Educational Committee of the London County Council. He draws attention to the fact that, as an institution, the school doctor has been slowly taking root on the continent for many years. Within five years, in Germany, 676 school doctors have been appointed in 234 towns and districts, the regulations for medical examination of school children having been approved by the Minister of Education. In Switzerland, Austria and other European countries, much in this line of action has been accomplished. The London School Board appointed a medical officer in 1891 and the Bradford School Board in 1893, part of whose duties was regular school visitation, and to-day a number of larger towns have appointed medical officers.

On this important subject, in order to protect the lives of our school children, either the teachers should be required to pass an examination in medicine, or else the children should be safeguarded by medical supervision. In fact, it is false economy on the part of educational authorities to expect teachers to perform the duties of a qualified physician. The Boston system requires a local practitioner to attend the schools for an hour every morning, a marked advance in education. The Inter-departmental Committee, of England, on the model course of physical exercise, report that: "No form of educational organization can be considered to be complete, which does not make provision for the systematic reference of questions of school hygiene and the special treatment of individual scholars to medical experts.

*Congress of Arts and Science, St. Louis, September, 1904.*—At a meeting of the Arts and Science Department, the President, Dr. Jordan, placed in clear light the interdependence of the sanitary and medical sciences and engineering. In the cause of public health, the hygienist and physician cannot afford to ignore the powerful help of the sanitary engineer, who must also be an expert in sanitary laws and conditions.

*Alimentary Canal.*—The great problem of the present day rests largely in the alimentary canal, and its relationship to the nervous system. How vegetable tissue, such as cabbage, celery, turnips, beets, etc., are converted into blood, or supply the precise material for the formation of blood cells, is still an unsolved physiological enigma. The master minds of our profession have here ample scope for observation. Following in quick succession, the subject of auto-intoxication of intestinal origin crops up. It is in fact the epoch-making work of Professor Bouchard, to whom the credit is chiefly due, of fixing the attention of physicians on the importance of this process. Senator and Jaksch have also discussed it, and the prophylactic and antidotal treat-

ment recommended by Bouchard has been modified and in a great measure superseded. In the normal state the alimentary canal abounds in microbes. The supposition is that vegetable alkaloids are fabricated in the intestine, absorbed, circulated in the blood, and eliminated by the urine. Bouchard established this important fact by the discovery of ptomaines in the fæces. It is now recognized that intestinal digestion is a duplex function, carried out partly by microbial action and enzymic action. Enzymes transform starch into sugar, emulsify fats, convert albumins into peptones and crystalline bodies, and these functions are also carried out by the intestinal microbes, which in fact are the agents of the fermentations produced at the expense of the carbohydrates. In the normal state, the system actually defends itself against the various poisons continuously formed in the alimentary canal. The intestinal epithelium is one line of defence; a second the liver, which arrests and neutralizes the greater part of those which pass the first; the other eliminatory organs, kidneys, lungs and sweat, carry off injurious materials. Among the other defence organs, the strongholds of a healthy system, are the thymus, thyroid and suprarenal bodies.

The Huxley lecture by Sir William MacEwen (October 8th, 1904), brought to light exceedingly interesting and important facts, derived from a careful study of the cæcum, through defects in its walls, as in the case of the observations of Dr. Beaumont on the digestive process. According to MacEwen, cæcal secretion is intermittent, and regulated by reflex excitation, in the introduction of food into the stomach, and becomes active just before the discharge of the contents of the ileum through the ileo-cæcal valve. The cæcal surface is studded with Lieberkühns follicles, and more numerous than in the small intestine, and the succus entericus from these glands plays an important part in the digestive process. The cæcal secretion is under nervous control, reflex in character, and a like nervous mechanism extends to the ileo-cæcal valve, regulating the discharge of the contents of the ileum. Pawlow favours the idea of an acid reflex, in the flow of food through the pylorus, which controls the pyloric orifices and regulates the escape of the stomach contents too rapidly. It is supposed that a like reflex action regulates the ileo-cæcal valve. Cæcal movements begin in the appendix, and are likely transmitted from the superimposed small bowel. The succus entericus from the glands of the appendix is of assistance in cæcal digestion. In the final disintegration of food, the appendix exercises a remarkable influence on the presence of those micro-organisms, which, in the large bowel, also share in the digestive process; a function of the appendix is to maintain cultures of these organisms in a fit state to act upon the cæcal contents, and control their multiplication.

Appendicitis and typhilitis are closely connected with derangement of function in these parts, followed by a stasis in the caecal contents, and finally a disturbance of the micro-organismal fermentation, inducing structural change in the intestinal wall, a fruitful source of intestinal trouble.

*The Great Omentum.*—A conspicuous object for size and fattiness, its extremely atrophic condition, as an exception, is the great omentum. According to Albrecht, who discussed this subject recently before the Gynæcological Society of Munich, the omentum was not meant to keep the stomach in its proper position. In fact, there is no clear evidence that fat is the essential part of the omentum, or that the omentum is a regulator of temperature for the benefit of the viscera, nor that the omentum is a form of ligament to keep the transverse colon in place. Albrecht considers that in pathological conditions the omentum serves three protective purposes, fills hernial sacks (of doubtful advantage), absorbs fluid effusions in the peritoneum, and, by adhesions, limits inflammatory changes, and thus averts peritonitis.

*International Congress of Physiology, Brussels (August, 1904).*—A lively discussion took place on the auto-regeneration of peripheral nerves, which, according to Bethe, of Strasburg, when permanently cut off from their tropic centre do not remain permanently degenerated; in fact, they are regenerated and become functional. According to Bethe, it must be shown that these regenerated fibres are not connected with the central nervous system, either by physiological or anatomical evidence or both. Langly and Anderson are of the opinion that in nearly all cases after excision of a long piece of the sciatic or crural nerve, or after sewing the peripheral end into the skin, some connexion was established between the peripheral end, and the central nervous system. The nerve fibres found in the peripheral stump of a divided and regenerated nerve grow out from the central nervous system. The reliability of the autogenetic theory is still of doubtful character.

*Cerebellar Localization.*—No localization in the cortex cerebelli has been satisfactorily established. The cerebellar motor elements are really not in the cortex, but deeply in the organ itself. Pagano has come to the conclusion that there is a functional localization in the cerebellum.

*The Leishman-Donovan Body.*—The almost direct and rapid communication between the Dominion and India makes it almost a necessity to take a deep interest in tropical diseases. The Leishman-Donovan body is considered a new genus, belonging to the Sporozoa, and supposed to represent a stage in the life history of a flagellate organism, closely resembling a trypanosoma. It is found chiefly in

the spleen, in cases of chronic fever, and the disease is termed cachexial fever, usually with great enlargement of the spleen. The life history of this parasite outside the body, and how it enters the body, as problems, are still unsolved, the solution of which will clear the way, not only as to our knowledge of this systematic infection, of a septacæmic type, and as to the Leishman-Donovan body, which recently Leishman considered might represent a phase in the development of this flagellate.

I am glad to note the sound principle exemplified here this evening by young qualified medical men associating themselves in as cordial a manner possible with the older practitioners in this Ottawa district, by attending the meetings, joining the Society, and showing a desire to cultivate a spirit of unity, for the good of all concerned. In this city there must be but one Medical Society, to strengthen and intensify the character of scientific work, and the idea of isolation for the interest of the profession and the public should not exist in our midst. To all it would be a source of pride and satisfaction to have in the capital of Canada, the professional talent of which is of a high order, but one Society, and it could undoubtedly wield an influence for good.

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The Western Hospital has issued the following appeal, signed by the President:—

“We, the President and Committee of Management of the Western Hospital, desire to make an urgent appeal to the Governors of the Hospital, to its numerous friends and to the charitable public in general.

“During the past five years the work of the institution has greatly increased; while in 1898 the admissions were 294, in 1903 they reached 600; in the outdoor department the consultations rose in the same time from 2,169 to 7,560.

“This remarkable expansion of the medical work, together with the rise in wages and the higher cost of supplies generally, has necessarily called for an increased annual expenditure. We are able to state, however, that with careful management and the exercise of the most rigid economy *we have been enabled to meet current expenses.*

“But the institution is burdened with an old debt of \$10,000 nearly half of which is made up of outstanding accounts. This debt is not only a continual source of annoyance and discouragement to the Treasurer, but greatly embarrasses and hampers the work of the Executive. It has been decided to make an earnest effort to wipe out this indebtedness.

“May we not then with confidence ask you to come to our aid by forwarding a subscription for any amount you may be willing to contribute?

# Montreal Medical Journal.

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## THE STUDENT'S OBLIGATION.

The wealth of a University, like the wealth of a country consists in its youths. But that does not relieve the citizen from the duties of patriotism, nor the student from the obligations of affection and aid. A university is a charity—something provided for those who, in the meantime, cannot help themselves. In some cases the university is supplied by the state, and the obligation of the student is towards his fellow-taxpayers, many of whom are debarred from sharing in their own contributions, save in so far as the seat of learning affords for their contemplation living examples of urbanity during the summer holidays. But most universities are the product of private generosity. McGill owes almost nothing to the taxpayer and nearly everything to those few persons who were and are friendly to education. In the last annual report, which is at hand, the equipment is set down at \$2,137,680.



and the endowment at \$2,300,172. The expenditure for that year was \$327,986, and of this only \$79,373 was drawn from students' fees. There were 1,092 students registered, and by a slight exercise in arithmetic it will appear that each student cost the university a trifle over three hundred dollars, whilst he contributed less than seventy-three. The balance against the student is therefore two hundred and twenty-seven dollars each year, and, after the four years' course, each student is indebted to the university in an amount exceeding nine hundred dollars. But this is not all, for no account has been taken of the equipment, in which every student shares. At an estimate based upon five per cent. of its value, the equipment is worth a hundred thousand dollars a year. The share of each student in this is, therefore, equal to a hundred dollars a year, or four hundred dollars during his course, which brings the total amount expended upon each student, in excess of what he pays, up to the considerable sum of thirteen hundred dollars.

Has the student then no obligation in respect of this thirteen hundred dollars which someone has bestowed upon him? Is it sufficiently discharged if he abstains from damaging the furniture, and listens with toleration to the lectures which are provided for him? An apprentice in a machine shop renders ample service for the instruction which he has received. A student renders no such service to the university, and if he is content to snatch his trade and run, he is there under a false pretence.

It is the custom in some families who are in narrowed circumstances to set aside an initial amount for the education of the eldest child. This one replaces the amount out of his subsequent earnings for the benefit of the second, and the process is repeated until all have had a university training, and finally the money is returned to the parent stock. There is a hint in that to students possessed of a nice sense of honour. Most of the graduates are in circumstances which warrant them in discharging this financial obligation, and yet the number which does so is extremely small. At the time of the issue of the last annual report there were 4,366 graduates of McGill. We have shown that each student draws from the university thirteen hundred dollars in excess of what he pays in; therefore the indebtedness of the graduate body to-day amounts to nearly six millions of dollars.

It is not given to all graduates to do something tangible in return for the benefits which they have received. It is given to all to be something,—namely, loving and loyal. To many students the term *Alma mater* is nothing more than fitting words for the chorus of a sonorous song. It is with them not an affair of the heart. By an easy process of casuistry the financial obligation may be evaded, but

more remains. It rests upon every student and graduate, if he would not condemn himself, to show to the world that he has profited by his university training, to speak well for his university, to defend it in the presence of evil-speaking, to extend its usefulness and so fulfil the chief end which its founders and benefactors had in view. The university has many uses for more money. The benefactors would like to have some sign from students and graduates that their efforts are being appreciated. Therefore, we venture to call attention to the financial aspect of the case; and if we have insisted less strongly than we might upon the higher considerations of loyalty, affection and missionary effort, it is through dread lest students with the acumen of their race might think that we were engaged in the painful operation of writing a tract.

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### THE PUBLIC HEALTH.

It is time to stop the parrot repetition that nothing is being done for the public health of Montreal. We have had frequent occasion to call attention to the enlightened activity of the Health Committee under Dr. Dagenais in its crusade against disorder, and it is not necessary to rehearse the regulations which they have made, nor to commend again the spirit in which they are being carried out. A new by-law has been enacted in the words: "No person shall spit upon the floor of any railway car, street car or other public conveyance, or upon the floor of any theatre, public building, church, opera house, music hall or hall used for public meetings; railway or steamboat stations or waiting rooms or other public hall, building, room or place, or upon any platform surrounding, in front of, or in the immediate vicinity of any such place; or upon any sidewalk or covered way, within the limits of the city of Montreal."

It would be foolish to suppose that this enactment will instantly inhibit the activity of the salivary glands, but it will have a hortative and educational value. The practice of spitting in the street-cars has entirely disappeared, and no one appears to be much inconvenienced by the prohibition. The secretion of saliva is undoubtedly a natural function, but it is not an inalienable right of the individual to void his secretions in public places. It is also a function which is notoriously wayward and this new prohibition will give it a salutary check.

The Health Committee might now get into communication with the police, and provide the constables with some better means of wiling away the tedium of their occupation than by centering their attention upon their own salivary glands. If these officers were imbued with

the spirit of this by-law, the disgusting and dangerous practice of spitting on the pavements could be stopped in one week.

Another excellent provision is that which covers the exposure of food in public places. Some of the best known grocers are the worst offenders in this respect. The by-law reads: "It shall be unlawful for grocers or other persons to expose for sale outside of their stores, bread or flour or any other food articles liable to be contaminated by exposure to the open air; the same shall be kept inside the stores, in proper receptacles, closely covered, and according to the directions of the said inspector or inspectors." This regulation is not conceived in any spirit of over-refinement or of scientific meddlesomeness. The infection of food by contaminated dust is one of the most prolific causes of disease, as Professor Starkey abundantly demonstrated. Persons who refuse to believe in the existence of things which they cannot see may doubt the dangers from micro-organisms. They cannot be blind to the uncleanly practices of the dog. The driver of the bread-waggon has also come in for the attention which he deserves. The Recorder decided in a recent specific case, and enforced his opinion with a fine, that a bread-waggon may not be used as a dog-kennel. At last we have seen the end of the primitive practice of conveying bread in open waggons exposed to every chance contagion of the streets.

### THE ASSOCIATES IN ARTS.

A new controversy has arisen over the control of the examination for the Associate in Arts. Originally the examinations were conducted jointly by McGill and Bishop's College, but of late years the examining power has been held by McGill alone. This is considered by Bishop's College to be a hardship. The proposal now is to transfer the examining power to the Protestant Council of Public Instruction, and to that Dean Moyses makes the obvious reply, that McGill has always reserved the right to require a sufficient examination before admitting any student as an undergraduate.

This statement of Dean Moyses is one which is not open to question, and a similar reply would be equally true if it came from Principal Whitney. One result of the increased assessment levied this year for educational purposes has been to direct public attention to the management of the schools. Though the schools are designated as Protestant, the public mind is resolute that they shall not be employed for furthering the interests of any faith or of any university. The universities are in a sense private institutions; the schools are not. It is open to the School Commissioners to conduct their own final examinations and award diplomas of competence. It is open to the universities to accept

those diplomas as sufficient evidence of qualification to matriculate or to refuse them as they see fit. The one thing which the public will not tolerate is any interference with the independence of the schools. The question which the Commissioners should address to themselves is: Why do so many parents seek private tuition for their children rather than send them to the public schools? The effect of it is to create a gulf between the various elements in the community. The next effect will be that those who derive no direct value from the schools will insist that they be made more efficient for primary instruction, with less attention to the higher subjects. The business of the community is to provide primary education and to see to it that every child obtains its share. It cares nothing that pupils should be educated up to university standards, or that they should enter the universities at all. These controversies between the universities are private matters, and should be dealt with privately.

The present condition of affairs falls with peculiar hardship upon medical men. They contribute more for education, in proportion to their means, than any other class in the community because they are compelled by the exigencies of their profession to inhabit houses whose rental bears a higher proportion to income. Being men of education themselves they desire the best for their children, and that best they do not find in the public schools. That is why we object to the schools becoming involved in outside interests.

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By the death of Dr. Duncan Campbell MacCallum on the 13th November, 1904, a well known figure has been removed from the medical profession in Montreal, and from McGill Medical Faculty, one of the few remaining members who were associated with its early days. Dr. MacCallum was born at Isle aux Noix, November 12th, 1825. He pursued his medical studies at McGill University and graduated M.D. in 1850. He continued them in London, Edinburgh and Dublin, and was admitted M.R.C.S., Eng., 1851. Returning to Canada, he entered on the practice of his profession in Montreal and was appointed demonstrator of anatomy in McGill University in 1854. From that time until 1883 he was connected with the university, occupying various positions in the Faculty of Medicine. In August, 1856, he was preferred to the chair of clinical surgery. In November, 1860, he was transferred to the chair of clinical medicine and medical jurisprudence, and in April, 1868, received the appointment of professor of midwifery and diseases of women and children, which position he held until his resignation, in 1883, on which occasion the governors of the university appointed him professor emeritus. He was elected visiting physician to

the Montreal General Hospital, February, 1856. He discharged the duties of that position until 1877, when he resigned, and was placed on the consulting staff. From 1868 till 1883 he had charge of the university lying-in hospital.

Dr. MacCallum was a man who loved to go quietly. He maintained the best traditions of the good physician and was the trusted counsellor in many families up to the time of his death.

Dr. Osler was the first to apply the statistical method to the elucidation of problems in clinical medicine. M. Bertillon had previously employed it in criminology, and Tait McKenzie has since made use of exact measurements as the foundation of his art. Dr. Osler has taken his measuring apparatus into a new field for the investigation of the larger matter of Immortality. Dr. Osler's results are not entirely conclusive, and he has left the matter "in a state of some obscurity," as Samuel Johnson also was obliged to do when a revelation which he was about to make up the subject was interrupted by the arrival of an untimely visitor.

As a result of representations made to the Ontario Government by the Medical Faculty and the Board of Trustees of the Provincial University, an important scheme of hospital improvement will be carried out in Toronto. The Government, with some conditions as to sites for the new buildings required, has provisionally promised \$100,000. This, with the donation of \$100,000 by Mr. Cawthra Mulock for improving the facilities for clinical teaching, promises well for hospital work in connexion with the new school.

The Medical Health Officer, in his recent report, shows that out of 90 cases of smallpox in Montreal last year, not one person suffered from the disease who had been vaccinated during the last five years. Two years ago, when the officials visited the schools over a thousand scholars refused to attend school because they had to submit to vaccination, but this year they have not had one refusal. In addition to this, the Department has now the co-operation of all classes in the community in enforcing vaccination.

### Reviews and Notices of Books.

SURGICAL TREATMENT OF BRIGHT'S DISEASE. By George M. Edebohls, M.A., M.D., LL.D. Published by Frank F. Lisiecki, New York, 1904.

The surgical treatment of Bright's disease is of comparatively recent date; its discovery was accidental, for it was found that in performing

the operation of nephrorraphy, kidneys which were inflamed became healthy when interfered with by stripping the capsule; at any rate albumin and casts disappeared from the urine. The same result has been achieved by many surgeons who have explored kidneys for supposed stone and found nothing; yet, after operation, blood, albumin and casts ceased to be found in the urine. Reginald Harrison, of London, was the first to distinctly declare that lessening of the kidney tension by incision or puncture was a beneficial proceeding in some forms of albuminuria. The question as to the kind of cases which are benefited by operation is not altogether settled yet, the general trend of opinion, however, being that when the disease is confined to one kidney and hence local, benefit accrues, but when general, or the kidney disease is part of a general systemic affection, then operation is useless.

Dr. Edebohls, whose persistent and earnest efforts to bring this subject before the profession, are so well known, has published a book on the Surgical Treatment of Bright's Disease, in which he gives the histories of seventy-two cases operated on for chronic Bright's disease, with seventeen complete cures. Seven deaths were attributed directly to the operation, and nine cases which were at "death's door" before operation lived some time after in comparative comfort, though not cured. Thirteen received no benefit from the operation. In forty-two cases there was great amelioration of the symptoms, though of these a number subsequently died. Some of the detailed cases have been followed for years.

The showing is a good one, though the cases are reported rather briefly and the diagnosis of chronic Bright's disease often asserted rather than proved. In many cases only one kidney was affected, and in others the disease was not of the severe type and had lasted many years. Rosenstein, who has had some experience in Edebohls' operation, states that the cases cured by Edebohls were not true cases of Bright's disease, but rather inflammatory processes due to abnormal mobility of the kidney.

The author's conclusions drawn from the reports is interesting in view of the decided difference of opinion regarding operation amongst the profession. He says: "The evidence submitted, in the author's opinion, not alone justifies the surgical treatment of chronic Bright's disease, but establishes surgery as at present the main, if not the only, hope of sufferers from a hitherto incurable malady."

As to the reason why benefit should result from operation there is no consensus of opinion. Some believe it is due to lessening the tension, others that a new capsule becomes more vascular, others again that the handling of the kidney causes increased stimulation and circulation.

Jabourlay attributes the good effects to vaso-motor influences produced by irritation of sympathetic fibres entering the hilus of the kidney.

Dr. Edebohls is convinced that whatever the cause, operation usually benefits, and every one suffering from chronic Bright's disease should have an opportunity of cure by operation.

The book is rather disappointing, because nearly one-half is taken up by reprints of articles written by the author for various medical journals. Much space is also devoted to a controversy as to who must have the credit for first having performed this operation. The rest of the book is occupied by the histories of the seventy-two cases operated upon. A much smaller book would have made better reading and would have been a much more effective weapon in convincing sceptics who will not wade through repetitions in the many articles written for various publications, domestic and foreign.

We, however, congratulate Dr. Edebohls on the results he has obtained, and the care with which he has followed up his cases, and we trust that his good results may be amply confirmed in the future by other operators.

#### A MANUAL OF EXPERIMENTAL PHYSIOLOGY FOR STUDENTS OF MEDICINE.

By WINFIELD S. HALL, PH.D., M.D. (Leipzig), Professor of Physiology, Northwestern University Medical School. 240 pages, with 89 illustrations and a coloured plate. Lea Brothers & Co., Philadelphia and New York. Price, \$2.75.

There is, perhaps, no subject in the medical curriculum, in the teaching of which there is more diversity in different universities than practical physiology. Some of the less advanced schools settle the question by giving no course at all. Others go to the opposite extreme, and give the students more than they can digest and assimilate. It is consequently very difficult to write a text-book that can be used to advantage at any school except that for which it is written. The book under review has, perhaps, come nearer the mark than any we have yet seen. The author's view seems to be a broad one, the experiments are well chosen and the preference is given to those having a more or less direct bearing on medical practice. The first chapter deals very well with cell physiology and describes how a number of one-celled organisms may be studied to advantage. In the succeeding chapters most of the usual experiments on muscle and nerve, circulation, respiration, blood, digestion, vision, central nervous system, and animal mechanics are presented with considerable completeness. Among the best chapters is that on the blood, which, after some introductory remarks, proceeds to describe methods of counting the red and white blood corpuscles,

how to centrifugalize the blood and determine the relative volume of corpuscles and plasma, estimation of hæmoglobin by five or six different methods, methods of examining fresh blood staining and classification of leucocytes and staining of bone marrow. Another chapter, equally complete, is that on vision.

There are, of necessity, certain subjects omitted which some teachers might deem worthy of a place. Among such may be mentioned the contraction of unstriped muscle, the action of varying temperatures within the frog's heart, the law of contraction in muscles within the body, the chemistry of blood coagulation, the spectroscopic examination of pigments and the chemistry of urine. In the absence of any perfectly complete book on the subject however, we can heartily recommend this to students who are pursuing a course in practical physiology and feel the need of a good book on the subject. We can also recommend it to teachers, who will find in it many valuable suggestions. A course modelled on this book would give a very sound and sufficient training in the subject and would be an excellent preparation for the future work of the medical student and physician.

W. S. M.

A PRACTICAL TREATISE ON GENITO-URINARY AND VENEREAL DISEASES AND SYPHILIS. By ROBERT W. TAYLOR, A.M., M.D., Clinical Professor of Genito-Urinary Diseases at the College of Physicians and Surgeons (Columbia University), New York: Consulting Genito-Urinary Surgeon to Bellevue Hospital and to City (Charity) Hospital, New York. Third edition, thoroughly revised. Pp. 757, with 163 illustrations and 39 plates in colours and monochrome. Philadelphia and New York, Lea Brothers & Co., 1904.

That Dr. Taylor is the leading authority upon the subjects which he has made his special study is acknowledged by the profession, and it is gratifying to see a third edition of his book following so closely upon the second one. The text has been fully revised, and new sections necessary to bring the work up to date have been added. The number of illustrations has been increased by twenty-five, and there are twelve new plates in colours and monochrome. The various genito-urinary affections have received full consideration in a terse and clear manner. The description of gonorrhœa and its treatment is excellent, and the remarks upon the fallacies and dangers in some of the views nowadays advanced in the therapeutics of the disease are forcible and timely. He does not encourage medical men, particularly the younger ones, to be always on the lookout for some gonorrhœal specific, for he considers that when properly used nitrate of silver is the ideal agent in the treat-



ment of gonorrhœa in all its stages, and places but little reliance upon the hundred and one agents that have been exploited to revolutionize the treatment of the disease. In the chapter on prostatic hypertrophy he clearly enunciates the indications for operative interference and describes fully the various procedures, but he considers that the selection of the appropriate operation in a given case rests with the surgeon, who must be guided by his own experience and judgment. Catherization of the ureters may be performed only by one who is competent to do such work, but the latest procedure for collecting the urine separately from the two ureters by Dr. Cathelin's "diviseur vésical gradue" is described. No mention is made of Dr. Luy's instrument, designed for the same purpose. Syphilis, which takes up about one-third of the book, is treated in a manner that leaves nothing to be desired.

This new edition will prove a satisfactory and trustworthy guide, and is recommended without hesitation, to all those who are interested in these subjects.

K. C.

"IN THE YEAR 1800." By SAMUEL WALTER KELLEY, M.D. The Doctors' Recreation Series, Vol. III. The Saalfield Publishing Co., Akron, Ohio; Chicago; New York.

"In the Year 1800" is the title annexed to this relation of the events which occurred in the life of Dr. Jonathan Brush during that year. In the judgment of the writer of this paragraph, this narrative will in time be looked upon as one of the most important works of fiction written by an American author. The book is of peculiar interest to physicians, but, by reason of its quality it is entitled to rank as literature apart from its professional value. We do not remember to have seen before this the name of the author, Samuel Walter Kelley, in connexion with fiction-writing; but we shall be much mistaken if we do not hear of it again. Most of the recent novels are alike. They are written in a niggardly spirit, as if the author were afraid of running over his hundred thousand words, and in continual danger of losing his reader's attention. Dr. Kelley does not care. He tells his story in his own way, and is no more afraid of being tedious than Sterne or Fielding were. The story of the janitor's sick child is precisely in the vein of "Uncle Toby." The trouble with the young novel-writers is that they have seen nothing, have no experience, and have nothing to say—but they say it well. Dr. Kelley has an enormous range of knowledge, and has given, amongst other things, a wonderful picture of medical practice in 1800. It is more than a book; it is a thing of life. Dr. Kelley will be remembered as the editor of the *Cleveland Medical Gazette*, a position he held for fifteen years, and abandoned only

four years ago. Dr. Kelley has practiced medicine in Cleveland since 1884, and served through the Spanish-American war as Brigade-Surgeon, and emerged with the rank of Major. Dr. Kelley now confines himself to Diseases of Children and is Professor of that subject in the Cleveland College of Physicians and Surgeons.

**BLOOD PRESSURE AS AFFECTING HEART, BRAIN, KIDNEYS AND GENERAL CIRCULATION.** By LOUIS FANGOES BISHOP, A.M., M.D., Physician to the Lincoln Hospital, New York, etc. E. B. Treat & Company, New York.

This little book of 112 pages gives the pleasurable feeling that it is based on the author's own clinical experience. If he has used any elaborate apparatus in the collection of his facts he keeps it in the background. We do not imply anything but praise of the book when we describe it as philosophical and suggestive rather than technical and exact. It savours of the consulting room more than of the laboratory. The author describes the arterial system as a reservoir in which the blood is stored up at a suitable pressure and discusses three departures from the normal; primary low tension, high tension and secondary low tension. While not disregarding drugs, he emphasizes the importance in suitable cases of rest in bed, open air exercise, warm saline baths and hypernutrition. In considering high tension cases he discusses carefully the various causes at work and directs treatment at these rather than at the symptom itself. In the last two chapters in which he discusses "general considerations" and "the estimation of blood pressure and the use of the nitrites for its modification," we feel that he is less happy than in the earlier part of the book. On the whole one may say that the first seven chapters constitute very profitable reading, and after perusing them the reader feels too kindly disposed towards the author to be unduly critical of the weaker chapters at the end.

W. S. M.

**INTERNATIONAL CLINICS, Vol. III., Fourteenth Series, 1904.** J. B. Lippincott Company, Philadelphia; Chas. D. Roberts, 1524 Ontario Street, Montreal. Price \$2.00.

Three fresh articles are, Syphilis and Suicide, by Alfred Fournier; Rest-Cure in the Treatment of Chronic Constipation, by Ismar Boas, and Scurvy, by Andrew Duncan. There are, in addition, eleven clinics on Syphilis. The treatment of the digestive disturbances occurring in pulmonary tuberculosis is considered by Lawrason; to the treatment of Diabetes Mellitus T. Stuart Hart, has naturally added nothing new. The departments of Medicine, Surgery, Gynæcology and Neurology are, as is usual in this work full and good.

**RÖNTGEN RAY DIAGNOSIS AND THERAPY.** By CARL BECK, M.D., Professor of Surgery in the New York Post-Graduate Medical School and Hospital; Visiting Surgeon to St. Mark's Hospital and the German Poliklinik. With 322 illustrations in the text. New York and London, D. Appleton & Co., 1904.

The author has produced a book which is in all respects a good and clear exposition of the subjects as known at the present time. Section I. of five chapters is devoted to the apparatus, Röntgen technique, fluoroscopy, skiagraphy, and examination of the patient; full description of the apparatus and the best methods of performing the different examinations, and methods of using the different pieces of apparatus are clearly expounded so that one with but slight knowledge of electricity and electrical apparatus can work the apparatus satisfactorily after a little practice. Section II., of twelve chapters, from chap. vi. to chap. xvii. are devoted to "regional" work (clinical); chap. vi., Head; vii., Neck; viii., Chest; ix., Abdomen; x., Pelvis and lower extremity; xi., Shoulder and upper extremity; xii., Malformations; xiii., Diseases of bones and joints; xiv., Neoplasms; xv., The Utilization of Röntgen Rays in Fractures; xvi., The operative treatment of deformed Fractures as indicated by the Röntgen rays; xvii., The medico-legal aspect of the Röntgen Rays.

Section III.: Effects of the Röntgen Rays; Röntgen Therapy: Special indications; Becquerel Rays and Radium; Finsen Method and ultra Violet rays; Bibliography; Index. Making a volume of 460 pages.

This book is profusely illustrated. The illustrations are well done, of well selected and illustrative case in all the different branches of the subject. The book, as will be seen by reference to the sections and subjects of the chapters, goes into the X-Rays in all departments very systematically. Beginning with the apparatus for producing X-Rays and making use of them for the production of skiagraphs showing the nature of bone deformities, or traumatic lesions, or foreign bodies, or diseased boney tissues, and the descriptions of the apparatus and process of using it are such that an amateur on the subject can go to work almost without further instruction. In a book in which all sections are so well treated it is difficult to make a selection, but, perhaps, the section on the Medico-Legal position of X-Rays is most interesting. The book can be recommended to all who wish to have an up-to-date exponent of the Diagnosis and Therapy as exemplified by the X-Ray. There is only one fault to find with the book; that is, its weight is heavy and very fatiguing to hold, but this is due to the amount of filling in the paper to obtain the surface for the engraving work, which is very beautifully done.

**PRACTICAL DIETETICS.** By ALIDA FRANCES PATTEE. Second Edition. Published by the Author, 52 West 39th Street, New York.

This is a cook-book—and a good one—with some reasoning and medical observations thrown in for garnishing. If nurses would give more attention to the subject matter of it, they would be more profitably employed than in the study of much which is considered proper in a training school. Cooking at all events they can understand, and this book affords some delectable reading.

**QUIZ-COMPENDS.** P. Blakiston's Son & Co., Philadelphia. Medical Latin, by W. T. St. Clair, A.M. Price, \$1.00.

We do not remember to have seen a book like this. It is an indication of the return to Latin in the best educational systems, now that the teaching of pseudo-science has had its day. It is of value and interest—more so than many books upon medical subjects which are issued.

**SAUNDERS' QUESTION COMPENDS.** Essentials of Nervous Diseases and Insanity, by John C. Shaw, M.D.; Essentials of Materia Medica and Therapeutics, by Henry Morris, M.D.; Essentials of Bacteriology, by M. V. Ball, M.D.; Essentials of Anatomy, by Charles B. Nancrede, M.D.

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## Medical News.

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### HEALTH REPORT OF MONTREAL.

The annual report of the Medical Health Officer of Montreal for the year 1903 has been issued. Taking the population of Montreal as given in the fourth census returns of Canada, completed at the end of April, 1901, by the Federal Government, namely, 267,730 inhabitants, and calculating the probable increase of population up to the middle of the year 1903, the total mortality for this period is 24.30 per thousand. By excluding foundlings, whose parentage did not originate in Montreal, the rate is reduced to 20.21 per thousand.

The mean annual death rate for the past eighteen years, leaving out that for 1885, the year in which the great smallpox epidemic prevailed, was 24.27 per thousand of the population; while the rate for 1901 was 23.25, and that for 1902, 22.58 per thousand. The rate for 1903 was, therefore, 4.56 less than the mean rate for the preceding eighteen years.

Of all diseases consumption was the most fatal with 633 deaths. Under 6 months of age, the mortality formed 27.24 per cent. of the total; from 6 months to 1 year, 10.43 per cent.; from 1 to 2 years,

7.73 per cent.; from 2 to 5 years, 4.97 per cent.; making a total percentage under 5 years of 52.48 per cent. The mortality under 5 years of age was 249 in January, 224 in February, 277 in March, 293 in April, 301 in May, 487 in June, 536 in July, 349 in August, 238 in September, 246 in October, 200 in November and 248 in December.

The mean birth rate of the 16 past years, without distinction as to nationality, was 39.10 per thousand of the population.

The French Canadian birth rate was 49.95 per thousand, that of other Catholics, 25.95, and of Protestants, 24.96 per thousand for the past 16 years.

The total birth rate for 1903 was 36.0 per thousand. The rate for that year among French Canadians was 43.64 per thousand; other Catholics, 30.69, and Protestants, 20.52. The excess of births over deaths was 3,375, distributed as follows: French Canadians, 2,541; other Catholics, 337, and Protestants, 507.

The birth rate in 1903 was 36.0 per thousand, or 3.02 per thousand less than the average for the preceding sixteen years, and yet it is the highest rate since 1896; it is 0.43 per thousand higher than in 1902, and 3.54 per thousand higher than in 1901.

The marriage rate for 1903 was 10.16 per thousand of the population, giving an increase of 1.18 over the mean rate for the preceding sixteen years, or an increase of 0.94 per thousand over the rate in 1902, and 2.01 over that for 1901.

The marriage rate among the French Canadians for 1903 was 10.75 per thousand of the population, or 0.79 per thousand more than the mean rate for the preceding fifteen years, or 1.04 per thousand more than in 1902, and 1.28 per thousand more than in 1901.

Among other Catholics, the rate for 1903 was 7.35 per thousand, or 1.29 per thousand more than the mean rate for the preceding fifteen years; or 0.06 and 1.50 per thousand more than in 1902 and 1901 respectively.

Among Protestants the marriage rate in 1903 was 10.36 per thousand, or 1.39 per thousand more than the mean rate for the preceding fifteen years; or 1.21 per thousand more than in 1902, or 1.32 more than in 1901.

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#### DISTRICT OF ST. FRANCIS MEDICAL ASSOCIATION.

The regular meeting of the District of St. Francis Medical Association was held in Sherbrooke, on Wednesday, November 9th. The officers for the year are: President, Dr. F. J. Austin, Sherbrooke; Vice-President, Dr. S. A. Banfill, East Angus; Secretary-Treasurer, Dr. E.

J. Williams, Sherbrooke; Council, Dr. J. O. Camirand, Dr. L. C. Bachand, Dr. R. A. D. King, Compton.

Several cases in practice of special interest were reported. Dr. M. Mackay, Windsor Mills, reported a case of strangulated hernia in a patient 70 years of age. The patient was in a condition of collapse at the time, and an immediate operation was done at the time with good results. Some eight days after the operation a suppurative otitis media set in and still persists. The question of the relationship of this condition to that of hernia was discussed.

Dr. J. O. Camirand reported a case of total blindness following the drinking of wood alcohol. Reference was made to the report recently made by Dr. Buller on this class of cases.

Dr. E. J. Williams, Sherbrooke, reported a case of ruptured gall bladder, resulting from the ulceration of a stone lodged in that organ, which afterwards passed into the cystic duct. The symptoms at the time of operation were those of a typical case of appendicitis. The abdomen was filled with about two pints of bile-stained fluid. The appendix was found to be intensely congested and bound down to the lateral wall of the pelvis. After the removal of the appendix, the incision was extended up to the ninth rib over the gall bladder, the adhesions broken down and the gall bladder separated from the mass, incised, the stone removed from the cystic duct, the gall bladder closed, and then attached to the abdominal wall. The abdominal wound was partially closed, gauze drainage being used at the upper and lower limits of the incision. Dr. Williams also reported a case of faecal fistula occurring in a patient seven weeks after an operation which he had performed for pyosalpinx.

Two interesting papers were presented to the meeting by Dr. L. C. Bachand, Sherbrooke, on Diseases of the Frontal Sinuses; and by Dr. W. A. Farwell, Sherbrooke, on Mastoid Disease. Interesting specimens were exhibited in connexion with both papers.

#### THE WESTERN (GENERAL) HOSPITAL.

Report for the month ending October 31st, 1904—Indoor: 47 patients admitted, 20 medical, 21 surgical, 7 gynæcological. Outdoor: 559 consultations, 209 medical, 53 surgical, 104 gynæcological, 67 eye and ear, 55 nose and throat, 21 skin, 50 genito-urinary.

Dr. R. W. Bell, second assistant physician at the Asylum for the Insane, London, has been transferred to the position of medical inspector of the Provincial Board of Health. His position has been filled by the transfer of Dr. W. C. Herriman from Kingston; and Dr. McNaugh-

ton, of London, has been transferred to Kingston to succeed Dr. Herri-  
man. Dr. W. P. St. Charles, of the Mimico Asylum, has been ap-  
pointed to the position of relieving officer to the public institutions, and  
Dr. Geo. M. Biggs has been appointed assistant to the superintendent  
at Mimico. Dr. W. T. Wilson, third assistant physician at the Hamil-  
ton Asylum, has been transferred to London to succeed Dr. Mac-  
Naughton.

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The Hamilton Hospital has appealed to the Ontario Government for  
a grant of money towards the erection of the new wing, which is to  
cost \$50,000. The Governors based their claim for assistance on the  
ground that outside of the usual Government grant, which amounts to  
about \$2,000 yearly, Hamilton Hospital is maintained entirely by the  
taxes of the ratepayers, the appropriation always totalling over \$30,000,  
and this year amounting to \$37,000. The Premier pointed out that  
the succession duties brought to the Province about \$250,000 per an-  
num, to which the Government added \$850,000, and the \$1,250,000  
thus obtained went back to hospitals and other charitable institutions.  
Reference was made to a statement that the Government proposed a  
considerable grant to Toronto Hospital. In that instance, the proposed  
grant was entirely for medical educational purposes.

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The present number completes the thirty-third annual volume of the  
Montreal Medical Journal. It makes a volume of 902 pages, and con-  
tains 54 original communications, some of them of especial value. A  
limited number of bound volumes will be supplied at the subscription  
rate of three dollars.

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During the month of October, 265 patients were admitted to the  
wards of the Montreal General Hospital. Deaths numbered 15. In the  
out-door department there were 3,302 consultations, and the ambulance  
responded to 145 calls.

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The corner-stone of the Mackenzie wing of the Jeffrey Hale Hospital,  
Quebec, was laid on the 27th October.

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Dr. A. M. Campbell has been appointed Superintendent of the Win-  
nipeg General Hospital, in succession to Dr. Halpenny, who has taken  
up private practice.

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Dr. Thomas B. Allen, Trinity, '91, died in Toronto, on the 24th  
October, in the 32nd year of his age.

# Retrospect of Current Literature.

## SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

W. SCOTT SCHLEY, M.D. "Acute Tetanus Cured by Intraneural Injections of Antitoxin." *Medical Record*, October 15, 1904.

The case, a boy of five years, was admitted for treatment three days after onset of symptoms and ten days after accident. The symptoms were well marked. The anterior crural and sciatic nerves were exposed and three c.c. of serum injected into each nerve, care being taken to wound the nerve tissue in order to favour absorption. At the same time a lumbar puncture was done and three c.c. injected, an attempt being made to scratch the nerves of the cauda equina. Rogers' suggestion, a laminectomy, so as to ensure one safely to scratch the cord is deserving of attention. It was not done in this case, nor was the obturator nerve injected. These injections were followed by a subcutaneous one of ten c.c. The following day the convulsive seizures were more frequent and severe and the intraneural injection was repeated, followed during the course of the day by four subcutaneous injections, amounting to 50 c.c. The second day showed no improvement so both intraspinal and intraneural injections were given. The temperature began to drop on the third day, but patient required chloroform repeatedly. During the fourth day 60 c.c. was given subcutaneously. Intraneural injection was given on the fifth day, and from this on there was a progressive improvement. In all, nearly 180 c.c. was given. The value of intraspinal and intraneural injections over subcutaneous is well shown in the chart.

A. MARMADUKE SHEILD, M.B., B.C. Cantab. F.R.C.S. Eng. "A Case of Gigantic Renal Calculus," *Lancet*, Oct. 15, 1904.

This very interesting and unusual case illustrates the slightness of symptoms attending serious renal disease. Fourteen years previous to operation the patient had his first attack of renal colic, and though several attacks subsequently occurred, he continued his occupation of an omnibus conductor until a short time before admission. At that time the temperature was 101 F., pulse 104, and filling the left flank and loin was a large, rounded, firm swelling, very tender, not moving on respiration. The urine was acid and contained no blood or albumin. The diagnosis was doubtful, but opinions inclined to a large malignant tumour with intrarenal hæmorrhage. At the operation, a large stone weighing 19 ounces was removed. The whole of the stone lay in the shell of renal tissue under the dome of the diaphragm and protected by the ribs.



The inferior part of the tumour, which alone could be felt, was composed of dilated renal calyces containing pus and urinous fluid. The entire kidney was removed. With reference to the best method of dealing with large or multiple calculi when the kidney is much disorganised, the writer believes the anterior incision is the best and states his reasons. The relative value of the X rays in association with clinical evidence is considered as being of great value when positive, but when negative not absolutely to be relied upon.

WILLY MEYER, M.D. "Osteoplastic Gastrotomy for Impermeable Cicatricial Stricture of the Œsophagus," *Medical News*, Oct. 29, 1904.

The operation was performed on a boy who, seven years ago, had swallowed caustic lye. In spite of immediate and continuous treatment an impermeable stricture resulted. Various attempts were made to gain entrance to the œsophagus from the stomach, but without success owing to obliteration of the cardiac orifice from scar tissue. An œsophageal lip-fistula had been previously performed to facilitate the finding of an entrance from above, and by means of a cystoscopic tube the upper entrance into the stricture was clearly seen. This spot was probably about one inch above the bifurcation of the trachea. As all attempts at dilatation failed an osteoplastic flap was raised. A U-shaped incision was made, the anterior limb beginning at the middle of the seventh left cartilage, the convexity just below the border of the ribs, and the posterior limb crossing the outer end of the tenth, ninth, eighth, and seventh cartilages. Although the operation was a failure as regards this case, the writer believes it has demonstrated the great help this osteoplastic raising of the lower part of the thorax will be when it becomes necessary to reach the ordinarily inaccessible organs situated in the convexity of the diaphragm.

F. GREGORY CONNELL, M.D. "The Treatment of Hæmatemesis by Gastro-Enterostomy," *Annals of Surgery*, Oct., 1904.

In a short article, the various views regarding the best method of treatment are given. On one extreme there is Moynihan who claims gastro-enterostomy will without doubt prevent recurrence of hæmorrhage. On the other hand such men as Robson, Moullin, Buck, Butlin and others deal directly with the ulcer. That gastro-enterostomy does not, without doubt, prevent recurrence of the hæmorrhage is proven by the case reported and by others collected from the literature. The writer concludes that gastro-enterostomy is indicated in hæmatemesis; first, after a thorough search has failed to reveal the source of the hæmorrhage; second, where the source of the bleeding is discovered,

but in such condition as to make direct treatment impracticable or impossible. He would discountenance the idea, which has become quite prevalent, that nothing is to be gained by searching for the bleeding point, as gastro-enterostomy is all that will be necessary to prevent recurrence of the hæmorrhage.

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### MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND  
W. F. HAMILTON.

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PROF. HOPPE SEYLER "On Chronic Changes in the Pancreas in Arterio-Sclerosis and their Relationship to Diabetes Mellitus," *Deut. Arch. Klin. Med., Bd. 81.*

In this article the author points out that diabetes in elderly people is usually associated with marked evidence of arterio-sclerosis. In a former number of this JOURNAL Opie's important observations on the relationship of the islets of Langerhans to diabetes mellitus was reviewed. This writer showed that diabetes resulted from disease of the pancreas provided these small groups of cells were affected, and that extensive disease of the pancreas might exist without diabetes when the islets were spared.

Hoppe Seyler has recorded a series of cases of which the general trend is to prove that arterio-sclerotic changes in the pancreas are a frequent cause of diabetes, and more particularly in those instances in which the islets are involved in the morbid process.

Diabetes in elderly individuals presents certain important differences from the malady in the young. It is usually milder, carbo-hydrates are better borne, and severe complications such as acidosis, acetonuria and coma appear less rapidly, nutrition is better maintained, and indeed there is often a tendency to obesity. On the other hand gangrene is more frequent, especially in the feet, and is due to arterial obstruction. As arterial degeneration precedes the development of the diabetic symptoms, the increase of sugar in the blood is not the cause of the vascular changes.

Nine cases of diabetes are recorded in detail in which the pancreas showed marked sclerosis and contraction of the vessels. In all of these the islets of Langerhans showed marked alteration in structure, such as connective tissue overgrowth, hyalin degeneration of the capillaries, destruction of epithelium, and even in occasional cases hæmorrhages. These changes are much more pronounced in the tail than the body of the organ, the islets being more numerous in this region.

Pancreatic disease secondary to morbid changes in the duct is seldom

attended by diabetes, and in these cases the islets are seldom affected owing partly to their position in the tail of the organ, at a distance from the duct.

As the pancreatic changes depend on a general arterio-sclerotic process, they are frequently associated with such lesions as sclerotic kidneys and arterio-sclerotic changes in the heart and coronary arteries.

The symptoms and course of this pancreatic diabetes present a gradually increasing intensity. At the onset there may be simply glycosuria, then diabetes and later coma. Cases which prove fatal from complications, in which the diabetic symptoms are mild, are accompanied by correspondingly slight changes in the pancreas. As interstitial nephritis is frequent, the amount of urine is often abundant and there is commonly albuminuria. Gangrene occurs oftener than in other forms of diabetes owing to the associated arterial disease leading to narrowing and occlusion of the vessels. The onset is usually insidious and seldom marked by the thirst and polyuria of the disease in earlier life. Other pancreatic symptoms are not prominent. Fatty stools are absent and digestive disturbances are not marked.

Further evidence of the relationship of arterio-sclerosis to pancreatic disease is seen in the frequency with which such individuals suffer from alimentary glycosuria. In a series of cases of arterio-sclerosis in temperate people 28.5 per cent. showed glycosuria after the administration of 100 grams of glucose. Under similar conditions 73 per cent. of intemperate individuals with arterio-sclerosis, and only 35 per cent. of intemperate people without arterio-sclerosis showed sugar in the urine.

The treatment of arterio-sclerotics with diabetes must be chiefly dietetic. Owing to the cachectic state accompanied by catarrhal and atrophic conditions of the alimentary canal, a strict meat diet cannot be carried out. Fat must be administered sparingly owing to the risk of inducing loss of appetite, constipation, or even diarrhoea. A light mixed diet including milk usually answers better than a rigorous anti-diabetic regimen.

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BEVERLY ROBINSON, M.D. "Some Unsettled and Important Problems in the Treatment of Acute Lobar Pneumonia," *Trans. Am. Climat. Soc.* 1904.

Most physicians agree that excesses, over fatigue, chill, bad air, etc., tend to the production of pneumonia. The pneumococcus is found in the mouth and throat of many healthy people, and one or more of the above conditions may render it virulent and active. An antiseptic mouth-wash is therefore advisable if there is reason to believe that pneumonia is imminent. When the first pronounced symptoms such as

chill or pain appear, the writer is a strong advocate of vaporising creasote. He is convinced, although unable to prove, that on several occasions he has thus warded off an attack of impending pneumonia. Although only a mild antiseptic locally, it is an anti-catarrhal remedy of the highest value. The sputa should be rigidly disinfected, and disinfection of the room and clothing should be carried out as in other cases of infectious disease. In poor people, hospital treatment is desirable if treatment can be instituted early. Later, on the third, fourth or fifth day it is often questionable whether removal is advisable, on account of the fatigue and exposure involved. No definite rule can be laid down on this point. In hospital the patient is best treated in a small room to avoid the noise and light of a large ward, and also to facilitate the use of the inhalations on which the writer lays such importance. So far as other patients are concerned, cases of pneumonia should be isolated, as a few are undoubtedly contagious.

The use of opiates is an important problem. At the onset they are occasionally required to alleviate pleuritic pain. Provided the kidneys are healthy there is no objection to its use at this time. Later in the disease it is safer to abstain from the use of the drug as it locks up the secretions and lowers the activity of the respiratory centres, and so prevents the proper oxygenation of the tissues. For delirium and insomnia, provided the kidneys are acting well, a small or moderate amount of morphine is permissible.

Robinson does not believe in the cold bath or pack or even cold applications. High temperatures *per se* are not injurious owing to the duration of the disease, and the nervous shock produced by the toxin is best combatted by warm or tepid spongings.

Quinine although less dangerous than the coal tar preparations should not be used in full doses, although it is of value for its tonic action in smaller doses. Ammonia is a remedy of considerable value in keeping the blood alkaline and fluid. Large doses of digitalis can never do good, and under its use the pulse often becomes tense and irregular. Strychnin is of great value, but the dose must not be pushed too high as it may then induce or aggravate delirium or insomnia. Coca of good quality is often invaluable, or in its absence black coffee.

Saline solution has been useful in some instances, by hypodermoclysis or by the rectum, after a moderate bleeding. The writer has, however, seen death result from an excessive quantity of saline, presumably by dilatation of the right heart. Oxygen to be of use should be given freely and not begun when the patient is nearly moribund. The paper concludes with some remarks on venesection, saline solutions and alcohol.

J. E. DUBÉ, M.D. "Acute Gonorrhœa followed by Endocarditis and Pericarditis, Nephritis and Death," *La Revue Médicale du Canada*, 2 November, 1904.

A young man, 24 years of age, became infected and applied for remedies at a chemist's shop. He obtained what was probably capsules of methelene-blue and medicated crayons. He promptly developed an acute cytitis and then sought medical advice. The urethral and vesical symptoms quickly yielded, but the patient showed signs of impairment of the heart accompanied by fever, rapid pulse and great enlargement and died within one month of the infection. The autopsy revealed a pericarditis with the sac adherent to the sternum, and endocarditis of the mitral valve. The organism in the vegetations and generally throughout the organs was a staphylococcus.

J. MADISON TAYLOR, M.D., Philadelphia. "Respiratory Education in the Treatment of Lung and Heart Disorders." *N.Y. Med. Jour. and Phila. Med. Journal*, October 8th, 1904.

This communication is offered as a plea for the wider use of educational development of the function of respiration, and is based upon experience in cases where other customary measures had signally failed. The material from which Dr. Taylor's inferences have been drawn consists in great part of neurasthenic patients exhibiting derangements of the respiratory and circulatory organs. Some of them showed advanced tuberculous disease of the lungs, many showed symptoms pointing toward phthisis, also evidences of old pneumonia, chronic bronchitis, pleural adhesions and atelectasis. Certain others displayed definite cardiac disease. In a large number there were various disorders of circulation, vasomotor ataxia, erythromelalgia, œdema, tachycardia, dyspnoea, exophthalmic goitre, evidences of advanced arteriosclerosis and senile myocardia. A great number of children have been studied.

Dr. Taylor makes a strong plea for physical exercise in all these cases, and gives details of the procedure to be followed.

"GASTRIC ULCER." *Medical News*, October 8th, 1904.

This number of the *Medical News* contains six articles upon Gastric Ulcer. Dr. Campbell Howard produces elaborate statistical tables from many clinics in many countries, and draws the following conclusions:—

1. Both clinically and pathologically gastric ulcer is less frequent in America than in London and on the Continent.
2. That both clinically and pathologically it is more common in

the north-eastern than in the more southern regions of America, with the exception of San Francisco.

Dr. Thomas B. Fuchter, of Johns Hopkins, describes the condition of the blood and urine in gastric ulcer. In 44 cases the red blood cells were 4,071,000 per c. mm. This is somewhat higher than the average of 51 cases which Cabot counted. They yielded 3,372,000. The count of leucocytes in 45 cases of Dr. Fuchter's series was made, and yielded on an average, in 263 observations, 7,500 per c. mm.

Certain alterations occurred in the urine, but they were not striking nor constant, and might be accidental and due to some other cause.

Dr. Harlow Brooks describes the pathological anatomy of gastric ulcer, conditions for the most part which have been long understood. Dr. Morris Manges enumerates the complications and sequelae, and Dr. Max Einhorn the symptomatology and course of the disease.

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## DERMATOLOGY.

UNDER THE CHARGE OF F. J. SHEPHERD AND G. GORDON CAMPBELL.

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### ANTISTAPHYLOCOCCIC AND ANTITUBERCULOUS VACCINES.

In the *British Journal of Dermatology* for August, 1904, there is a report of a demonstration given by Dr. A. E. Wright and Captain Douglas before the Dermatological Society of London on the employment of Antistaphylococcic and Antitubercular Vaccines. The method had been entirely successful in cases of acne, furunculosis and sycosis, but not so uniformly so in lupus and other tuberculous affections of the skin, the failures being apparently due to want of experience in dosage.

Dr. Wright introduced his subject by pointing out that in combatting a bacterial disease two methods were applicable, either the use of antiseptics or the production of protective substances in and elaborated by the organism itself. Up to the present the former has been the sole means employed, with a varying degree of success. The latter, while it has certain limitations, if it can, as the authors claim, induce the body to produce in itself the antiseptic agents and determine these to the particular site of the lesion, should prove much more effectual.

The method devised by Dr. Wright and Captain Douglas of increasing the protective substances in the blood is by the inoculation of vaccines—by a vaccine being understood “any substance that, on being inoculated into the body, will cause the generation of a protective substance.” The blood of an individual suffering from any disease (e.g., furunculosis)

has been shown to contain much less of this protective substance than that of a normal individual, and if by any means this substance can be increased, the disappearance of the disease will result.

The vaccine for staphylococcus infection is prepared by killing the organisms in a culture of staphylococci by subjecting it to a heat sufficient to destroy without chemically altering the bacteria. The strength of the culture is then determined by mixing a quantity of it with an equal volume of blood and counting the number of bacteria and red cells present in the mixture. The number of red cells being easily estimated, it is a simple matter to determine the number of bacteria per cubic centimetre of the culture, with a possible error of only ten per cent. The vaccine for tubercle used was Koch's new tuberculin, the precaution having first been taken of subjecting it to heat also, as living bacteria had occasionally been found in it. The immediate effect of inoculating a healthy person with the staphylococcus vaccine was found to be the production of more or less marked constitutional symptoms and a diminution in the amount of protective substance present in the blood, a condition termed by the authors "the negative phase." This, however, was followed in two or three days by an increase of considerable amount in the protective substance, an increase that could be maintained by repeating the inoculations at definite intervals. On the other hand, too frequent inoculations were found to be followed by a loss of all the protective substance already gained, and it is to this want of definite knowledge in regard to the intervals at which inoculations should be made and the quantity of vaccine that should be used that the authors attribute their failures. The protective substance produced in the blood has been named by Dr. Wright an "opsonin," and is present in the serum not in the leucocytes. It is surmised that it has the power of paralysing the bacteria and rendering them subject to phagocytosis.

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#### ACUTE INFECTIOUS PEMPHIGUS, AND FOOT AND MOUTH DISEASE.

JOHN T. BOWEN. "Acute Infectious Pemphigus in a Butcher during an Epizootic of Foot and Mouth Disease, with a consideration of the possible relationship of the two affections. *The Journal of Cutaneous Diseases*, June, 1904.

The following report of a case of so-called acute pemphigus by Bowen is of interest as furnishing evidence of the relationship between the bullous diseases of the lower animals and acute pemphigus in man. The case was that of a butcher who worked as a meat cutter at the time of

the epizootic of foot and mouth disease in Boston during the autumn and winter of 1902-3. The man wounded his hand while pursuing his occupation, and this resulted in a septic sore. At about the same time his nostrils became blocked by some affection, which caused swelling of the mucous membrane and crusting. Two weeks later a bullous eruption made its appearance over the whole body, and one week after this, at the time of his admission to hospital, the disease had all the characters of an acute pemphigus. There were rather severe constitutional symptoms, temperature ranging as high as 103°F., and a rapid pulse. Cultures made from the blebs showed the presence of numerous colonies of staphylococcus pyogenes aureus and streptococcus pyogenes. The case ran a favourable course, and the temperature had come down to normal eleven days after admission to the hospital.

Bowen has collected twenty similar cases, nine of which were in butchers and the remainder were traced to occupations bringing them into contact with animals or animal products.

Of peculiar interest in connection with the etiology of this case is the epidemic of a severe form of bullous dermatitis following vaccination which occurred in the spring of the same year. The disease made its appearance on an average five weeks after vaccination; and, of the ten cases reported by Howe, six were fatal. While the portions of the body most affected were the upper parts of the trunk and thighs, it was noted that in almost all the disease appeared also on the mucous membranes of the mouth and throat, and this localization suggested a relationship to the foot and mouth disease of animals, which is characterized by fever, and the presence of a bullous eruption on the mucous membranes, feet, teats and udders of the animal. In the reported cases of foot and mouth disease occurring in man which Bowen has collected, the disease closely resembles the acute pemphigus of butchers.

Another important link in the chain of evidence was furnished by Dr. Tyzzer, assistant pathologist at the Harvard Medical School, who undertook the study of vaccinia with reference to its pathology, and obtained virus for this purpose from a vaccine establishment. Several of the calves inoculated died with symptoms of foot and mouth disease, and older cattle in the same barn also suffered from the disease. In order to prove that the infection had been through the virus, some of it was used to inoculate calves at a specially-selected barn in another town, and they also developed the disease.

Bowen concludes that while it must be admitted that there is not sufficient evidence to prove that the virus of foot and mouth disease was concerned in the etiology of the case reported by him, there are



many interesting similarities about the two occurrences, and the possibility of a relationship is far from a remote one.

### A CASE OF DARIER'S DISEASE.

J. A. ORMEROD and J. M. H. MACLEOD. "On a Case of Darier's Disease." *The British Journal of Dermatology*, September 1904.

A case of this rare form of skin disease is reported by Ormerod and Macleod. The affection was first described by Darier in 1889, and since then about thirty cases have been collected. The disease is mainly one of early life, affects males more than females, is chronic in its course, and while not dangerous to life or health, is most intractable to treatment. It begins usually on the face, and is most accurately symmetrical. The parts principally affected are the face, scalp, back, abdomen, flexures of the limbs and regions about the genitals. The individual lesion is a flat topped papule covered with a horny crust of a dirty brown colour, which, when scraped off, leaves a red weeping surface, often showing one or more pigmented spots. Of the etiology nothing is known, although at one time it was supposed to be due to a parasite.

The case reported is that of a married woman, thirty-six years of age, in good general health. Nothing in her previous or family history had any apparent bearing on the occurrence of the disease. The eruption first made its appearance one year previous to her coming under observation, when the neck, abdomen and forearms were affected in the order named. At the time of her admission to the clinic, the eruption was seen to be on close inspection distinctly papular, but in the older patches the flat-topped papules were so closely set together as to give the appearance of a diffuse rash. Most of these papules had reached the size of a split pea. The distribution of the eruption was such that the lesions formed a dirty brownish collar about the neck and a broad girdle over the lower part of the abdomen and back.

The histopathology of the case was studied by Macleod from a section of tissue removed from the left inguinal region. It showed the diseased area of the skin to be almost entirely confined to the epidermis. There was much thickening with proliferation of the Malpighian layer. The granular layer was proliferated and dipped down between the blunt epidermal processes, while above it were thick horny plugs of partially cornified epithelium, which corresponded to the clinical papules. The pathological process had no apparent relation to either sweat glands or pilo-sebaceous follicles. Under the high power the structures described originally by Darier as psorosperms, round bodies about the size of an epithelial cell with a doubly-contoured

envelope, and containing a nucleus, were seen. As all attempts to inoculate or cultivate them failed, Darier abandoned his first idea as to their nature, and, according to Macleod, they are now believed to be derived from the prickle cells. It is pointed out by Macleod that, histologically, in many respects the lesions of this disease closely resemble those of molluscum contagiosum.

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### Society Proceedings.

#### OTTAWA MEDICO-CHIRURGICAL SOCIETY.

FIRST MEETING, 14th October, 1904.

The opening address was delivered by Sir James Grant upon the "Progress of Medical Science."

The report of the year showed good progress. The following officers were elected:—President, Dr. W. I. Bradley; 1st Vice-President, Dr. L. C. Prevost; 2nd Vice-President, Dr. J. F. Dowling; Secretary, Dr. R. Law; Treasurer, Dr. H. S. Kirby; Librarian, Dr. R. L. Gardner; Curator, Dr. S. W. McKinnon.

A council composed of the following was also elected:—Dr. R. W. Powell, Dr. J. L. Chabot, Dr. J. D. Courtney, Dr. J. A. Grant and Dr. W. C. Cousens.

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#### MONTREAL MEDICO-CHIRURGICAL SOCIETY.

The second regular meeting for the Session 1904-05, was held in the Society's Rooms on Friday evening, October 21st, the President, Dr. J. A. Macdonald in the chair.

Dr. G. H. Mathewson presented a living case of Glioma of the Retina in both Eyes. A description of this case appears at page 857.

Drs. H. A. Lafleur and B. D. Gillies read a case report of Carcinoma of the Gall Bladder, illustrated by pathological specimens. The case is reported at page 855.

Dr. D. J. Evans read a paper on the Treatment of Eclampsia. The paper and the discussion which followed will be found at page 821.

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The third regular meeting for the Session was held in the Society's Rooms on Friday, November 4th, Dr. J. A. Macdonald, the President, in the Chair.

Dr. J. Alex. Hutchison presented a living case one year after operation by the Lorenz method, performed for congenital dislocation of the hip.

Dr. Archibald: I would like to ask how many changes of plaster were needed to bring the leg down to the more or less parallel position

which it now occupies, and also if there is any shortening at the present time. The head of the bone seems to me a little anterior as compared with that of the opposite side, and I would like to be perfectly sure that it is in the acetabular cavity and not anterior to it, a condition which is so often found in these cases. In the one or two cases I have had the opportunity of following the result has been very good. In one case the leg was brought down rather faster than Lorenz advises, that is, the plaster was changed every six weeks to two months and the limb brought down very gradually without apparently prejudicing in any way the position which was obtained; it was an actual reposition and not a transposition. The question of the absolute lapse of time which should intervene between the primary replacement and the time to bring the hip down must vary with each case, and it is a point of interest to know just how soon one can do so. Hoffa himself after a few weeks of the abducted and externally rotated position, brings it into the internally rotated position and with the leg more or less parallel with the other. The absolute necessity which Lorenz emphasizes so much of keeping the limb so long in the extremely abducted position almost seems to be an exaggeration; certainly the case I have mentioned did not require it.

DR. HUTCHISON: There is a little shortening of the limb. With regard to the possibility of the anterior displacement, I thought at first that such was present, but on examining the skiagrams taken at varying periods, I found this showed less and less and I came to the conclusion that the appearance was more due to the undeveloped head than displacement. Certainly you cannot get your fingers into any space behind the bone, so that with the parallel lines of the trochanter in relation to the anterior spines, the relative straightness of the leg, the one with the other, the extent to which the child can bend it and the weight which it can carry makes one feel that there is fairly good position. I took the precaution to examine very carefully under chloroform and we were satisfied that the position was horizontal. I think the appearance in the skiagrams of the head not being in the acetabulum proper is because of its undeveloped condition. As to the number of casts put on, the child has had three during the year, the second replacing the first rather clumsy one, in order that he may go home with a better looking limb.

DR. HUTCHISON showed a living case, a boy of 12 years who had been operated upon for separation of the lower epiphysis, the result of having his leg caught between the spokes of the wheel of a moving cart, a year and a half ago.

DR. ARCHIBALD: I recall a case of epiphyseal separation of the humerus which was seen outside, in which attempts were twice made

to reduce the supposed dislocation; it was then tried under ether, but finally operation was resorted to. Even with ligatures the displacement was apparently reproduced and although healing occurred it was with some deformity. An important point is that for a thoroughly good result open incision is necessary.

DR. MATHEWSON read a paper on Quinine Amaurosis with report of a case.

DR. LAPHORN SMITH: I have used quinine for a good many years and have never seen any visual trouble. I have generally stopped its administration when the ears begin to buzz. I understand that this trouble is due to a tonic contraction of the muscles which tightened up the drum of the ear. With regard to the headache I have always understood that this was due to the spasm of the involuntary muscle surrounding the blood vessels of the brain causing anæmia of the brain and not congestion. Also on the heart, I should say that quinine was a powerful heart tonic and acted in the same way as it does on all involuntary muscular fibre. Often in abdominal section when we want the gas in the intestines expelled to relieve the depressing action on the heart, we inject quinine into the tract and contract the muscular tissue.

DR. BLACKADER: With regard to the congestion and contraction of the vessels in the brain, the first effect is one of congestion and I think this is first shown in the ear as it is the fulness of the vessels which first attracts attention after quinine.

DR. G. A. BROWN: In a case of quinine poisoning I saw two weeks ago the first effect was acute urticaria which shows that there was an early dilatation of the blood vessels with a later contraction. There was vomiting and very severe abdominal colic.

DR. MATHEWSON: It is a general idea that large doses of quinine damage the ear, and that here there is often an idiosyncrasy. Several of the patients I mentioned have had permanent serious defects of hearing from large doses of quinine. With regard to the state of the ear after quinine poisoning, it is extremely difficult to dissect out the ear, and experimentally when this is done and the various processes of fixing, decalcifying gone through with, it is really impossible to give any fine diagnosis of the condition which would be present. Rashes are well known after even moderate doses of quinine. Preparations other than what we call quinine, [sulphate], will cause serious trouble. In animals any of the ordinary preparations of cinchona bark will cause amaurosis; in fact in experiments it is the bisulphate which is generally used. In one of the cases in the literature blindness was caused by a preparation of a solution of the bark. As regards the course of the reflex, I am not quite sure of this but I do not see why it could not

go up beyond the optic nerve into the brain, then back down the sympathetic, and so into the vessels. I, however, simply offer this as a suggestion. One must also remember that although the heart acts involuntarily it is not an involuntary muscle, but striped muscle.

DR. MARTIN read a paper entitled "Some remarks on the value of Urinary Examination in Nephritis."

DR. SHAW: The most important point is the estimation of the specific gravity. One of the first symptoms to be noticed in the auto-intoxication of pregnancy is this falling off in the urine of the total quantity and the total solids. An interesting point is the appearance of albumin from time to time and without apparent cause. Last winter I examined a patient immediately after a hockey match and found albumin in the urine which disappeared three or four days later. Herz advances the theory that in the early stages of intoxication a pathological change takes place in the kidney and we get certain changes in the urine such as diminution in quantity, and then what is supposed by Herz to be paresis of the kidney cells, by the irritation of the poison on the kidney cells. Later, this irritation being continued, leads to degeneration.

DR. MORROW: The facts brought forward with regard to the unreliability of symptoms may be applied to all diseases. We may mistake a case of pneumonia or pleurisy for something else and we must take our signs and check them by the course of influences and symptoms which may be exhibited at the time. No single mode of enquiry will lead us to invariable results.

DR. LAUTERMAN: It has been proved that every case of albuminuria is not necessarily one of nephritis and I think this applies more especially to the first case mentioned by Dr. Martin. The albuminuria of pregnancy, as stated in the discussion of last evening's paper, has been proved by one author at least to be more or less due to thyroid inefficiency which was promptly relieved by the administration of iodothyryn. I would also like to have heard something about the freezing point of urine and also with regard to the examination of the epithelium. Prof. Heitzman of New York considers this a very much more reliable way of determining the condition of the kidney and the part involved.

DR. ARMSTRONG: I have found in trying to determine the efficiency of a kidney with a view to operative procedure, that the specific gravity is the best guide, overlooking a small amount of albumin or casts, as such a patient with a good specific gravity may go through a considerable operation well. I think the freezing point practically determines the same thing. Dr. Turner reported 100 cases of the freezing point

of urine but the results were too varied, owing possibly to the imperfect working of a rather complicated instrument. Up to the present I think surgeons are pretty well agreed that the two important points in determining the question of renal efficiency, are the specific gravity and the excretory power of the kidney together with the other symptoms.

DR. MARTIN: I have always been impressed by Caspar's work on the freezing point of urine, but so far it has not added much to the practical value of the diagnosis of a renal disease. With regard to cylindroids no statistics were made as they are very common and re associated with other conditions as well as nephritis. With regard to the epithelium I was not aware that it could be recognised whether epithelium came from the pelvis of the kidney, from the ureter or some of the lower layers of the bladder. So far as the examination of the urine in renal disease is concerned I think it was Welch who said that, while the clinician cannot tell in any way what is happening to the kidney by the condition of the urine, neither can the pathologist, looking at the kidney, tell what condition should be found in the urine.

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The fourth regular meeting for session 1904-5 was held in the Society's Rooms on Friday evening, November 18th.

Candidates for resident membership were:—Drs. D. A. Hingston, A. G. McAuley and J. R. Goodall.

Candidates for temporary membership were:—Resident Staff of Western Hospital—Drs. D. W. Morrison, Geo. Briggs, J. J. McGovern and Chas. A. Richardson.

Resident Staff of Women's Hospital:—Dr. Lippiatt.

Resident Staff of Royal Victoria Hospital:—Drs. King, Hardisty, McKechnie, Meakins, Lincoln, Church, McKenty, Hutchinson, Coffin, Faulkner, Gillis, Forster, Charman, Lauchland, Eaton and Rodgers.

Resident Staff of the Montreal General Hospital:—Drs. Campbell, Patch, Anderson, Forbes, Robinson, Fyshe, Ricker, Nutter, Reford, Kerr, Wood and Gibson.

The programme was as follows:—Case Report—(1) Carcinoma of Cardiac End of Stomach, Ridley Mackenzie and B. D. Gillies; (2) Abscess of the Pancreas, W. J. Telfer.

Papers:—(1) Hæmorrhage from the Uterus, Fernand Monod; (2) The placing of Perincal Sutures in position before laceration takes place, A. Laphorn Smith.

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