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THE CARDIAC PHENOMENA OF
RHEUMATISM.*

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Rheumatism occurs with much less frequency in this country than in England and the northern parts of Europe. Some years ago there were at one time ten cases of heart disease in the Toronto General Hospital, and all were from England and had acquired the disease in that country. The reason for our greater immunity is to be sought for probably in our dryer climate chiefly, but largely also in the mode of living in the two continents. Our poorer people live on a much more bountiful diet, of a better quality, than their peers in the old land, and are better housed, and are therefore better able to resist such climatic influences as are supposed to bear a causative relationship to the disease. Nevertheless, rheumatism, with all its untoward phenomena, occurs with painful frequency in this country, as is attested by the relatively large number of cases of heart disease met with, and the great majority of them own a rheumatic origin.

On few diseases has more been written, and in no disease is there a greater feeling of uncertainty as to the cause than rheumatism. On but one point, apparently, are most agreed, viz.: that the disease is due to some poison in the

blood, and to the irritation of such poison is due the widely-distributed lesions resulting. As to the nature of this poison opinions are almost as varied as their authors; but most of them can be included under two classes, viz.: first, those holding the cause to be a chemical irritant, as lactic or uric acid; and, secondly, those believing it to be a bacterium, probably a micrococcus or a bacillus. It is very probable that both may be correct—that the group of phenomena included under the term rheumatism is not a simple disease, depending upon a single cause, but rather a series of diseases with similar phenomena, produced by a variety of causes. We can scarcely explain the multiform characters of rheumatism, acute and chronic, in any other way.

If on further investigation it is found that bacteria are capable of producing rheumatism, it will probably be found that they are the always active agents in the causation of acute rheumatism, mild or severe, and then, of course, also of the heart lesions occurring in rheumatism.

Recently it is reported that the staphylococcus albus was constantly found in cultivations from the blood of a case of chorea with acute endocarditis, and, once, the *S. aureus*.* There is little room to doubt that the chorea in such a case was simply a manifestation of rheumatism.

German pathologists are becoming more and more unanimous in viewing primary endocarditis in all its forms as due to germs of some kind, the resulting changes in the endocardium, whether thickening, warty excrescences, or ul-

*The address on Medicine, Ontario Medical Association, Toronto, June, 1891.

*British Medical Journal supplement, '91, Vol. I., 149.

cerations, being due simply to difference in virulence of the germs.

Whatever the cause of rheumatism may be, it is constant in its selection of tissue to attack—the fibrous structures only are primarily affected, but these may be in the most varied situation. We have so long associated the term rheumatism with the swollen joint, fever, and sweat, that we have come to look upon all other manifestations as accidents or complications; but the affections of other fibrous structures are quite as essential a part of the disease as the joint inflammation, and this broader conception of the disease is forced upon us by the study of these other phases, especially as met with in children, in whom the joint affection is usually mild, and often wholly absent. The so-called growing pains may be due to a neurosis, or a rapid development of epiphyseal cartilages;* yet the great majority of them are rheumatic, but, on account of the plumpness of the child's limb, usually show no swelling. However, even the mildest of them may be accompanied by the most serious cardiac disease.

It is necessary to refer briefly to other ways in which rheumatism may manifest itself, especially the more unusual. One of the most important, and probably least frequently recognized, is rheumatic inflammation of the throat. It is common among adults at certain seasons, and not infrequent in children. In many cases it recurs repeatedly. Last year there was a girl, *æt.* 12, in the Hospital for Sick Children of this city who presented a good example of this form of rheumatism, recurring from time to time. She had marked stenosis of the mitral orifice with a protracted history. The endocardium appeared to have been the seat of mild recurrent rheumatic attacks, which caused gradual, but, in time, extreme narrowing of the mitral orifice. The condition of the heart was verified by the autopsy after her death at the Girls' Home.

Another case occurred in the practice of my friend, Dr. Jas. M. MacCallum. The child, four years old, was supposed by the parents to have diphtheria; but there was no membrane. The left shoulder was found tender and somewhat swollen, and further examination revealed a well-marked endocarditis of longer duration probably than either the arthritis or the throat disease.

Occasionally the rheumatic process shows itself in an attack on the subcutaneous tissues, causing the formation of nodules over the bony prominences. This may be the only sign, or it may occur with articular inflammation. There was such a case in the Hospital for Sick Children last year. The boy had slight inflammation of the wrists and ankles, and, at the same time, many nodules up to the size of a bean formed over the occiput, the spinous processes of the vertebræ, the scapulæ, the iliac crests, the elbows, and the tibiæ. They all disappeared quickly with the recovery from the rheumatism. There was also disease of the mitral valve with regurgitation, of which he has since died. Such nodules are of more frequent occurrence in England, and are sometimes found to persist. They appear to be more frequently met with in association with pericarditis.

The various aspects of erythema multiforme are frequently due to the same cause. With them may be included many cases of urticaria. Erythema nodosum is possibly always of rheumatic origin, and should be treated as a probable sign of that disease. Other unusual phenomena as possibly of rheumatic origin are inflammation of such serous membranes as the pleura, peritoneum, and meninges, of the sclerotic coat of the eye, and of the nerves. It is probable also that mild attacks of rheumatism occur without showing any local changes. In these, local inflammations may possibly occur in the deeper tissues beyond the reach of examination—there seems no reason why such tissues should escape the influences of a poison whose powers are so potent upon superficial tissues.

In cases with any of the foregoing, as well as with the commoner manifestations of the rheumatic process, the heart may become involved—simultaneously or as a sequel, or, what is of special importance to remember, it alone may be the seat of attack. Hence the rheumatic heart lesion is not an accident in the history of any case, unless, indeed, all local inflammations, whether of the joints or other parts, are to be looked upon as accidents; so that it should be included among the list of symptoms of rheumatism. Probably the heart is affected oftener than any single joint. We cannot insist too strongly on the importance of being on the alert to the fact that, in children especially, any sign of rheuma-

* Jacobi, *Medical News*, 1886, Vol. I.

tism, be it never so mild, is liable to be accompanied by disease of the heart, it may be, of the most grave character. As the signs of rheumatism, when latent, may so readily escape our observation, I would urge the necessity of examining the heart in all pyrexial attacks of uncertain origin when they occur in children; otherwise we may miss for days a lesion of the heart which, had we known, we might have mitigated, if not prevented.

Cardiac lesions seldom occur in the adult apart from an acute attack of rheumatism. After the third decade, our chief anxiety in regard to our patients with acute rheumatism is in connection with the future usefulness of the joint; while with our younger patients we have little fear as to the complete recovery of the joints, our anxiety now is almost wholly concerned with the heart. The younger the child, the more probable is it that the rheumatism will fasten on the heart, to the exclusion of the joints or other structures.

In the adult there is probably, as Sibson* found, a striking relation between the degree of severity of the articular affection and the frequency, as well as the intensity, of the heart disease. He found that in only 25 per cent. of all his severe cases did the heart present no signs of affection. This relationship probably becomes more pronounced with the advance of age; that is, it is closer at 40 than that at 25 or 30 years of age. The exact numerical relationship between heart disease and rheumatism at the different ages is very difficult, not to say impossible, to determine, because slight attacks of endo- and pericarditis readily escape detection, even by the most acute observers. But there is no doubt that Dr. Church's results are sufficiently near the truth to illustrate the great preponderance of cardiac affections in young subjects. He found the percentages of cardiac disease in the successive decades up to 50 years of age to be 83, 69, 51, 30, 21.† These results indicate practically that in infancy rheumatism always attacks the heart, and after infancy up to ten years the heart escapes in very few cases, and it is to be borne in mind that at this age rheumatism is almost always mild, often latent even. The occurrence of symptoms of acute articular rheumatism in children should be viewed with

suspicion, as many, if not most, of such are not rheumatic, but due to sepsis, causing inflammation of periosteum, bone medulla, and similar structures. Some cases have been reported of late as rheumatism that bear strong evidences of being due to septic poisoning.*

No adequate explanation has been offered to account for this greater proclivity to heart disease in rheumatic children. It seems to me probable that their strong tendency to anæmia has a causative relation. Cheadle says that all such children early become anæmic, and my own experience accords with his. Bramwell‡ and some others, however, believe anæmia less liable to develop in children than in adults, but the instability of the nervous system in children often masks the actual anæmia existing by disturbance of the vaso-motor system. The relationship of anæmia, as a predisposing cause, is strikingly borne out by the greater frequency of rheumatism in females from 11 to 15 years of age, in whom it is said to be three times as frequent as among males of the same age;‡ and females at this age are peculiarly liable to anæmia. In this manner we may account, at least partly, for the greater frequency of mitral stenosis and chorea among females.

Next to age, the occupation and general condition in life have most influence in the productions of heart disease in rheumatic cases. Perhaps these have more to do with the degree rather than the occurrence of the disease. The ill-nourished and insufficiently clad, living in unhealthful surroundings, furnish the greatest number of victims. These conditions render such people more exposed to the causes of rheumatism and more vulnerable to its influence.

The influence of sex is worthy of note. In youth females are more liable, because their labor and exposure are quite as great as males, and they are much more frequently anæmic. Sibson says that young females with rheumatism are nearly always attacked or threatened with endo- or pericarditis or both. In after life males are most frequently the subjects of cardiac disease, owing to their greater exposure and labor; perhaps also on account of their greater indulgence of the appetite.

* I would commend to your notice a paper by our friend Dr. Peters, to be read in Surgical Section.

† Diseases of the Heart.

‡ British Collective Investigation Record.

* Reynolds' system.

† St. Bartholomew's Hospital Reports, Vol. xvii., p. 273.

Of the cardiac affections, endocarditis is much the most common, the mitral area being especially vulnerable. Endocardial inflammation generally begins early in the rheumatic attack—in the first week usually, but may occur in the second, the third, or even the fourth week. The more severe the rheumatic attack, the greater the liability to the endocarditis. If the patient escapes for the first week, and is under suitable care and medication, some believe that the heart should be secure from attack. It is the general opinion that endocarditis is proportionately much more liable to occur in second, and still more so in third, attacks of rheumatism, even although the successive attacks be less severe. There is a very probable fallacy in this view. No doubt in many cases of rheumatism there occurs inflammation of endo- or pericardium, or both, without manifesting any signs of its existence; permanent thickening of the endocardium may, however, result, and become at the affected points more vulnerable to the rheumatic poison in subsequent attacks. This offers the only reasonable explanation of this greater liability to cardiac implication in repeated attacks of rheumatism, as otherwise the liability should decrease with advancing age, and lessening in severity in the recurrent attacks. The truth of this is further borne out by the experience we have probably all had of cases who, having convalesced from rheumatism, have passed out of our hands without any signs of cardiac lesions that could be detected, and who some time later showed unmistakable evidences of heart disease, it may be, of a most serious nature. The greater frequency of heart disease in several attacks of rheumatism was believed by Sibson to be due to the increased strain thrown on the heart by the severity of the disease.* The fibrous structures subject to most strain seem to be most liable to attack; the increased labor of the heart may, therefore, induce inflammation of its fibrous structures.

In children, as with rheumatism, so it is with its cardiac phenomena, they are nearly always mild and trivial; all may disappear for a season, yet they too often recur, soon to persist, until the valve injury becomes serious, and, finally, fatal. In the rheumatism of children the slightest causes may induce relapses. They frequently

tax the patience of the physician, and too often shake the confidence of the parents in his skill and treatment. In these recurrent attacks lies the danger to the child, as with each he becomes increasingly liable to disease of the heart. If the heart becomes once affected, the lesion is sure to increase with each relapse.

Such cases of rheumatism call for the most judicious management perseveringly carried out until the rheumatic condition has been wholly eradicated.

In endocarditis the inflammatory infusion takes place into the fibrous tissue of the membrane; the surface changes follow later. As compared with the serous membranes, as the pericardium and pleura, the inflammatory process is very circumscribed; this is owing to its slight vascularity. The reason hitherto assigned by most authors for the frequency with which the mitral valve is affected, and the rarity of the aortic, has been the greater strain to which the mitral is subjected. Later authors* give another cause which seems, on the whole, to be more potent, namely, the fact that the central parts of the mitral segments have some vascular supply while the aortic segments are quite non-vascular. The onset of endocarditis may be accompanied by pyrexia and an appearance of illness and distress in the child's face, even while at play; or the heart's action may be tumultuous with dyspnoea, restlessness, and anxiety from imperfect circulation. But such symptoms occur only in the severer cases. Valve disease gives no physical sign of its existence until it results in some deformity of the valve which either impedes or disturbs the current of blood in its passage through the orifice to whose margin its segments are attached, or impairs the functions of the valves so as to permit a reflux of blood through the orifice which they guard.

Sibson† says we are warranted in assuming that, in a considerable number of cases, the active stage of endocarditis is passing away at the time of the appearance of a murmur. As a general principle, it may be stated that the milder the endocardial inflammation the longer will a murmur be in appearing, and *vice versa*; in many mild cases, certainly no murmur ever appears. It is

* Ziegler's Pathology.

† Ibid.

* Reynold's System of Medicine.

probable that endocarditis may abate with complete removal of the exudative products, leaving no trace of the inflammation. Usually, however, some thickening persists, and, if slight attacks recur, in time the segments become adherent, causing stenosis of the mitral orifice, or, less frequently, probably, incompetence of the valves and regurgitation, on account of the deformity of the valves from shrinkage of the new tissue. I say less frequently because regurgitation results usually, if not always, from the more acute attacks, while mitral obstruction probably never does.

The first sign of mitral stenosis in about half the cases is a seeming reduplication of the second sound heard at the apex only. The first of these sounds is produced by the blood passing over the tense mitral valve, which only slightly narrows the orifice as yet; a sound is thus produced which is almost synchronous with the aortic sound, and both are heard in the apex only. As the case progresses the presystolic, or rather, at first, the diastolic character of the sound becomes apparent.*

If the lesion lead to incompetence of the mitral valve, the first indication will be a prolongation of the first sound of the heart as heard at the apex. Mitral obstructive murmurs probably always persist, but regurgitant murmurs may disappear. The former are organic, the latter may be functional, being due to adynamia of the cardia-muscle. This adynamia results in imperfect contraction of the mitral orifice during systole and consequent incompetence of the mitral valve. Such murmurs disappear as soon as the heart recovers its tone, but during their existence they are indistinguishable from those of organic origin; in both conditions, the heart is likely to be somewhat enlarged. While it is possible for murmurs in rheumatism to be functional, it is best, from a therapeutic point of view, to consider them all organic, and treat the case accordingly. It is worthy of remark that, in rheumatism, murmurs occur earlier than do the functional murmurs of any of the other depressing diseases, thus indicating a different origin.

Pericarditis.—For want of space only a brief reference can be made to this and to myocarditis. There is no cardiac affection, probably,

more often overlooked, or whose symptoms are more often misinterpreted, than pericarditis. Nothing has mortified one more than to discover in the mortuary a severe pericarditis that was not suspected in the ward. The symptoms are so liable to be masked by those of the primary disease that the possibility of its occurrence should be constantly remembered in those diseases which it often complicates, especially in rheumatism and Bright's disease.

Unlike endocarditis, it is more likely to occur in the first than in subsequent attacks of rheumatism. It is much more apt to occur in severe than in mild cases, and is usually met with from fifteen to twenty-five years of age. It is rare in the young, yet one of the worst cases I have ever seen was in a child, aged six years, in the practice of my friend, Dr. Byron Field, of this city, last year. The child had a mild attack of rheumatism, the symptoms of which disappeared in a few days, when attendance ceased. Two weeks after the commencement of the rheumatism he was exceedingly pale-faced, exhausted, anxious, pulse very weak and rapid, respirations hurried and labored, so that he required to be propped up on pillows. On examination, the area of præcordial dulness was found slightly enlarged with a somewhat diffused impulse; the sounds were weak and somewhat indistinct; the temperature was slightly elevated. Over the præcordial area ill-defined friction could be detected. As was expected, autopsy showed the existence of a very severe pericarditis with abundant fibrinous exudate, and accompanied by a myocarditis affecting the whole cardiac muscle. This case illustrates the condition met with in pericarditis complicated by myocarditis at all ages. Severe, even fatal, cases of pericarditis may show very slight symptoms. Sibson found præcordial pain present in three-fourths of his cases; so that such pain, however trivial, should receive careful consideration in all cases of rheumatism.

Most authors agree in describing delirium of various forms as frequently present, even in the absence of febrile movement. When endocarditis complicates the case, the delirium is liable to take on a suicidal tendency; and of the character of *delirium tremens*, when there is some fever with prostration.

It was most marked in "dry pericarditis, dis-

* Sanson. Lettsomian Lectures, 1883.

appearing with effusion." Such pain was very marked in a case recently under my care, in which there was, as well, severe and obstinate pain, produced by the act of swallowing, probably due to the pressure on the pericardium posteriorly. The disease is usually latent, however, and will escape notice unless sought for with the utmost care. In all cases there is a tendency to rapidity and weakness of the pulse with dicrotism, probably from a certain degree of implication of the myocardium.

Myocarditis probably seldom occurs independently of inflammation of either the endo- or pericardium, especially of the latter. MacLagan, however, is very positive of the frequent occurrence of a primary inflammation of the heart muscle, and that it may be diagnosed by the weak, rapid dicrotic pulse. Its existence in any case, of course, adds materially to the gravity.

Prognosis.—With the exception of cases in which the cardiac muscle is seriously affected, the immediate prognosis is usually favorable; few die as the result of the heart disease apart from myocarditis. In young children, however, suffering from acute disease, the heart yields more rapidly to strain, probably on account of the immaturity of the tissues; hence they bear disease badly. But if they escape the immediate effects of the disease, the heart recovers itself more rapidly and develops more rapidly; hence compensation is soon established and emphatic. On this account we seldom see evidences of much impediment to the circulation, as great enlargement of liver and spleen, cyanosis and extreme dropsy; these are more frequent as age advances. Goodhart attributed this partly to the anæmia, with diminution in the quantity of the blood as part of the general wasting.* Cheadle gives another cause. "Children with severe heart disease, as a rule, die from other causes before the stage of grave tricuspid leakage is reached. Instead of the engorged liver and lung, with blueness, extreme dyspnœa, and general dropsy," as seen so often in adults, "there is rapid wasting, progressive anæmia, feebleness, and death from asthma rather than from the direct injury to the mechanism of the circulation."† Fagge‡ says the aspect of a child with cardiac disease is rather

that of phthisis. He is pale and thin, with dilated pupils, a delicate skin, and quick pulse. In older children and adults, the ultimate prognosis usually depends on the degree to which the lesion causes interference with the functions of the heart. In young, well-nourished persons it is often amazing what extensive valve changes may be compensated for, and for what almost indefinite duration the compensation may be maintained.

In older persons the prognosis will depend greatly on the condition of the vascular system, being rendered less favorable by any sclerotic or other chronic changes that may be present or develop. Leyden says that age does not impede the development of compensatory changes in cases of valve diseases. With advancing age the cardiac muscle gains in volume and power, and the heart is the only organ whose comparative bulk increases with age, so that perhaps the heart of older persons has even more endurance than that of younger ones.*

In recent cases, we should not forget that the evidences of disease, especially mitral incompetence, and occasionally aortic obstruction, may disappear after some weeks, or, it may be, months. Over against this, unfortunately, we have to set two unfavorable possibilities, namely, that a lesion which, just after its development, but slightly disturbs the mechanism of the circulation may increase, from the tendency of the new cicatricial tissue to contract, and, secondly, that one attack of endocarditis predisposes to another, especially in the anæmic.

Then much will depend on the mode and circumstances of life. The prognosis is more favorable among the well-to-do, for while they are exposed to the liability of overfeeding, with its tendency to cause arterio-sclerosis and atheroma, they are spared the necessity of exposure and over-exertion, which so many of the laboring classes have to endure. In arriving at an opinion, all the circumstances of each individual case have to be taken into consideration.

The ultimate prognosis in the large proportion of cases is, without doubt, unfavorable, yet some go through life and attain old age with marked disease of the heart, and it is better to err on the hopeful side than take too gloomy a view of any case.

* Cheadle-Harveian Lectures, *Lancet*, 1889, Vol. I., p. 926.

† *Ibid.*

‡ *Principles and Practice of Medicine*, Vol. I., p. 932.

* *Annual of the Universal Medical Sciences*, 1890.

The late Austin Flint used to relate a very instructive incident from his own experience on the prognosis in heart disease. Shortly after beginning practice, he was consulted by the parents of a young girl with decided mitral insufficiency. His prognosis was unfavorable. He said the danger was imminent, and but little improvement could be expected. He advised them to prevent all but the quietest movements. Little heed was paid to his advice; the child was allowed unrestrained freedom with other children. Twenty years afterwards Flint saw this girl, now a mature woman, leading an active, useful life.

It is scarcely necessary, to an audience such as this, to say that only exceptionally should prognostic significance be attached to cardiac murmurs, since lesions of the most trivial nature may cause murmurs of the most marked character. It is true that sometimes they afford considerable assistance in judging of the future prospects of particular cases, yet these are exceptional; ordinarily, they should have no place in prognosis.

Treatment.—This includes prevention as well as management of the case after the heart disease has developed. The most effectual means to prevent the cardiac disease is, of course, to prevent the rheumatism which causes it, but we have no remedies to effect this purpose. We can but avoid the causes, preserve the best attainable health, and protect the person against such influences, as cold and wet, as cause rheumatism.

If the rheumatism occur, we are then driven back to preventing the heart becoming involved. To do so, we should arrest the rheumatic process as soon as possible. It is claimed by many capable observers that the alkalies are our best remedies for this purpose, and that if given freely before the heart becomes affected they will prevent that complication. More recently it is claimed that under the salicylates the heart enjoys equal immunity. Being compatible with each other, most physicians try to obtain the good effect of both by combining them. How far either or both these remedies deserve credit for power to prevent this phase of rheumatism is uncertain, but there is no doubt that they have little or no influence over the cardiac disease once that it is established.

As further aids in preventing the heart affection we should promote excretion, so as to relieve the system from the irritation of the waste products, and thus relieve the heart also from the increased labor incident to retention of waste in the blood. The purer the blood, the more easily is the circulation maintained.

Then the nutrition should be carefully maintained by the administration of light liquid nutritious food at short intervals, so as to forestall the anæmia that almost always threatens. And the condition of as complete rest as possible should be maintained, so as to relieve the heart of all the strain possible, even in the mildest cases, in children particularly.

Sibson,* in his wide experience, found that while absolute quiet and rest seemed to have little influence in preventing the occurrence of the signs of heart lesions, it had great power over the permanence and increase in those lesions. He found that the signs of heart disease completely disappeared or persisted only in a slight degree in a much larger proportion of those cases who had been kept at rest and carefully tended than in those who were allowed freedom to exert themselves, even though otherwise well cared for. It therefore becomes of the utmost importance that rheumatic persons, especially the young, should be put to bed on the first symptoms, however trivial, showing themselves, and that they should be kept there until so far recovered from the rheumatism and its attendant anæmia as to ensure the safety of the heart, and protect against a relapse of the rheumatism.

In the anæmic and debilitated attacked by rheumatism, it is doubtful if the benefit derived from the alkalies and salicylates, especially the latter, is not more than counterbalanced by their tendency to increase the anæmia, and thus the liability to heart disease. For my own part, I have seen more benefit apparently result from the free administration of iron in these cases, preferably the tincture of the chloride. If salicylates are given to such patients, they should be discontinued as soon as the acute symptoms are overcome, the iron being given from the beginning and continued.

In children in whom, as already pointed out, rheumatism is so seldom acute, there is rarely

* *Ibid.*

occasion for heroic treatment with salicylates; besides, it is probable that the alkalies are more potent in them in preventing the heart affection. Then the first tendency to anæmia in rheumatic children should be constantly before our minds, and no effort should be spared in counteracting it by every possible means; therefore, great care must be exercised in diet, which should be nutritious and easily assimilated. At the same time care is needed to prevent overfeeding and the risk of a relapse.

The securing of adequate rest is the most difficult part of the treatment of heart disease in children, especially in boys, particularly as the rheumatism is usually so mild. When first seen, the heart is often affected. Many a boy has had his heart irretrievably damaged and his life cut short by being allowed, while subject to latent recurrent attacks of rheumatism, to indulge in the usual games that are healthful to the healthful boy.

Selections.

DIAGNOSTIC AND PROGNOSTIC VALUE OF TUBERCLE BACILLI IN THE SPUTUM.—Dr. F. J. Wethered read a paper before the Medical Society of London on "The Diagnostic and Prognostic Value of Tubercle Bacilli in the Sputum." Since the discovery of the tubercle bacillus in 1882 by Koch, much had been written in regard to the value of a search for this organism. He wished to make a few additions to what had already been published on the aid to diagnosis furnished by the tubercle bacillus from his own experience, and also to comment on its prognostic signification. As to the method of staining, after trial of several methods he had always reverted to the Neelsen-Ziehl process of staining in a carbolic acid solution of fuchsine and decolorizing in a 25 per cent. solution of sulphuric acid. The chief points to which attention should be directed to procure successful results were: To select the early morning sputum; to pick out the small opaque particles; to stain for two minutes in the heated stain; to thoroughly take out the red stain with the acid, a quarter of an hour not being too long, although a minute was usually sufficient; finally, to counter-stain in methylene blue. There were still some medical

men who viewed with a considerable amount of scepticism the value which was to be attached to the presence of tubercle bacilli in the sputum; but the various papers which had been published had conclusively proved their true value. Roughly speaking, a positive result—that is to say, their presence—was absolutely diagnostic of a tubercular process going on somewhere in the respiratory tract, but a negative result, their absence, was practically of no value. It was in those cases in which the history and physical signs were not clear enough to warrant a diagnosis of tubercle that a bacteriological examination was of value, especially when phthisis was masked by bronchitis or emphysema. In obscure laryngeal cases it was also of value, as a differential diagnosis from syphilis might thus be established. A negative result did not by any means absolutely exclude phthisis, even though several examinations of the sputa might have been made. As regards prognosis, he had come to the conclusion that little could be learnt from the numbers and distribution of the organisms. The mere fact of their presence naturally increased the gravity of the case, but beyond this he did not think it was safe to go, the general aspect of the case being a surer guide. He had found bacilli to be very few when the disease was progressing rapidly, and to be numerous when the patient was recovering. Examination of unstained specimens would often lend aid, and especially ought the leashes of elastic tissue to be carefully sought for. Dr. Hadley urged the importance of using absolutely clean slides, having found bacilli perfectly stained in slides washed for some days in spirit and potash. The organisms were discoverable in preparations which had been steeped for twenty-four hours in 25 per cent. sulphuric acid. He thought when bacilli were found, specimens of elastic tissue could always be obtained. By the new methods of staining, however, the bacilli were the more easy of discovery. He agreed as to the difficulty of finding bacilli in miliary tubercle, even when squeezing out the actual miliary granules.—*Lancet*.

RESEARCHES ON THE BLOOD IN DISEASE.—Thanks to the more exact methods of estimating the number of corpuscles in the blood and

their richness in hæmoglobin, we are becoming possessed of a large amount of information respecting the variations presented by these elements in physiological and pathological conditions. The most recent contribution to the subject is by Dr. Carl Sadler, whose researches were pursued in the clinic of Prof. von Jaksch at Prague, and the details of which form a supplement to the *Fortschritte der Medicin* (vol. x., No. 4). The monograph contains the results of very numerous observations (made with the Thoma-Zeiss hæmacytometer and the hæmometer of Von Fleischl) in cases of diseases of the blood, pneumonia, pleurisy, pericarditis, peritonitis, acute rheumatism, meningitis, scarlet fever, malaria, typhoid fever, perityphlitis, Weil's disease, puerperal "sepsis," tuberculosis, bronchitis, nephritis, morbus cordis, gastric catarrh and dilatation, carcinoma (of stomach mainly), sarcoma, lymphadenitis, syphilis, cerebral tumor, cirrhosis of liver, and cholera nostras—a lengthy list, covering a wide range of disease. The results are drawn up on a methodical plan, and are well worthy of study in each individual instance; but it must suffice here to cite the chief facts contained in the summary that closes the monograph. In acute diseases Dr. Sadler finds that there is constantly a decrease of red blood corpuscles, but mostly not very marked. In chronic diseases the diminution is greater, especially in such as exhibit cachexia, and there is a proportionate diminution in the amount of hæmoglobin. An exception to this is met with in tuberculosis so long as nutrition is fairly well preserved. Nor does valvular disease of the heart, particularly mitral disease, affect the number of corpuscles. In chlorosis the corpuscles may long remain at the normal standard, whilst the hæmoglobin markedly falls, a confirmation of a well-established fact. In other cases of anæmia, the essential form and those due to losses of blood, atrophy of stomach, and other causes, the decline in corpuscular richness takes place *pari passu* with that of the hæmoglobin. Acute and profuse diarrhœa produces a notable increase in the proportion of corpuscles and hæmoglobin, attributable to inspissation of the blood, and this may account for the apparent maintenance of a fairly normal standard in some cases of typhoid fever. Dr. Sadler found a diminution

in the number of white blood corpuscles in malaria, apart from the administration of quinine. Leucocytosis is proved to occur during digestion, and also during the puerperal period and the first days of lactation. Pathological leucocytosis is found in all diseases accompanied by exudation, such as pneumonia and serous inflammation, including acute rheumatism, but not invariably. An explanation of the variation may perhaps be found in the different kinds of exudations that occur; whilst the leucocytosis itself has been explained by the absorption of "nuclein" set free from the disintegration of the exudate. Leucocytosis does not occur in uncomplicated typhoid fever or in tuberculosis (except during the reaction produced by injections of tuberculin). It was present in only one-half of the cases of carcinoma examined, and had relation rather to the supervention of ulceration than to infection of lymphatic glands. Singularly, in contrast to carcinoma, leucocytosis is invariably present in cases of sarcoma, the reason for which is not at present obvious. Dr. Sadler did not find any increase of white corpuscles in cases of tubercular lymphadenitis which had not proceeded to suppuration.—*Lancet*.

PHAGOCYTOSIS.—The discussion at the Pathological Society of London upon the doctrine of phagocytosis in relation to immunity seems to gain in interest and definiteness as it proceeds. The issues are becoming more clearly defined as the arguments for and against the doctrine are evolved. Dr. Bristowe, who spoke first at the meeting last Tuesday, did good service in recalling to the minds of his hearers the accepted facts of clinical observation respecting the infective diseases and the question of protection. He showed how difficult it was to explain the latter on any hypothesis yet advanced. Dr. W. Hunter did his best to reconcile the opposing views of the "phagocytists" and the "humoralists," thus adopting a term which reminds one of the controversies of a bygone pathology, and suggesting that, after all, the root problems of disease remain much the same now as then. Dr. Hunter maintained that the physiological relationship between the cells and the plasma was such as to support the phagocyte position, which had the further merit (not

possessed by "humoralism") of novelty. His illustrations of experiments bearing on chemiotaxis, positive and negative, were criticised by Dr. Martin, who showed that they were inconclusive, owing to the inflammation set up by the sponge introduced beneath the skin. Moreover, Dr. Martin, who was the chief speaker against phagocytosis that evening, adduced weighty reasons for believing that the changes to which immunity is owing take place in the blood and not in the solid tissues. On the other hand, Dr. Wright, whose lucid speech was an admirable contribution to the debate, candidly admitted that he had recently come round to the opinion that the bactericidal power of tissue-fibrinogen (with which he allied Hankin's "alexine") may best be explained by its acting as a cell stimulant. Mr. Adami and Mr. Bokenham also adduced facts tending rather to support the doctrine of immunity by phagocytosis; and altogether it may be said that many of the arguments advanced at the previous meeting were met by the "phagocytists," whose chief exponent, Dr. Ruffer, will open the adjourned discussion at the next meeting of the society.—*Lancet*.

A COLLECTIVE INVESTIGATION REGARDING ANÆSTHETICS.—An exceptionally important inquiry, on a large scale, according to the *British Medical Journal*, is to be made throughout the hospitals of Great Britain, in the year 1892, regarding anæsthetics. Eminent surgeons, anæsthetists, and general practitioners will contribute their clinical experiences, as supplemental to the conflicting results obtained by the experimental workers. The research will be made under the auspices of the British Medical Association. An influential and fairly constituted committee has charge of the plan of the inquiry, and record books have been prepared for use of those who are willing to co-operate. These books have been carefully drawn up so as to secure uniformity on the part of the reporters, and they contain full instructions. Mr. Jonathan Hutchinson heads the committee, and Dr. Childs, of Weymouth, is its secretary. Among the other names of committeemen are those of Lister, Annandale, Buchanan, Chiene, Buxton, Duncan, Hewitt, Macewen, Croly, Butland, and Macleod. The sub-committee for England and

Wales is headed by Mr. Pridgin Teale. Similar sub-committees will preside over the work in Scotland and Ireland.—*N. Y. Med. Jour.*

PSORIASIS—A NEUROSIS OF THE SKIN.—Polotebnow, of St. Petersburg, expresses the opinion that psoriasis is nothing more than the result of nervous disturbances of various kinds—in other words, a neurosis of the skin. It is generally stated that patients with psoriasis are otherwise robust and healthy persons; but this is apparently disproved by Polotebnow's observations (28 cases). The extent and appearance of the skin disease is omitted in many, as the chief point of interest lies in the nature of the nervous symptoms. These are severe headache, remarkable neuropathic affections in members of the same family, and the coincidence of the appearance of the eruption with some severe psychical shock, evident clinical abnormalities in the nervous system, diseases of bones and joints, typhus fever, injuries of the head, intemperance, and minor neuropathic symptoms.—*Erganzungsheft der Monatsh. f. prakt. Dermatologie*, No. 1, 1891.—*Satellite*.

As puncturing the drum is seldom, if ever, productive of ill effects, Dr. S. MacCuen (*Annals of Ophthalmology and Otology*, January, 1892) considers paracentesis of the drum (even in acute myringitis) not only an essential, but an *imperative duty* in all doubtful cases not promptly yielding to other methods of treatment. Acting on this theory, the writer has had the good fortune of restoring hearing in a number of cases, the loss of hearing being attributed either directly or indirectly to traumatism. An examination of the foreign matter in each case showed it to be *blood clot*; it would therefore appear that loss or impairment of hearing, the result of hemorrhage in the tympanum, is of much more frequent occurrence than has formerly been supposed.—*College and Clinical Record*.

SIR MORELL MACKENZIE was one of the best known and most hated of all the physicians in English society; and although the best known and most hated, he was by a very large circle the best liked of any of the members of his profession. He was a kind-hearted, genial,

courageous man, who built up a great practice and was correspondingly disliked by those whom he had distanced in the race. The professional accusation against him was that he was too much of an advertiser—not in the vulgar method of advertising, but by the more astute arts which are familiar to those who are past-masters in the art of pushing themselves. —*Med. Rec.*

THE
Canadian Practitioner

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TORONTO, APRIL 1, 1892.

THE ONTARIO MEDICAL COUNCIL.

We have heard much recently about the Ontario Medical Council, and the evidence brought to view shows conclusively that this very important body, the medical parliament of the province, is not so popular as it ought to be with the mass of the profession. It is somewhat remarkable, in the same connection, to observe the amount of misapprehension and misconception which exist with reference to its functions and work in the past. It came into existence in 1866, and its originators hoped it would do much good in the interests of the profession of Ontario. Before that time, the character of the medical courses given was very unsatisfactory. In certain quarters little or nothing was required for matriculation, and students were rushed through both preliminary and final examinations by easy and rapid stages.

It might be well if the graduates of recent years would carefully consider these facts, and calmly contemplate the possibility of a return to such an order of things. We do not at present intend to discuss in detail the many questions which have been raised lately in the varied discussions; but we desire to state in a general way that, notwithstanding certain im-

perfections in the Council's methods, which at times have been rather marked, the condition of things medical in the province is infinitely better than it could have become under the old régime.

We have our central examining board, which is the strongest safeguard we can possess against the irregularities and vices of the old "go-as-you-please" system. The Council have shown a commendable desire to make their methods of examining as good as possible, and select the best available men as examiners. In looking back a few years, it will be seen that great advances have been made on these lines. The examining board, as at present constituted, is an admirable one; the examinations are carefully conducted, and are fairly practical.

One of the most important functions of the Council is to prepare a curriculum. Probably the most radical of the Council haters will admit that the efforts to raise the standard were for many years persistent until they were finally crowned with success. We believe that, all things considered, the requirements of the present curriculum are the highest in the English-speaking world. The standard of the preliminary for matriculation is high, probably much higher than the majority of the profession have any idea of. Five years of study are required after matriculating before candidates are allowed to present themselves at the final examination. The various courses of study prescribed involve a large amount of practical work in laboratories and hospitals.

Our Ontario system of managing medical matters by means of a council composed of representatives of the profession and the teaching bodies has been carefully studied by many in Great Britain and the United States, and has generally met with approval. Many States of the Union have lately passed medical acts which closely resemble that of Ontario, though mostly inferior to it in some particulars.

After the smoke and fires of the present battles have to some extent disappeared, we propose to refer to certain matters which have recently been discussed with reference to certain sins of omission and commission which are charged against the Council. Open discussions and fair criticisms are quite in order, and may result in benefit both to the general profession

and our medical parliament; but unreasonable abuse, wild denunciations, and "swearing at large" are unbecoming, and can accomplish no good.

MEDICAL EDUCATION IN ONTARIO.

Dr. Geikie's letter on the above subject is certainly ingenious and rather clever, while its tone is quite respectable, especially when compared with some of his former epistles. The Dean reiterates his charge that Trinity was treated unfairly. This is not correct, as we have shown before. The following quotations from the report of the committee of the Senate will show the desire of that body to deal fairly with Trinity: "If the Faculty or Faculties of the Toronto School of Medicine or Trinity Medical School decide to suspend their charter or charters and accept the proposed scheme, the members of such Faculty or Faculties shall hold, as far as possible, the same positions in the new college as they hold as professors or lecturers in their present schools. The present salaries of professors shall be maintained *pro rata*, and, for the purpose of defining what is understood by salaries, the scale at present existing in Trinity Medical School shall be taken as a basis. . . ." Trinity refused, although her Dean intimated to the public that a guarantee of a salary of two thousand dollars to each of her principal lecturers might have some effect. The Dean declares, in his letter to THE PRACTITIONER, that he entertains a high respect for the Senate of the University of Toronto, which he calls a "learned and highly respectable body of men." In a former letter, however, he speaks of the above proposal, made by this very Senate, as "a mere trap, falling into which would have destroyed the identity of Trinity Medical College." He further adds: "The utter meanness and gross unfairness of such a thing makes one's cheeks tingle as it passes through the mind." In another letter the Dean, in referring to the fact that the Legislature of Ontario gave to the University the sum of \$160,000 to aid in restoring the burned building, says: "Yet we find that by far the greater part of the generous legislative gift of \$160,000 has been lavishly spent on these dissecting rooms, vat rooms, and other apartments for medical teaching, a mode

of spending it which was never authorized, or even dreamt of, by the House which voted the money." As far as we can understand plain English, this is a direct charge of "dishonest misappropriation of public moneys," which is absolutely incorrect in every particular.

As Dr. Geikie has evidently become rather ashamed of some of his former "reckless" and extraordinary statements, we will make no further reference now to many of his letters, which showed poor taste and bad judgment. We agree with him that his school has done good work in the past, and is likely to do the same in the future. We hope that it will never be attacked by men who will use such expressions as "utter meanness and gross unfairness" with reference to the actions of its friends or promoters. In the name of the profession of Ontario, we congratulate Trinity on its record up to the present time, and hope that in the future its career will be honorable in all respects, creditable to its worthy staff, and a source of pride to its many friends.

MEDICAL EDUCATION IN ONTARIO.

An Open Letter to the Attorney-General of Ontario, in reply to a Letter by Sir Daniel Wilson, LL.D., F.R.S.E., etc., to the Minister of Education.

BY WALTER B. GEIKIE,
Dean of Trinity Medical College.

A printed copy of a letter dated Feb. 22nd, 1892, by Sir Daniel Wilson, President of University College, addressed to the Hon. the Minister of Education, in reply to a communication sent by me to you, dated Nov. 3rd, 1891, on the subject of medical education in Ontario, has just been sent to me. The learned writer not only challenges, but entirely misconstrues and sometimes totally misrepresents, perhaps not altogether wilfully, some of the statements in the letter to which he replies. It is, therefore, necessary for me to trouble you once more, in order to prove the substantial correctness of the position taken by me throughout this entire discussion, and to correct the misconstructions and misrepresentations referred to, so that the Government may the sooner be able to reach such a solution of existing difficulties as will be considered satisfactory and fair to all concerned.

I shall not follow the learned President's ex

ample in using strong language of denunciation or depreciation; nor shall I seek to slur the character of any one, whether long since dead or still living. The position taken by those for whom I speak is far too strong to require the adoption of tactics so questionable.

I am greatly surprised that Sir Daniel Wilson, a gentleman occupying a position so distinguished, and who, if spared, as I trust he may be, will soon reach the fourscore limit of human life, should have seen fit to adopt the very opposite course.

The abolition of the former Medical Faculty of the University in 1853 is the matter first alluded to by Sir Daniel. Up to 1853, this Faculty, maintained at the public expense, and the only medical faculty in the province so maintained, was abolished by the old Parliament of Canada, only *two* of the members voting for its retention.

It would be very difficult to find a case of any legislature coming to a more unanimous decision on an educational question. It is easy, however, to explain this all but unanimity of action in view of the sound principle which was then very generally held, and which commends itself *now* to most people of ordinary common sense, "That it is not the duty of the State to use public funds of any kind in educating students for a special profession, such as medicine or law, any more than for any other calling by which people earn their living." The Government organ at the time in Toronto, *The Leader*, of Nov. 22nd, 1852, in an editorial on "Medical Education," clearly explains the view which then prevailed: "When we take our stand on an impregnable principle of political economy and assert that the State is not justified in employing public moneys to produce an article which experience has shown that private enterprise is abundantly able to supply, no one is bold enough to controvert this principle." Also, from the same paper of Oct. 26th, 1852: "There are three medical schools in Toronto. Why continue to sustain one by public money when the facts show that the article you want is supplied by private enterprise?" The learned President, however, with characteristic simplicity and self-confidence, says that he has "no doubt that the abolition of the Medical Faculty was largely due to the

antagonism between the late Dr. Rolph and certain professional rivals, the Hon. Dr. Rolph being, at the time of its abolition, a member of the Government." That a Canadian legislature, sitting in Quebec, and composed of members coming from every part of both the old provinces of Canada, could be influenced in any appreciable degree by "antagonism" between Dr. Rolph and certain rival doctors in Toronto, of which alleged "antagonism" the members, with hardly an exception, must have been entirely ignorant, is a suggestion in the last degree absurd. If all Sir Daniel's views on questions pertaining to medical education rest on foundations as flimsy as this, they can hardly be deemed worthy of much attention. Having been, in 1852, engaged in medical practice not far from Toronto, and quite familiar with all the circumstances, I can testify that the decision reached by the Legislature was the result of the sound common-sense policy laid down and acted upon in regard to educating men for lucrative professions, with the cost of which, the members held, *the country should have nothing whatever to do*, and to-day public opinion is on the side of this principle as in 1853.

Sir Daniel Wilson, somewhat obscurely, however, makes a further allusion to the late Hon. Dr. Rolph which, as a matter of good taste, would have been much better omitted. *De mortuis nil nisi bonum* is a familiar adage, which is happily very seldom forgotten.

The allusion is in connection with hints alleged to have been thrown out by him regarding the re-establishment of the Medical Department of Toronto University not long after its abolition.

Dr. Rolph was a man eminent in many ways, and, with reference to this allusion, I have pleasure in doing an act of simple justice to his memory. As one of Dr. Rolph's intimate friends and his colleague in the Medical Department of Victoria College from 1855 to 1870, when he retired from active work, I never heard him say a word on the subject Sir Daniel refers to. During all those years probably no one knew him better or saw more of him than the writer, and he took the greatest interest and talked freely with his friends on every matter connected with medical education. Had this subject been on his mind, he certainly

would have mentioned it. As Dean of the *entirely self-sustaining* Medical Department of Victoria College, which he so ably conducted for many years, Dr. Rolph was satisfied and happy, and greatly beloved by all the students. The medical men he educated are scattered over all Canada, and not a few of them have been, and others are now, worthy members of our several Canadian legislatures, and, with hardly an exception, they cherish and revere his memory.

Everybody unites with the learned President in rejoicing at the advances made in all branches of science. It is most desirable to have every department of science necessary to a thorough *general* education, not only taught, but well taught, in the Provincial University, which exists for the very purpose of affording the highest *general* culture to our youth who fill her halls, so that they may be ornaments to any profession or calling they may subsequently follow. We are proud, too, of our agricultural colleges, as indispensable to a farming province like Ontario. For the more scientific the farming, the better for every man in the province. No one grudges the support given to our Normal and other schools—to the schools of Pedagogy, and of Practical Science and Engineering, so as to provide us with well-educated teachers, surveyors, civil engineers, analysts, and with people skilled in any other departments of science which the country may require for the development of its natural resources, and which unaided private enterprise could not adequately, or perhaps at all, supply, as we have not now, and hitherto we never have had, any such schools or colleges established in Ontario by private enterprise. For such necessary purposes which the country's actual needs call for, by all means let public aid be given, always wisely, yet in no stinted way. Up to this point, but not beyond it, the writer agrees with the learned President.

The people of Ontario are, in their own opinion, quite sufficiently taxed now. In not a few cases, hard-working farmers and others find it just hard enough to make a fair living for themselves and their families. The Province with praiseworthy liberality, places a thoroughly good *general* education within the reach of every young person who cares to have it. This

can be carried even to graduation in Arts or Science in our Provincial University, and, in addition, private munificence has stepped in, for recently the Hon. Chancellor Blake gave the princely gift of \$20,000 to aid Arts students who are beginning their studies by providing scholarships at matriculation. But to give learned and lucrative professions wholly or even partially at the public cost is quite another thing. There is no such special lack of doctors as to call for or justify our increasing their numbers at the public expense. The profession of medicine, indeed, is now so well filled that many of those educated in all our medical colleges go to the United States and to other countries for a living. Are our farmers and all other people in Ontario willing, or is it right, that they should be taxed to educate doctors to supply other countries than their own? It is hoped that enough has been adduced on this point to show the unreasonableness and manifest injustice, as far as the public is concerned, of continuing to subsidize medical education in the Provincial University. It clearly appears from his letter, however, that the learned President is prepared to go any length in endeavoring, as far as possible, not only to continue, but to extend the evil we complain of. Under all the circumstances of the case it will, we think, be admitted that sufficient reasons have been given in this letter to justify us in the most strenuous and increasing opposition to an unfair use of public funds, which should never have been allowed to have a beginning, for we again assert that this subsidizing of one Medical Faculty is a threefold injustice; unjust to the public, to the Arts Department of the University, and last, but by no means least, to the self-supporting medical colleges, for which, as having chartered them, Government is bound, we respectfully submit, to secure absolute fair play, which is all they ask for. Can there be a more reasonable request? Ontario has shown by forty years of experience that medical colleges can be most efficiently conducted on the entirely self-sustaining principle, providing buildings and everything else they require out of the fees of the students they teach. Should any colleges happen to secure private endowments, this is a matter with which no one has any concern. But, as a rule, those which are entirely

unendowed are said to do better work than others; for as their success depends entirely on the ability, zeal, and assiduity of their professors, these feel necessitated to put forth all the energy they possess, and therefore are believed to do better teaching. It was forty years ago proved, and it is no less decisively proved to-day, that the quality of the professional men educated by a medical faculty maintained in part at the public expense is not a whit better, nor do they take any higher standing, than others do towards whose education not one fraction of public money has been contributed. To-day, and for many years past, the standing of the candidates from the various medical colleges, at the examinations of the several examining boards in Great Britain, and at the examinations of our own Medical Council, which all who intend residing in Ontario have to take, proclaims this with trumpet tongue over the whole land. There can be no better evidence than this of the extreme unwisdom, as well as the gross injustice, of subsidizing, as is now done, one out of the six medical teaching faculties which, including the colleges for women, exist in Ontario. Our people are sensible and shrewd, and quite able to form their own judgment in regard to such matters; and if the future is to be judged of by the past, the injustice complained of will not be allowed to continue long.

Sir Daniel refers with much warmth and in strong language to my reference to the legislative grant of \$160,000 given to the University after the fire. He speaks of my "making to the Attorney-General a charge against the authorities of the University (page 4 and page 6), of my letter having been forwarded to him by the Hon. the Minister of Education, with the request for a reply to its grave charges, including that of fraudulent misappropriation of public funds obtained on false pretences." I never made any such charge, and never used or wrote any such words as are here attributed to me. Had Sir Daniel been a younger man, I would with utmost indignation have thrown back these words upon him. I content myself with entirely repudiating the idea he disingenuously seeks to convey to those who only see the few extracts he has garbled from my letter, with which even he appears to

have deceived himself. Such a thought as the "fraudulent misappropriation of public funds obtained on false pretences" on the part of the "authorities of the University" never once entered my mind, nor has any one of the many who have spoken to me on the subject ever hinted at such an inference as that which Sir Daniel has drawn from my letter. I greatly respect the Senate and the Professors of Toronto University, and would as soon think of charging the Premier of Great Britain with till-tapping as of doing what Sir Daniel Wilson's letter indicates. What I meant was this—and a careful reading of Sir Daniel's many admissions in his letter, and a knowledge of much to which he either does not refer at all, or passes over very lightly, has only intensified my conviction of its truth—that the Legislature of Ontario which voted the \$160,000 referred to had not the remotest idea, any more than the members of the Government themselves, that a very large sum, equivalent to a considerable and possibly the greater proportion of the amount granted would be spent in erecting buildings largely for medical teaching purposes, and it appears to me incredible that it should be so spent in this way, which, it is admitted, neither the Legislature nor the Government for one moment either intended or anticipated. I refer, of course, to the large expenditure for dissecting-rooms, vat-rooms, etc., for the study of human anatomy, and for other class rooms used for medical education in this one college, while all other medical colleges in the province provide everything of this kind wholly at their own expense. And I have reason to know that an influential section of the University Senate takes the same view of this matter. I know also that however large the amount which has been spent in what I regard as the unjust and unwise way objected to, and which was all public money quite as much as the grant—even if it had exceeded the amount of the grant, it would have been raised somehow or other, and the entire \$160,000, that is, the whole grant, as a matter of course, applied to the special purpose for which it was voted. Everybody at all acquainted with the financial affairs of Toronto University at the present time is aware that the amount of money already spent on these buildings has seriously crippled the University

and prevents the possibility of some departments, however urgent their needs, having their due share of money spent upon them. From Sir Daniel Wilson's letter it might be gathered that the Medical and Biological Departments constitute almost the entire University. This is, however, by no means the case. Yet from the lavish way in which money has been spent on these, and the warm justification of this expenditure by the learned President, and his proved willingness to increase it, one cannot help thinking that he considers it the right thing to do, although the inevitable result of this policy is to leave some important departments largely unaided to struggle along as best they can. Is this policy not likely in the near future to prove injurious to the best interests and usefulness of the University?

The President seeks to throw doubts on my statements as to the Biological buildings being used to any great extent, or having been intended largely for medical teaching purposes. He seeks to beguile his readers by quoting the number of square feet contained in the buildings, etc. This the President parades as facts, but they have very little bearing, indeed, on *facts* of another kind taken from the official calendar of the University of Toronto Medical Faculty for 1890-91, in which there is a full page-sized cut of the main part of the Biological building (facing page 28), while on page 27 is the following: "The teaching in this department will follow closely the requirements of the College of Physicians and Surgeons, and will, in addition, comply with the regulations of the University of Toronto" (that is, in medicine).

"The fourth session since the re-establishment of the Medical Faculty of the University will commence on Wednesday, Oct. 1st, 1890, when the opening lecture will be delivered in the *Biological laboratory*" (page 19). On this occasion, Oct. 1st, 1890, Sir Daniel Wilson, LL.D., etc., is reported in the *Toronto World* of Oct. 2nd, 1890, to have said that "Toronto University had spent some \$130,000 on these magnificent buildings to give medical students the best equipped school in Europe or America." Why did the President not refer to this speech in his letter? He should have quoted it.

The Official Calendar of the University

Medical Faculty for 1891-92 has the following paragraph:

"UNIVERSITY OF TORONTO MEDICAL FACULTY.—The fifth session since the re-establishment of the Medical Faculty of the University of Toronto will commence on Thursday, Oct. 1st, 1891, when the opening lecture will be delivered in the *Biological laboratory*."

"The lectures and demonstrations in the subjects of the first and second years will be given in the *Biological laboratory* and in the *lecture rooms of the University*."

This last paragraph means that *two* sessions of medical teaching work out of the *four* required—that is, exactly one-half of the *medical course*—is done in buildings erected at the public cost. After trying, notwithstanding his full knowledge of this being the case, to show how little the new buildings are used for medical teaching, and saying, although they contain dissecting-rooms, bone-rooms, vat-rooms, etc., that they would have been built all the same had no Medical Faculty existed, he virtually admits that his contention is incorrect, because compelled to do so, for on page 6 he says: "And in so far as certain portions of the building are set apart for the Medical Faculty, a report was obtained from the architect specifying their estimated cost, and on the basis thus furnished an annual rent of \$1,200 is charged to the Medical Faculty, in accordance with the report of a joint committee of the Board of Trustees and the Senate, as what, in their estimation, 'would be a just and adequate allowance' as interest at four per cent. on the cost of erection." (See recent Finance Report of University Committee.) It is said that this decision to charge rent was only recently reached, and was not contemplated by the promoters of the medical part of the building. This \$1,200 looks well and fair on paper, but in reality it is not in any sense an adequate return for the great cost, as well as the deterioration in the value of the property. To understand this last point clearly it has to be borne in mind that dissecting-rooms, vat-rooms, and others where human anatomy is taught and studied for at least six months of each year, now form part of this fine pile of buildings. The parts of the building actually used for this work must necessarily have a very strong and—even to many medical

men and students—a most unpleasant smell. This is so all-pervading that it creates a dissecting-room atmosphere far and near, so as to make even a large building more or less unpleasant from the basement to the roof. This smell it is impossible entirely to get rid of. With care, it may be lessened in some degree; yet, do what you will, the air in adjoining apartments will often be found so unpleasantly tainted as to be positively sickening to a great many persons. I have already heard of a good many complaints by University Arts students on this very ground, some saying to me that “the smell was simply abominable.” Indeed, so long as dissecting is carried on at all, or bodies kept in vat-rooms in any building, this hateful odor will inevitably continue. It is said that the plans for the dissecting and vat-rooms and the rest of the “Medical Faculty” portion of the building was never submitted to the Senate. Is this the fact or not? Sir Daniel Wilson tries to show how little room the medical students occupy in the Biological department, but every one says there are a great many more of them (said to be fully two to one—see University Class List for 1891) than there are of Arts students who are taking the Science course. I can venture the opinion quite safely that, let dissecting go on and the regular courses on anatomy continue to be given in the building as at the present time, and before long no one will be found willing to occupy, either as a teacher or student, any of the lecture or other rooms near enough the anatomical region to be more or less smell-stricken unless those who are either teaching or studying human anatomy. It will soon all be left for the medicals. How far will the \$1,200 to be charged for rent go in meeting the interest on the cost of those extensive portions of the building thus rendered comparatively useless? Twice \$1,200 would not do it. Besides this, is it fair to have any Arts professors, or Arts students, male or female, subjected to this unbearable unpleasantness? Under existing circumstances non-medical students—even ladies—have, against their wish, seen what they would gladly have avoided seeing, and some have suffered more or less from contaminated air who did not expect this sort of thing when they entered on their studies. Having been a medical teacher nearly all my life, I speak from

experience. In Trinity Medical College we suffered much, some years ago, from the air of our entire building being more or less tainted in this way, no matter what might be done to prevent it. For the sake of professors and students alike, the Faculty, as soon as possible, but *entirely at their own cost*, erected the admirable building now in use for anatomical work, which is completely isolated, and ever since we have had no discomfort. But there is another pertinent question. With the regular increase in her own Arts classes and the advent of the Victoria Arts students in the coming fall, will every nook of space in the entire building available for teaching not be required for purely Arts and general Science purposes?

Sir Daniel Wilson thinks it quite right that the State should pay a large share of the cost of medical education, including building dissecting-rooms, etc. Not long since he was a member of a committee of the Senate, indeed, he seconded the motion defining its duties, viz., “To urge upon the Government the propriety of constituting Anatomy, Pathology, and Sanitary Science a part of the work of the University, and to assist the University in providing the requisite means.” This resolution appeared in the *Globe* of May 11th, 1891. It simply meant, in addition to all the already great outlay on buildings, the establishing of three State paid professorships in medicine. The project was vigorously protested against at once, and, fortunately, came to nothing, and the committee was discharged. The Hon. the Chancellor and other influential members of the Senate were known to entirely disapprove of it: yet, as an illustration of the pertinacity with which the idea of getting all that can be got from the public purse is clung to, certain speakers of the same way of thinking as Sir Daniel, at a University public gathering not very long since, referred to further action in this matter as being “merely postponed” on account of the losses caused by the late fire, thus foreshadowing their intention in due time of pressing this preposterous claim on the Government.

In my letter, certain fees paid by the medical students in the first and second years were spoken of. Sir Daniel thus refers to this point: “Under a University statute confirmed by the Lieutenant-Governor in Council, all fees paid

by medical students are apportioned to the Medical Faculty." In the interpretation of this statute, fees paid by students for Physiology, Chemistry, and Biology have been so apportioned. Here I would very specially ask, under whose interpretation of the statute was this done—that of the Attorney-General, or the Minister of Education, or the Chancellor of the University? The aggregate amount of the fees thus earned entirely by professors and teachers, paid by the University, or from other public funds (a small portion of it being earned in the School of Practical Science), is no trifling sum, being \$34 from every first year's student, and \$37 for every student in the second year. Allowing sixty students in each of these years, the total amount would be \$4,260.

According to ordinary business principles, this money should go, without any deduction, towards the payment of the salaries of the teachers who give the instruction.

This would make just so much more public money available for the many purposes where it is so much needed, especially in the Arts department of the University. Sir Daniel Wilson himself, however, after making certain deductions from these fees, for one purpose or another, admits that those for Chemistry (general) and Physiology do go into the medical fund: this amounts to \$24 per student in the first and second years respectively. Sixty students in each year will give $120 \times 24 = \$2,880$. This sum is earned wholly by University-paid Arts professors, and clearly, therefore, belongs to the Arts department. It would go a long way towards paying the small salaries given to assistant teachers in many of the Arts departments where extra teaching is much needed but cannot be had, to the extent required by the students, from want of funds. In the self-sustaining colleges all the teaching is done in every subject by the professors, who are paid out of the fees they earn, and all expenses are also paid out of these fees. Sir Daniel himself admits that some "readjustment of some of the arrangements heretofore adopted in reference to the special medical fund may commend itself to your judgment under present circumstances is possible."

Sir Daniel passes over without the slightest notice the self-evident injustice of subsidizing

one medical college at the public expense, and tacking it on to the Provincial University as its Medical Faculty, thus bringing it into unfair competition with the other FIVE which are altogether self-sustaining. Nor does Sir Daniel allude to the fact stated in my letter, that the work done in the latter institutions has been proved year after year for many years, before competent medical boards at home and abroad, to be as good as any done in Canada. This is absolutely undeniable. The restoration of a Medical Faculty to the Provincial University has been proved once more to be a very great and quite an unnecessary expense to the University and the country. One disastrous result has been to de-provincialize the University in Medicine, making her not a friendly co-worker with all our medical colleges, as from her provincial character she should be, but bringing her down to the undignified and unprovincial position of being a keen and a most unfair, because a subsidized, competitor with every one of them for each student; and this notwithstanding the fact that some of these colleges—our own, for example—have been for many years affiliated with her under their respective charters. The President sees fit to drag Medical Council matters, too, into his letter. What have these to "do with the question of the unfair public subsidizing of medical education in one college out of six? The gentlemen to whom the speaker in the Medical Council refers, quoted by Sir Daniel, are amongst the best friends of that body, and are excellent judges as to what is its wisest and best policy. All they desired was to have time given for the careful consideration of every step when great changes are being made, so as to avoid the taking of even one false step which might create trouble and possibly have to be retraced. The President also refers to Trinity Medical College having been asked five years ago to join in the information of the restored Medical Faculty. There is no use bringing this question up now, as at present it has no bearing whatever on the matter in hand. One objection to her doing so, which is unanswerable, is stated in my letter, that "medical colleges, large enough to require the services of a complete staff of professors and other teachers, can no more be rolled together than can large

congregations or public schools." Besides this, Sir Daniel knows very well that the scheme submitted in 1887 to Trinity Medical College and the agreement subsequently made by the University with the Toronto School of Medicine were very materially different. The learned President, too, thinks it a good plan, as in Edinburgh, to have many hundred of students attend the same classes. This necessitates the employment of a perfect army of grinders, causing a large additional expenditure to each student. Besides, professors who can keep up the attention and profitably teach classes of several hundreds are few and far between, either in Canada or elsewhere. As a practical medical teacher, I much prefer the London plan of self-supporting medical schools, with large, yet not too large, classes, as better both for professors and students. Once more, I am surprised that the President should have stooped to refer to a matter long since fully answered, but to which he calls even special attention. This is the closing paragraph of an old letter of mine, dated March, 1887; the President should have said, but he did not do so: that this entire letter was written for the very purpose of showing how "unwise" and "undesirable" it would be to restore a Medical Faculty to Toronto University; that to do so would reduce the University, so far as medicine was concerned, from her provincial position as a centre round which all the medical colleges might cluster, each sending up a quota of students every year, to that of a mere local college competing keenly for students. In the light of to-day, does this not seem somewhat prophetic? The only part of this letter Sir Daniel quotes is the very end: "I think it will be ample time to give the subject full consideration when we learn that the Government of Ontario, with the cordial support of our Provincial Legislature, has fully decided to create, equip, and endow liberally a new medical teaching body; and to provide for it a staff of the best teachers the country can furnish, each of whom shall have a salary secured to him of not less than \$2,000 a year for each of the principal chairs, and a suitable retiring allowance when, from age or ill-health, he is no longer able to discharge his duties. Till this is done the project is a mere 'castle in the air.'"

This letter ended as it did only because on indubitable authority I was informed, and then believed, that the "conditions" presupposed by me, of "endowing and equipping," the giving of salaries and retiring allowance, etc., were just as likely to occur as would be the appointment of Sir Daniel Wilson as Admiral in Chief of Her Majesty's Navy, or the extension of the Toronto Street Railway to the moon, and no more so. The old letter is filled with all sorts of reasons showing that matters had much better be left as they were, and that the proposed scheme would be very unlikely to work well, and that the carrying of it out bristled with many real and most practical difficulties. Has this not proved to be the case?

In answering my letter, Sir Daniel has left entirely out of sight its principal feature, viz., the huge injustice and impolicy of subsidizing with public funds *one*, and *only one*, of our six medical colleges. Yet this is one of the main points of the whole discussion; not only so, but he defends all the outlay of public funds connected with this injustice, and has shown himself ready, and even anxious, to increase it, and he never so much as mentions the crippling effect of the recent unprecedented expenditure on the other departments of the University.

In the absence of sound, and often of any, arguments against my contention, he has resorted to all sorts of detraction, and has, as I have already said, put into my letter, as used by me against the authorities of the University, words I never wrote or spoke, and thoughts that never once entered into my mind. Whether the words I allude to are Sir Daniel's own, or merely quoted from a letter addressed to him, and endorsed by him, or not, I do not know; but in either case they are, to use the mildest word possible, entirely and most mischievously incorrect and misrepresenting. He has dragged all sorts of subjects into this discussion which have nothing more to do with it than the fixed stars.

In this reply, much longer than I could have wished, I have striven to confine myself closely to the subject under consideration. I close by sincerely hoping that very soon a settlement of this question, *just* to all concerned, may be reached by the Government.

Toronto, March 10th, 1892.

Meeting of Medical Societies.

PATHOLOGICAL SOCIETY OF TORONTO.

January 30th, 1892.

The society met in the Biological Department, the president, Dr. J. E. Graham, in the chair.

Dr. J. E. Graham presented a specimen, and read the following history :

A CASE OF SUB-DIAPHRAGMATIC ABSCESS ACCOMPANIED BY EXTREME DILATATION OF THE STOMACH.

Notes taken December 30th, 1891.

G. W., aged thirty-five, a builder, has never been strong, suffered for the last six or eight years from dyspepsia, which was at times so aggravated that he could only take limited amounts of the simplest kinds of food. During the past summer he suffered from a pain, more or less continuous, in the right side, and was treated for liver trouble. In the autumn he spent some weeks in Muskoka, but returned very little benefited in health. He was pale and emaciated, and the dyspeptic symptoms were worse than usual. In November he was much startled by a fire which occurred in his house; he exerted himself more than he had done for months in putting out the fire, and immediately afterwards was seized with a severe pain in the right hypochondriac region, accompanied by very great weakness. He was seen by a physician, who found him in a partial state of collapse. Under treatment the pain was relieved, and he rallied considerably. He was, however, much troubled by severe vomiting of a blackish liquid. This vomiting occurred both after taking food and in the intervals. It was not accompanied by pain, and was at times so severe that the fluid would be discharged with considerable force.

Three weeks after the first, he was seized with a second attack of severe pain and collapse. This occurred on a Sunday, and on the following Monday evening Dr. Cameron and I were called to see him in consultation with his attending physician, Dr. Shaw. We found the patient sitting up in bed, pale and much emaciated. He could speak clearly, but his voice was weak. His pulse was 140, and temperature 101°. Upon physical examination, the stomach

was found to be enormously distended. The greater curvature was half way between the umbilicus and the pubes. A large solid mass was found in front of the stomach, which we diagnosed to be liver; stomach tympanites was found both above and below the mass. The lower margin of the mass extended down to the umbilicus. At the same time we noticed that the pulmonary resonance on the right side behind did not extend lower than normal. The heart and lungs were found healthy. The diagnosis made was stenosis of the pylorus and dilatation of the stomach. We did not attempt to account for the peculiar position of the liver, except that it was probably much enlarged.

The patient died suddenly the following morning. A *post mortem* was made eight hours after death. Upon opening the abdomen we found extreme dilatation of the stomach, and the liver, normal in size, lying in front of it. The greater curvature passed in a line rather below midway between the umbilicus and and pubes. The liver appeared to be somewhat rotated and pushed downwards, so that the left lobe was in front and below. In trying to separate the liver from the diaphragm, a large abscess was opened, which was found to contain two pints and a half of pus. The abscess cavity extended backwards and upwards, pushing up the diaphragm. Its upper margin corresponded with the fifth rib on anterior border of axilla, sixth rib at post border, and eighth behind. The cavity was not connected with the liver. The sac was thick and strong. It covered a portion of the upper surface of the liver and lower surface of the diaphragm. In the region of the pylorus and abdomen inflammatory adhesions existed, matting the intestines together in a confused mass. Upon examination of the pylorus a contraction was found produced by inflammatory adhesions, but no hardness or ulceration was discovered in the wall itself. The abscess could have been easily reached between the ribs, and could have been thoroughly drained. It is probable that the patient had for months a dilated stomach, the result of dyspepsia, but the extreme dilatation may have been of later origin.

These cases of sub-diaphragmatic abscesses unconnected with the liver are somewhat rare. I have seen two cases, in one of which a diag-

nosis was made by Dr. Cochrane, then a resident physician in the hospital. In the other, no diagnosis had been made. In this case there was no history of injury, nor was there any history of a ruptured cyst. Moxon gives the latter as sometimes the cause. The diagnosis of such an obscure case can only be correctly made by an accurate examination of all the organs, of the careful and thoughtful consideration of all the evidence obtained, and by the use of an exploring trocar.

Dr. Scadding had seen this patient on two or occasions, first in July, 1890, when he had diagnosed perihepatitis. He then had an elevated temperature, constipation, and jaundice. He thought his symptoms were due to a chill while bathing.

Dr. W. J. Greig had also seen him last November, and found his temperature 100° F. and pulse 90. He suspected perityphlitis. There was no abdominal distension; resonance was present on the left side, and dulness on the right; there was forcible vomiting of a black material, and a good deal of gastric flatulence. He had been taking capsules containing carbolic acid, which would, perhaps, account for the black vomit.

Dr. John Caven said this looked like a pyæmic abscess. As in man, at any rate, suppuration never takes place unless micro-organisms are present, there must have been some channel for germ infection—perhaps some lesion of the stomach wall, or of the retroperitoneal glands. There must have been an infective focus somewhere. There may be pus without micro-organisms, but it is only rarely and with much difficulty produced as the result of experiment. The dense wall of the abscess would show that it had been in existence for a long time.

Dr. Primrose asked how the gastric dilatation was to be accounted for.

Dr. Peters said: Might not the stomach dilate from peristalsis taking place when the organ was filled?

Dr. Graham replied that he did not think the healthy stomach would dilate from being filled, and peristalsis then take place, but would hypertrophy. It would be otherwise, however, with a stomach the walls of which were in an unhealthy condition. Sub-diaphragmatic abscesses were very difficult of diagnosis. He had

seen only two cases before this one, one of which had been accurately diagnosed by Dr. Cochrane when an assistant in the General Hospital.

CEREBRAL HEMORRHAGE.

A case of cerebral hemorrhage, reported by Dr. Barnhart, was presented by Dr. Graham.

G. T., aged forty-four, had always enjoyed good health. He, however, had met with a serious accident when twenty-six years of age, on account of which his leg was amputated in the middle third.

On the afternoon of November 4th, while returning from Little York with a load of lumber, his horses were frightened by some unusual noise and ran away, overturning the wagon, and throwing him to the ground with the lumber. Dr. Walters was quickly summoned, and found him in an unconscious condition, but with no visible injuries except a fracture of the tibia. He put the leg up in temporary splints, and sent the patient to the hospital.

The accident occurred at 5:30 p.m., and the patient was brought to the hospital at 6:45 the same evening. The fractured limb was dressed, and the patient put into bed. There was no sign of injury to the head. The patient was unconscious and utterly helpless: temperature 101; face slightly flushed, hot and moist; pulse rapid but regular, 140 per minute; heart sounds distinct. Both upper and lower extremities were affected with slight spasms, which varied somewhat at different times from greater to lesser degrees of rigidity. The neck was flaccid, the cheeks relaxed, but the jaws were rigidly closed. There appeared to be a condition of hyperalgesia and hyperæsthesia, as the patient would show signs of distress when the catheter was introduced into the bladder, or when the supra-orbital nerve was pressed upon. The conjunctival reflex, at first absent, returned in a few hours after admission. The pupils were very sluggish and slightly unequal, the right being the larger. The breathing was stertorous, the cheeks puffed out at each expiration. After eight or ten hours, Cheyne-Stokes breathing gradually developed in its most typical form. The progress of the case was marked by a great rise of temperature; 103°, 106°, and 107° were registered in the first twenty-four hours, and Dr. Barnhart is of opinion that it

may have reached 110° or 112° during the night. The pulse became, in a few hours, full and bounding and very rapid—160 to 180 per minute. Mild convulsions, described by the attendants as attacks of trembling, occurred quite frequently during the first thirty-six or forty hours. These gradually became less, so that the body was quite relaxed for a few hours before death.

The patient gradually sank more deeply into coma, and died at 9:30 p.m., November 6th—fifty-two hours after the accident.

Autopsy five hours after death. Abdominal viscera, normal; heart also normal; lungs exhibited signs of commencing broncho-pneumonia; cervical vertebra intact. When the skull cap was removed, the meninges seemed to be much engorged. A clot of blood was diffused over the cortex in the motor area, mostly on the right side, but to a less extent on the left. A clot was also found in the base of the brain in front of the pons. On section small hemorrhages, varying in size from a pin-head to a pea, were found in the brain substance, about an inch below the cortex, near the motor area. Small coagula were also found near the base, implicating the basal ganglia. The pons and medulla were carefully examined, and no gross lesions were found.

This case is a good example of the severest form of concussion, as that accompanied by hemorrhages in various parts of the brain substance. A point of interest was the great rise of the temperature. This was not explained by any of the gross lesions found. It is possible, however, if the pons and medulla had been examined microscopically, some pathological condition might have been discovered which would have cleared up the difficulty.

Dr. Acheson asked, if the patient had lived long enough, would these extravasations of blood have resulted in abscesses? Is it possible to have a purely traumatic cerebral abscess where there is no channel of communication with the exterior of the skull through which pus-producing organisms could enter? If they enter by means of the circulation, are the resulting abscesses not rather pyæmic?

Dr. John Caven said the rise of temperature in this case was an interesting point. Pyrexia is nearly always produced by the absorption of

some pyrogenous substance. Here, however, there must have been a hemorrhage into the the pons, or higher up, so as to cut off the inhibitory fibres to the heat regulating centre.

GLIOMA OF THE BRAIN.

In the absence of Dr. Olmsted, who was to have given the description and history of this specimen, Dr. H. W. Aikens gave the following abstract:

The patient had consulted him some weeks before death for an intense pain in the head. He had given him 15 grains of antipyrin, and the pain had ceased temporarily, but it returned persistently. He was more or less somnolent, but there was no other physical or mental disturbance. Later, there was some little inco-ordination of movement in the left arm, and slight loss of power in the left leg. The autopsy showed the outer two-thirds of the lenticular nucleus of the right side to be occupied by a tumor. There was some surrounding cerebritis, and more fluid than normal in the ventricles. The convolutions of the right side were somewhat flattened. The internal capsule was not at all affected.

Dr. John Caven had made a microscopical examination of the tumor, and found it to be in some parts of the character of a pure glioma, and in other parts a spindle-celled sarcoma.

Dr. Primrose read the following* notes of a case of

TOTAL CRANIO-RACHISCHISIS WITH ENCEPHALOCÉLE.

The malformation exhibited depends on an arrest in development in the bones of the head and spine. The vault of the cranium is not completely closed in. The frontals, parietals, temporals, and occipitals are all imperfectly developed; probably the parietals are entirely absent, as also is the tabular portion of the occipital bone. The neural arches of the vertebræ in the cervical, dorsal, and upper lumbar regions are undeveloped, and the neural canal is left unclosed. A shallow flattened groove exists along the dorsal aspect of the vertebral bodies, and in this groove lies a thin membranous structure which represents the spinal dura mater. The skin covering stops short at the tips of the transverse processes, so that the posterior aspect of the transverse processes and

of the bodies of the vertebræ is quite on the surface, uncovered by integument. The skin covering of the cranium is also incomplete, and terminates at the margins of the opening through the vault of the skull; the hair of the scalp is continued down on either side, forming a narrow bordering of hair along the skin margin as low down as the second dorsal vertebra. The membranes of the brain protrude and form an encephalocele as large as a small orange. This encephalocele had been ruptured during labor, and any fluid there might have been evacuated. On opening the brain membranes, contents of brain-detritus are found. On opening the spinal membranes, there is no evidence of the cord, save some nerve roots which lie in contact with the inner aspect of the membrane in the cervical and upper dorsal regions. The condition of the cord would seem to indicate that there had been a myelocele, with a subsequent atrophy of the spinal cord. There is a small sacral tuft of hair over the mid-sacral region. The sacral and lower lumbar vertebræ are apparently fully developed, and the skin over them normal, with the exception of the sacral hair-tuft referred to. He proposed to make a complete dissection of the specimen and report at a future meeting.

Dr. R. A. Reeve presented a specimen of

INTRA-OCULAR TUMOR FOLLOWING TRAUMA.

G. C., aged twenty-eight, a healthy subject, consulted me on the 28th of April, 1891. About a month previously he had received a blow on the right eye. This was followed by congestion and aching, which lasted several days. There was no defect of vision, at least sufficient to command attention, until three days before his visit. Detachment of the retina was found in the inferior equatorial region. V = 20/LXX.

Oct. 5. The patient returned suffering from acute secondary glaucoma.

Nov. 12. Two iridectomies having failed to relieve the glaucomatous condition, the globe being blind, hard, and painful, enucleation was done. Examination showed what had been predicted—the presence of a tumor. This was of greyish appearance and of rather firm texture, and was implanted on the sclero in the equatorial region over an area of about 10 by 8 milli-

meters. It occupied about one-sixth of the vitreous chamber, the ciliary and papillary regions not being involved. Dr. John Caven had found the growth to be spindle-celled sarcoma. Although the irritative or traumatic origin of such growths has been questioned by good authorities; in a recent series of 103 cases (Lawford) 6.79 per cent. followed trauma. If we bear in mind that the average age of the subject in 362 cases was forty six years, and that the duration of the first, or quiescent stage, as it is termed, namely, six months, in this instance was less than one-third of the average, it seems fair here to ascribe a distinct influence to trauma.

Dr. John Caven had examined the tumor microscopically, and said it was a spindle-celled sarcoma, with slight pigmentation towards the border.

CARD SPECIMENS.

Dr. John Caven presented:

(1) Heart, mitral lesion, thickening of the valve with buttonhole orifice.

(2) Heart, mitral lesion, no stenosis, but chordæ tendinæ glued together so as to prevent proper closure of the valve; also acute pericarditis.

Dr. Primrose presented: Fracture of neck of femur, impacted.

The society then adjourned.

Correspondence.

MEDICAL EDUCATION IN ONTARIO.

Editor of THE CANADIAN PRACTITIONER:

SIR,—Your journal of the 16th inst. contains a letter written by Sir Daniel Wilson, LL.D., F.R.S.E., etc., President of the University of Toronto, to the Hon. the Minister of Education, in reply to a communication made by me some time ago (Nov., 1891) to the Hon. the Attorney-General of Ontario. Sir Daniel's letter has been answered, and I herewith send you a copy of the answer. As you published Sir Daniel's letter in full, I ask, as a matter of simple justice, that you will also publish my reply to it in full. As to the personalities you think proper to use in your editorial article on the subject of Sir Daniel's letter, I do not care to notice them. The reply I ask you to publish contains a complete answer to the only point you seek to bring

against me in your editorial, where you accuse me of charging the Senate of the University of Toronto with the "dishonest misappropriation of public moneys." I never used the term "dishonest" either in speech or in writing in this connection, any more than I used the phrase, "fraudulent misappropriation of public moneys obtained on false pretences," which occurs in Sir Daniel Wilson's letter as having been used by me in reference to the same learned and highly respectable body of gentlemen. As stated in my letter, it is quite immaterial whether this phrase is Sir Daniel's own or merely quoted by him; in either case it is absolutely and most mischievously incorrect and misrepresenting, as no such words were employed by me, nor did even one thought such as they imply enter my mind. The important matter under discussion is in no sense a personal one, nor even one between two or more medical colleges. As you very well know, it is a question of principle, in which the public, the University of Toronto as a whole, and all our independent medical colleges are very deeply interested. This principle is clearly laid down in every letter I have written on the subject: that with *six* medical colleges in Ontario, it is not fair that any *one* of the *six* should be directly or indirectly subsidized from the public funds of the province, while the other *five*, all doing equally good work, are neither asking nor receiving in buildings or in any other way one cent of public money. You say I am seeking to destroy a "sister institution." In this you are entirely mistaken; I wish to do nothing of the kind. But no "sister institution" has any right to have public funds, and, least of all, those which are much needed for other purposes spent on medical buildings for its own special use, while all the other "sisters" (*i.e.*, similar institutions) provide everything they need of the kind for themselves. My motto is, always has been, and will continue to be, "a fair field" for every medical college in Ontario, and no special favors for any *one* of them, particularly if these favors, whether small or great, come out of the public purse. I have only to add that no feeling other than of the greatest kindliness towards every university, university senate, and medical college in Ontario has any place in my breast. Indeed, I am ever, and most gladly, ready to help every one of them to secure every public

right and privilege which I claim for my own college.

Faithfully yours,

Holyrood Villa, WALTER B. GEIKIE.
52 Maitland St., Mar. 24, 1892.

Book Reviews.

The Principles and Practice of Medicine; designed for the use of practitioners and students of medicine. By Wm. Osler, M.D., Fellow of the Royal College of Physicians, London; Professor of Medicine in the Johns Hopkins University, and Physician-in-Chief to the Johns Hopkins Hospital, Baltimore; former Professor of the Institutes of Medicine, McGill University, Montreal; and Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. New York: D. Appleton and Company, 1892. Toronto: Geo. N. Morang, 170 Yonge Street.

The reader cannot but feel favorably disposed towards an author who has the courage to do away with the time-honored, but useless, preface and the introductory disquisition on the principles of medicine. This favorable impression is increased by such frank confessions as, "I have repeatedly sent cases to the wards as typhoid fever which subsequently proved to be ordinary malarial remittent." Surely the good influence of William Arthur Johnson, priest of the parish of Weston, to whom the work is dedicated, still lives. Would that all medical writers were as frank and truthful! This frankness is not only engaging, but also valuable. Dr. Osler tells us what he has found to be of use; what he has tried, but seen fail; and what he has no personal knowledge of, though it has been recommended by others.

But few works on medicine bear so strongly the impress of their author. "The pulse in typhoid fever presents no special characters. It is increased in rapidity in proportion to the height of the fever. As a rule, in the first week it is above 100, full in volume, and often dicrotic. There is no acute disease with which, in the early stage, a dicrotic pulse is so frequently associated. Even with high fever, the pulse may not be greatly accelerated. As the disease progresses, the pulse becomes more rapid, feebler, and small. In the extreme prostration of severe cases it may reach 150 or more, and is a mere undulation—the so-called

running pulse. The lowered arterial pressure is manifest in the dusky lividity of the skin and coldness of the hands and feet."

One can see Prof. Osler hesitate for a moment between each sentence, change his position, bend forward, and uneasily rub his head. Short sharp sentences—each fact arrayed in Puritan simplicity—follow one upon the other. When all the main truths have been formulated, the modifying statements are given. No one but a teacher would adopt such a style.

Is the Appleton Company bankrupt in colons and semicolons, or has Prof. Osler an innate dislike to their use? Page follows page, beautified by many full stops, and an errant comma, but a colon—never!

The happy union in Prof. Osler of scientific knowledge and its application to practical medicine is mirrored in this text-book. The latest advances in pure science are made to clear up many heretofore obscure subjects. The empirical, if retained, is acknowledged as such, and not surrounded by a halo of obscure mysticism. He who advises routine treatment comes in for no gentle criticism. "The routine administration of turpentine in all cases of typhoid fever is a useless practice; for the perpetuation of which, in this generation, H. C. Wood is largely responsible." (p. 37).

At the risk of a *tu quoque*, we would draw attention to the code of ethics of the Society upon the Stanislaus.

"But first I would remark that it is not a proper plan for any scientific gent to whale his fellow-man; and if a member don't agree with his peculiar whim, 'o lay for that same member for to 'put a head' on him."

Here and there crop up signs of the haste with which the book has been written. "Agents which are believed to dissolve the membrane are lactic acid, which may be employed with lime water (two drachms to six ounces) and trypsin (thirty grains to the ounce).

"Pepsin has also been used, and the vegetable pepsin which may be mixed with water and glycerin." (p. 110).

This second paragraph seems to have been an afterthought. Evidently the author could not think of the technical name for vegetable pepsin, but determined to look it up later on, and forgot to do so.

"Thus in the extensive records collected by Welch ulcer, cicatrized or open, was present"

(p. 368). What has poor Welch done to be treated thus? Is he not a member of the "Union"?

As an expression of "credo," and as written from the standpoint of an American, this work marks an era in the history of medicine on this continent. Disease is described as it exists here and as seen by American eyes; for, whilst due attention is paid to European authorities, the majority quoted are American and Canadian.

The student and the practitioner cannot afford to be without this handbook, the best extant. The blemishes will, no doubt, disappear in future editions, and permit the book to be what it ought to be—a classic.

We shall, later on, deal more fully with the work.

Surgical Diseases of the Ovaries and Fallopian Tubes, including Tubal Pregnancy. By J Bland Sutton, F.R.C.S., Assistant Surgeon to the Middlesex Hospital, London; late Hunterian Professor, Royal College of Surgeons of England. In one 12mo. volume of 513 pages, with 119 engravings and 5 colored plates. Cloth, \$3.00. Philadelphia: Lea Brothers & Co., 1892.

Mr. Bland Sutton is so well known as one of the most distinguished surgeons and pathologists of Great Britain that we need only say that this work is well worthy of its author. Mr. Sutton says, in his preface: "Though the book is largely based on personal investigation, full justice is done to the original work of other surgeons. This is a method rarely followed by those engaged in that section of surgical craft known by the grandiloquent term, 'gynecology.' Any attempt to put the pathology of extra-uterine gestation on a sound basis is rendered difficult by the large number of erroneous assertions, or, as Jevons styled them, false facts, which abound in the literature of this important subject; they have retarded progress because it is often impossible to prove the falsity of records relating to specimens no longer in existence. The time is not far distant when even teachers of midwifery will wonder how they could ever have believed that impregnated ovum would grow upon the peritoneum."

A Dictionary of Treatment, or Therapeutic Index, including medical and surgical therapeutics. By William Whitla, M.D., Professor of *Materia Medica* and Therapeutics in the Queen's College, Belfast. Revised and adapted to the pharmacopœia of the United States. In one octavo volume of 917 pages. Cloth, \$4. Philadelphia: Lea Brothers & Co., 1892.

This is an excellent practical book, which ought to become very popular among busy practitioners. Diseases are taken in alphabetical order, the first being "abortion," and the last "yellow fever." In connection with each the treatment is discussed, and the remedies most suitable, in the opinion of the author, are recommended. It will thus be seen that it does not give simply a list of drugs, or a number of prescriptions for each ailment, but rather a complete statement of the best modern therapeutic methods.

Consumption: How to Prevent it and How to Live with it. By N. S. Davis, jr., A.M., M.D., Professor of Principles and Practice of Medicine, Chicago Medical College. Philadelphia: F. A. Davis, 1891.

This valuable little book has gradually evolved from the hygienic rules laid down in brief conversations with patients. Since it is impossible, in a brief consultation, to give a consumptive all the necessary directions, the author has endeavored to make the work one which may safely and profitably be placed in the hands of patients. The object is laudable, and the advice given trustworthy. The details as to the hygiene of the consumptive, his food, the exercise to be taken by him, and the most suitable climate for him to live in, are dealt with in such a way as to be instructive to, and valuable for, both patient and physician.

Saunders' Question Compend, No. 23: Essentials of Medical Electricity. By D. D. Stewart, M.D., and E. S. Laurance, M.D. Philadelphia: W. B. Saunders, 1892.

Mr. Saunders will permit us to offer him our sincerest thanks that this addition to his series is not arranged in the form of question and answer. Visions of our childhood's catechism no longer rise up against us as we look at the blue covers. The authors are both experienced eachers, and their knowledge of the difficulties

of students have enabled them to clear away some stumbling-blocks in this difficult subject.

Wood's Medical and Surgical Monographs, December, 1891, contains Modern *Materia Medica*, with Therapeutic Notes. By Dr. Otto Roth.

The alphabetical arrangement of the work facilitates ready reference, and at the same time renders more noticeable any omissions. During a cursory examination of a few moments, we note the absence of any reference to Ouabaine, Jambul, Pichi, Erythroplaine, Chekan, Manaca. An author must, no doubt, be often puzzled what drugs to describe, what to omit, but in a *modern* materia medica it certainly does cause some surprise to find that hydrogen peroxide is not even mentioned.

The Complete Medical Pocket Formulary and Physician's Vade Mecum, containing upwards of 2500 prescriptions, collected from the practice of physicians and surgeons of experience, arranged under an alphabetical list of diseases. Collated by J. C. Wilson, A.M., M.D. Philadelphia: J. B. Lippincott Co., 1892.

This pocket formulary, besides some 2500 prescriptions, contains a special list of new remedies, their dosage, solubilities, and therapeutic applications, tables of formulæ for suppositories, hypodermic medication, inhalation, a list of common poisons and their antidotes, a posological table, and other useful information, making it a real *vade mecum*.

Pamphlets and Reprints.

Hand Disinfection. Reprinted from *American Journal of Obstetrics and Diseases of Children*. Also, *The Ideal Dressing for the Abdominal Wound.* Reprinted from *American Journal of Obstetrics*. By Howard A. Kelly, M.D., Professor of Gynecology and Obstetrics at the Johns Hopkins University; Gynecologist and Obstetrician at the Johns Hopkins Hospital.

Tubal and Peritoneal Tuberculosis with Special Reference to Diagnosis. By George M. Edebohls, A.M., M.D., Gynecologist to St. Francis Hospital, New York. Reprinted from the Transactions of the American Gynecological Society, September, 1891.

(1) *Femoral and Ventral Hernia in Women* ;
 (2) *The Kangaroo Suture*. By Henry O. Marcy, A.M., M.D., LL.D., of Boston, U.S.A., President of the American Medical Association ; Surgeon to the Hospital for Women, Cambridge, etc. Reprinted from the Transactions of the American Association of Obstetricians and Gynecologists.

On Dermatol, a Proposed Substitute for Iodoform: Its Use in Surgical Practice. By Charles A. Powers, M.D., Surgeon to the Out-patient Department, New York Hospital ; Instructor in Surgery, New York Post-Graduate Medical School and Hospital. Reprinted from the *N. Y. Medical Record*.

A Clinical Study of Primary Carcinomatous and Sarcomatous Neoplasms Between the Folds of the Broad Ligaments, with a Report of Cases. By J. E. Jauvrin, M.D., New York. Reprinted from Vol. xvi., *Gynecological Transactions*.

The Relation of Gonorrhoea to Disease of the Uterine Appendages. By H. W. Longyear, M.D., Detroit, Gynecologist to Harper Hospital, Visiting Physician to the Woman's Hospital, etc. Read before the Michigan State Medical Society, June, 1891.

The Climate of Southern California in Relation to Disease. By William A. Edwards, M.D., San Diego, California, formerly Instructor in Clinical Medicine, University of Pennsylvania, etc. Reprinted from the *Climatologist*.

Apparatus for Collecting Water for Bacteriological Examination. By Samuel G. Dixon, M.D., Academy of Natural Sciences, Philadelphia. Reprinted from *The Times and Register*, October 24th, 1891.

Tuberculin: The Value and Limitation of its Use in Consumption. By Charles Denison, A.M., M.D., of Denver, Colorado. Reprinted from the Transactions of the Colorado State Medical Society, 1891.

Some Suggestions as to the mode of Action of the Galvanic Current in Gynecological Practice. By Thos. W. Poole, M.D., Lindsay, Ont. Reprinted from the *Archives of Gynecology, Obstetrics, and Pediatrics*, Dec., 1891.

Microscopical Diagnosis of Tuberculosis. By Paul Paquin, M.D. Little Blue Book Co., Battle Creek, Mich.

The Practical Adjustment of Spectacles. By George M. Gould, M.D., Ophthalmologist to the Philadelphia Hospital, Philadelphia. Reprinted from *Annals of Ophthalmology and Otology*, January, 1890.

Publications from the Biological Laboratory of the University of Toronto, No. 3: Studies on the Blood of Amphibia. By A. B. Macallum, M.B., Ph.D. Toronto: Copp, Clark & Co., 1892.

Notes on General versus Local Treatment of Catarrhal Inflammations of the Upper Air Tract. By Beverly Robinson, M.D., New York. Reprinted from the *Climatologist*, December, 1891.

On the Demonstration of the Presence of Iron in Chromatin by Micro-Chemical Methods. By A. B. Macallum, M.B., Ph.D. Reprinted from the Proceedings of the Royal Society, Vol. 1.

An Account of the Influenza as it Appeared in Philadelphia in the Winters of 1889-90 and of 1891-92. By J. Howe Adams, M.D., of Philadelphia.

Disposal of Waste and Garbage. Report of Committee at the nineteenth annual meeting of the American Public Health Association, 1891.

Proceedings of the Academy of Natural Sciences of Philadelphia, 1891. Part iii. Academy of Natural Sciences, Logan Square, Philadelphia.

14th Annual Report of the Presbyterian Eye, Ear, and Throat Charity Hospital. No. 1007 East Baltimore Street, Baltimore.

Obituary.

H. ROBERTSON, M.D., M.R.C.S. Eng.—The circumstances surrounding the death of Dr. Hugh Robertson were exceedingly sad. He contracted diphtheria from one of his own children, and died after a short illness, March 24th. He was best known as a teacher of anatomy in Trinity Medical College, where he was highly respected. After the death of the late Dr. Fulton, he was appointed as the representative of the College on the Senate of the University of Toronto.

THOMAS A. KEATING, M.D., M.R.C.S. Eng. —One of the best known of western physicians was Dr. Thomas A. Keating, of Guelph, and the news of his sudden death, March 13th, was heard with deep regret by his many friends. He had for many years a large practice in Guelph and vicinity, and was held in high esteem by his brother practitioners. He became a member of the Royal College of Surgeons in England in 1860, and received the degree of M.D. from Victoria University in 1861.

Therapeutic Notes.

STERN (*La Sem. Med.*, 1890) has treated successfully by iodide of potassium five cases of urticaria, four of them being more or less chronic and rebellious to all previous treatment. None of the patients were either syphilitic or asthmatic. In one case, of four months' duration, the itching disappeared on the second day of treatment, and the cure was completed after two and a half drachms of the remedy had been taken. In two cases (one acute, the other chronic) the itching was at first increased, but a successful result was obtained in each case after the administration of seventy-five grains of the drug.—*Maryland Medical Journal*.

RHUS AROMATICA is a valuable remedy in enuresis of children; dose, from five to ten drops three times a day of the fluid extract. It will also sometimes cure what is believed to be diabetes. Its exhibition in small doses three times a day will steadily decrease the amount of urine passed, and relieve the inordinate thirst. It is the remedy for hemorrhage of kidneys and bladder.—*Medical Tribune*.

Miscellaneous.

PATENT MEDICINES AND THE LAY "PRESS."

—At the annual meeting of the Canadian Press Association, held in Ottawa, Mar. 3rd and 4th, Dr. Playter brought before the meeting the subject of patent medicine and cure-all advertisements. Why, the doctor said, should the general press insert such advertisements any more than the medical press? Patent medicines did an incalculable amount of harm, promoted intemperance and disease, misleading the people until

it was too late in many instances, disease having progressed too far for medical skill to apply successful remedies. The most excruciating of all pains, especially to most readers of papers, was "Paine's Celery Compound." The press was a powerful educator, a great power for good or for ill. The time would surely come when this practice of the press would be abandoned. Dr. Playter asked for a committee to be appointed by the President to report on the subject at the next meeting of the association. The President referred the question to the Executive Committee, and said the association would be glad to have a paper on the subject from the doctor at the next meeting. Dr. Playter intends to give a paper on it, and to press for more discrimination in regard to the advertising of such nostrums.

NEW BUILDINGS FOR THE JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.—The Board of Trustees and the Faculty of the Jefferson Medical College have just completed the purchase of two large lots on Broad Street, giving them a frontage of about 300 ft. and a depth of 150 ft., upon which they will proceed to erect at once a handsome hospital, lecture hall, and laboratory building. The estimated cost of the buildings is \$500,000. The hospital will be built not only as a suitable building in which to care for the sick and injured, but will also be provided with a large amphitheatre for clinical lectures. The basement of the hospital will be given over to the various dispensaries, each of which will be provided with large waiting and physicians' rooms.

THE cultivation of the erythroxion coca has been introduced into Hindustan. It grows like a weed in Madras, and the leaves are said to yield a cocaine fully equal to that obtained from the American coca.

AT the last meeting of the Governors of St. Thomas' Hospital Mr. William Anderson was elected surgeon, in succession to Mr. John Croft, who has retired by seniority.

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