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A CASE OF CEREBRO-SPINAL MENINGITIS ASSOCIATED
WITH THE MENINGOCOCCUS OF WEICHSELBAUM.

BY

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AND

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It is just a quarter of a century ago since the late Dr. Palmer Howard published the first record of observations on Cerebro-Spinal Fever in Montreal. This was in 1873, and during that period a small epidemic occurred, the cases breaking out in various parts of the city, as well as in the outlying districts. The published observations, however, are purely of a clinical character, and only one autopsy is recorded, that by Drs. Roddick and John Bell, in which it is noted that pus existed at the base of the brain and along the spinal cord. The majority of cases recorded at that time had affected boys from eight to ten years of age, some of the cases recovering, though, in the majority, a fatal issue supervened.

It is interesting to observe at this time, a time when bacteriology as a science had scarcely been created, the insistence which Dr. Howard laid upon the specific poison which he asserted must be associated with the malady. The early appearance of the purpuric condition, the general course of the disease, and its tendency to assume an epidemic character, all strongly favored the view that the disease was of a zymotic nature.

Since that time a few sporadic cases have been recorded, the observations for the most part being again of a purely clinical nature. Dr. Osler, in 1882, records in the *Canada Medical and Surgical Journal*,

the first satisfactory pathological examination of any case in this city and since then a few isolated cases have been observed by Dr. Wyatt Johnston, though in none of these whatsoever was there any bacteriological examination made, other than to exclude the presence of tubercle bacilli.

The opportunity having been afforded us in the past few weeks of observing a similar case and obtaining satisfactory bacteriological examination, we take this occasion to bring it to the notice of the society, this being, to the best of our knowledge, the first instance in Canada where the meningococcus of Weichselbaum has been demonstrated at autopsy to be associated with cerebro-spinal fever, and the first time that acute purulent pericarditis has been noted as a complication.

The *history* of the case is of no little interest and affords a fairly typical example of the character of this rather uncommon disease. A young Canadian female aged 21 had been spending a few weeks in Boston immediately prior to her illness, her domicile being in a healthy and good locality. Quite a few cases, however, of cerebro-spinal fever have been observed in that city during the past few years, though the epidemic, it would appear, is now gradually dying out. During her visit to Boston, the weather had been very good, and she felt in excellent spirits. On the 28th of January, she returned to Montreal, arriving in the evening, seemingly in perfect health. Early the next morning she complained of chilly sensations, though to the touch her skin was hot and dry. Very shortly afterwards vomiting supervened and continued at intervals until the afternoon. Evidently the disease had a very acute onset, for when Dr. James Bell, in answer to a summons, saw her at half-past one in the afternoon, the facies seemed indicative of collapse, the face being drawn, thin and pale; she was now suffering from severe headache mainly occipital and in the nape of the neck. On examination, the temperature was 102°, the pulse small and rapid, but there was otherwise no evidence of disease except some tenderness over the lower portion of the abdomen. Upon the next day her condition was worse, the headache was very severe and she repeatedly cried out "Oh my head," referring the pain mainly to the region of the vertex and the occiput. There was, however, no more vomiting, and the abdomen was less tender, but the temperature remained over 100°. There was no improvement evident during the next 24 hours, and the patient showed distinct signs of delirium. Petechiæ were now noticed for the first time upon the abdomen, and there was general hyperæsthesia. When addressed she merely complained of the intense headache. On the same evening the patient was admitted to the Royal Victoria Hospital. While being dressed for

removal the rigidity of the neck was quite manifest, as also photophobia. All night long after admission the rigidity was most marked, and by the early morning the patient had become delirious. She assumed the dorsal position with her legs slightly flexed upon the abdomen. The pupils were equal and somewhat dilated, the tongue was dry and cracked, the temperature was 104.5° , the pulse 110, and the respirations 26. On this, the fourth day of the disease, the petechiæ upon the trunk were more marked, and new ones had appeared upon the arms. There was also a transient erythema upon the chest and for the first time herpes developed below the left labial angle; and what was of still greater interest, upon the left side of the nose and cheek. The rigidity of the body seemed to be more general, and the nurse in charge noticed from time to time clonic spasms in the upper extremities. By the afternoon delirium gave place to coma. It should be here mentioned that the diagnosis of epidemic cerebro-spinal meningitis having been made, the patient had been carefully isolated as a precautionary measure. In addition to the above symptoms, there was now noted increasing rapidity of the respirations, general hypertonus of the muscles, flexion of the arms at the elbows, and extension of the lower extremities, but there was no paralysis anywhere. Strabismus was not evident. The thoracic organs showed no special evidence of disease, and the abdomen was normal to palpation. The urine was turbid, contained a heavy sediment of urates, was acid in reaction, and had a specific gravity of 1023; there was a large amount of albumin as also numerous granular casts of large size. On the following day the temperature was still higher, 106.6° , and the coma became deeper. The pulse now for the first time, became distinctly irregular, but otherwise no special change could be observed. The usual colour changes in the petechiæ were manifest and no new ones had appeared. Examination of the blood on this, the fifth day of the disease, by Dr. Robins, the Resident Physician, showed the red cells to number 5,130,000, white cells 22,000, and the hæmoglobin 75 per cent. Cultures from the blood of the finger, which had been taken the day before on agar, serum and broth, all remained sterile. On the following day, in the afternoon, the patient died, progressive asthenia being the only noteworthy change. Lumbar puncture was made the same afternoon, but the cultures resulting were contaminated, and gave no evidence of the meningococcus.

The treatment adopted was of necessity purely symptomatic and supporting, in this way differing to some extent from that adopted by the late Palmer Howard, who recommended bromides, and iodides with digitalis, and considered strychnine as contra-indicated.

Autopsy.—The autopsy was performed six hours after death with

the assistance of Dr. A. G. Nicholls, and the condition found was briefly as follows:

The body was poorly nourished, with rigidity marked in the jaw and lower extremities; the back was moderately livid. There were petechiæ upon the abdomen and arms, and a few likewise on the back; these varied in color according to their age, presenting all gradations from dark red to pale brown. Herpes was present upon the lower lip and left side of the nose. Both wrists were œdematous and slightly swollen, but the other joints appeared normal.

Head.—The calvarium was moderately thick with deep arterial grooves, the dura markedly congested, and the longitudinal sinus contained pale mixed clot and some dark fluid blood. The inner surface of the dura was reddened, but the dura itself showed no special thickening, nor was it adherent to the underlying pia-arachnoid. On exposing the arachnoid but very slight œdema was present, while a small quantity of greenish-yellow gelatinous lymph was seen in the subarachnoid space. This exudate was situated mainly on the convexity, along both sides of the longitudinal sinus and following the lines of the larger vessels. Over the temporal areas there was comparatively little, and nowhere was there any pus between the dura and the arachnoid. At the base of the brain there was likewise a moderate amount of pus, more especially behind the optic chiasm and the medulla, likewise between the cerebellum and the brain, and to a less extent in the central groove between the two hemispheres. The pia itself was distinctly adherent, quite œdematous and thickened. In the Sylvian fissures no evidence of tuberculosis or other abnormality could be ascertained. Upon opening the brain itself the lateral ventricles were found of normal size, and in the right were a few flakes of lymph, as also a few drops of fluid pus. The ependyma was slightly granular. The third and fourth ventricles were free from exudate. The white matter of the brain contained numerous punctiform extravasations of blood, and the gray matter was likewise congested, though to a less extent; the cerebellum was soft and friable, while the basal ganglia were congested and showed likewise minute hæmorrhages. The lateral sinuses contained dark fluid blood. The bones at the base of the skull showed nowhere any signs of disease.

Spinal Cord.—On removal of the brain a moderate amount of seropurulent matter escaped from the vertebral canal. The cord itself was removed from behind, and after separation of the laminæ the dura was seen to be tensely expanded in various parts of its course irregularly. The vessels about it were congested. On slitting up the dura

the posterior surface of the pia-arachnoid was seen to contain numerous patches of lymph in the sub-arachnoid space; these existed as either fusiform collections of pus or were spread out in broad plaques over the posterior surface of the cord. There was distinct œdema of the pia, and in places it was markedly thickened. On section at various levels of the cord marked congestion was the main feature presented, but there seemed to be no evidences of punctate hæmorrhages.

With reference to the organs in general, the main conditions present were *acute purulent pericarditis*, œdema and partial collapse of the lungs, with acute bronchitis; obsolescent apical tuberculosis with left adhesive pleurisy, acute parenchymatous nephritis and catarrhal enteritis. The spleen was of normal size, and there was no further evidence in general of a septicæmia.

Bacteriological Examination.—Fresh coverslips, taken directly from the purulent exudate from the cerebral and spinal meninges, showed it to consist mainly of pus cells, fibrin, granular and colloid-looking masses. Some of the cells were of enormous size, three to four times that of an ordinary pus cell, containing large nuclei; some appeared to be vacuolated, and in a large number there were cell inclusions. Other cells, again, seemed much more ill defined, and their nuclei were irregular and fragmented. The leucocytes present were for the most part of the polynuclear variety. Specimens were stained by various methods, some with Löffler's blue, others with fuchsin, safranin, and also by Gram's method. With Löffler's blue one saw semmel-shaped diplococci, resembling very much the gonococcus, except that the size varied very much and that they tended, further, frequently to form tetrads. The staining, too, was extremely irregular, some, and particularly the larger ones, taking up an almost black color, while others adjacent to them might be scarcely stained at all. While many of these were found within the cells, a very large number were constantly found free, our experience in this respect being quite at variance with that of Weichselbaum, Councilman and others; with this exception, however, the coverslip preparations corresponded in all respects to the descriptions given by these authors. On staining by Gram's method, the bacteria became decolorized.

Coverslips from the pericardial exudate showed likewise a pure culture of the same micro-organism, while others made from the larger bronchial tubes showed similar cocci mixed with numerous other forms. In the largest bronchi there were chiefly lanceolate diplococci and the meningococcus above described. Coverslips were likewise made from the spleen and liver pulp, from the heart blood and the bile, but in none of these instances did we obtain any bacteria.

On the following morning Dr. Adami removed some of the nasal

secretions and demonstrated the presence of the micro-organism in stained coverglass preparations.

Cultures were made from the various tissues and organs of the body on different media, the most abundant growths being obtained on glycerinated agar. On this medium the *exudate* from the meninges gave an abundant growth after thirty hours, appearing at first as pearly gray dots, spreading out in plaques over the surface of the tube and gradually assuming a more grayish, opaque appearance. On staining with the various reagents above mentioned, the results were identical, and no definite chain formations were seen on this medium. On being transferred from the agar to broth, the growth was again abundant, appearing mainly in the sediment, the supernatant fluid remaining fairly clear. The diplococci were here for the most part large and arranged distinctly in chains, containing from four to eight cocci in each. Some of the chains, however, were made up of very much smaller organisms, resembling the ordinary pyogenic streptococci; that they were, however, of the same nature as the other diplococci was proven by their negative reaction to Gram's method. Cultures on glycerinated agar and broth from the *pericardial exudate* gave likewise pure cultures of the meningococcus. From the *heart blood*, the *liver*, the *spleen* and the *bile*, cultures taken on various media remained sterile. From the *lung* a mixed culture of staphylococci and lancolate diplococci was obtained. While most observers have found agar the most suitable culture medium, it may be stated that the Boston bacteriologists have met with best results in employing blood serum; the differences are in all probability associated with the chemical reactions of the media. *Inoculations* of a three-days-old broth culture subcutaneously into a guinea-pig proved innocuous, as did also the intravenous injection into a rabbit of a 24-hour-old broth culture. It has been shown repeatedly that the life of these bacteria is extremely short, and transfers every second or fourth day are necessary to keep the germ alive. Hence a three days' growth might readily prove harmless to a guinea-pig, though the fact that recent growths were innocuous when introduced into the circulation is of no little interest.

Sections were made of the various organs and tissues of the body; those from the brain and meninges, including the exudate, showed mainly great dilatation of the blood vessels, with recent punctiform hæmorrhages and large collections of polynuclear leucocytes, with extreme fragmentation of the nuclei. Extensive areas of necrosis were likewise manifest in the nerve tissue. The micro-organisms were by no means easy to detect, the specimens stained with saffranin giving the best results. In the spinal cord the same condition was evident,

but the more minute changes in the cellular elements are still under investigation. Sections from the other organs showed no features of special interest in connection with the case.

The presence of a pericardial exudate containing the meningococcus is quite evidently of extreme rarity, and the entire absence of fibrin on the serous coats is remarkable in view of the amount of pus present.

It will be seen, then, from the foregoing that the case recorded was quite evidently of the nature of an epidemic cerebro-spinal meningitis, while the organism associated with the lesions is undoubtedly the meningococcus described by Weichselbaum in 1886, and much more fully within the last twelve months by Dr. W. T. Councilman, of Boston. As is already well known, it has been generally accepted until quite recently that this malady is due to the diplococcus lanceolatus, while the organism described by Weichselbaum has been practically disregarded.

Observations made, however, since 1895, more especially by Jæger, of Stuttgart, and Councilman, Mallory, and Wright, of Boston, rendered it undoubted that in the epidemic form of this disease, not the pneumococcus, but the meningococcus of Weichselbaum is the chief etiological factor. The above-mentioned Boston pathologists had occasion to examine thirty-five cases post mortem, and the meningococcus was found in all but three cases. Certainly no such complete series of observations of any epidemic has hitherto been made commensurate with these, and the uniformity of their results in examining so extensive a material, places the nature of the disease beyond any doubt. It is true that in a number of cases the pneumococcus has been frequently found in pure culture, but so far as we are aware, it has never been demonstrated with a satisfactory uniformity. Flexner and Barker, of Baltimore, have recently published a most interesting and valuable article giving a detailed account of the conditions under which an epidemic of cerebro-spinal meningitis had occurred in a small mining town of Maryland. Sixty-eight patients were observed but unfortunately it was possible to obtain autopsies in only two instances. The pathological lesions in these cases are most minutely described, and the bacteriological examinations would seem to indicate that the pneumococcus was the chief organism present. Smears made from the exudate on the meninges showed a lance-shaped diplococcus which stained by Gram's method, but the cultures and inoculation test did not afford very satisfactory results. The authors, however, are of the opinion that the pneumococcus was undoubtedly present, although the trying circumstances under which the investigations were made rendered it impossible to obtain eminently satisfactory results.

A DISCUSSION ON THE DIETETIC TREATMENT OF DIABETES.

BY

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When not many months ago your distinguished President paid me the compliment of inviting me to open a discussion in this Section, I fully appreciated the brilliant opportunity afforded me; and I can only express my regret that in this year of festivities, amid the bustle of many engagements, I have not been able to do for you all I wish, and you deserve. I should not have accepted this position but for the consideration that we who were intending to cross the Atlantic to represent British medicine upon your shores were after all but a small band, and that each was bound to do his best for the honour of England, if not for the edification of Canada. At the same time it gives me great pleasure to address you upon a subject in which I take great interest; and, although assured beforehand of your courteous reception of any views I may express, I venture to hope that they may find some echo among you, and that they will travel back to Europe with the authority of your approval.

When the diagnosis of diabetes mellitus has been established, sometimes when only the presence of sugar in the urine has been detected, it is the very general practice to place the patient upon a so-called "diabetic diet." That is to say, he is furnished with a list of permitted and forbidden articles of food and drink arranged upon the principle that all carbohydrates are injurious, and he is told that he must keep to this diet until the sugar has disappeared from his urine. The extent to which this regimen is followed depends upon the authority of the doctor and the docility of the patient, but any relaxation is regarded as a departure from the right rule. It may be conceded to the exigencies of the patient, but is never offered as part of a rational scheme of dietetics. I believe this to be a perfectly fair statement of the general practice in Europe, and I suppose in America as well, in spite of the fact that not a few protests against it have been made by those who have a right to be heard on this question.

Diabetes mellitus is nothing more than the name given to a clinical group characterised by the presence of persistent glycosuria. The causes of this glycosuria and the proper classification of the compon-

ents of this group are still much debated. Meanwhile, the various doctrines in dispute should not be allowed to influence our views upon treatment, and certainly have no claim to the predominance which they have so often successfully asserted.

In health the urine contains no sugar, or only a minute trace, so that all carbohydrates ingested are in some way converted or destroyed, provided their quantity is not excessive—that is to say, this capacity for utilising carbohydrate food is not unlimited, and is subject to variations in different individuals and in the same person at different times. A dose of grape sugar, varying from 150 to 200 grammes, is invariably followed by transient glycosuria, and we are familiar with the occasional occurrence of the same phenomenon in healthy persons after some error of diet, such as taking too much sweet champagne. Such cases are on the borderland of diabetes, and von Noorden has suggested that persons who become easily glycosuric from slightly exceeding their usual allowance of carbohydrate food are liable to become diabetic. This is a point upon which further evidence is required, but it is impossible to deny their close relation to those milder cases of diabetes which yield readily to a moderate reduction of carbohydrate food.

But carbohydrate food is not the only source of sugar. In severe diabetes, glycosuria continues, although much reduced in amount, when the patient is placed on a flesh diet, and this is explained by the discovery that a carbohydrate molecule is formed in the process of converting albumen into urea in the proportion of 45 parts per cent. This fact, duly appreciated, must convince everyone of the futility of persisting in withholding carbohydrates in the hope of removing the glycosuria; or at least it cuts away the physiological ground for this practice, and compels us to look for its justification, if it can be justified, in clinical experience. This is the point at which I wish to arrive. If it is conceded that the disputed data of physiologists do not afford a sound basis for our treatment of diabetes, but that we must look to clinical results before we say that a means is good or bad, then the old routine method is doomed.

Instead of ordering a stereotyped diet in every case, we shall try experimentally in each individual how much carbohydrate, or rather what combination of proteid, fat, and carbohydrate gives the best result. This is the method which I wish to advocate here to-day, and perhaps you will allow me to say that the views I now entertain have been adopted solely upon the basis of clinical experience. The first definite step towards the acquisition of clinical experience in the dietetic treatment of diabetes was made by Rollo when he put his

patients on flesh diet, and it is an experiment worth repeating by everyone who wishes to study the subject. If anyone will try it, and then watch the effect of the cautious addition of carbohydrates, he will notice not only that the patient is very much happier, but that he gains weight, proving thereby that physiological equilibrium, even in a diabetic, may be restored by carbohydrates. At the present day no one attempts to keep people on Rollo's diet, but if they were consistent they should do so. The present orthodox diet is to a great extent a pretence. Potatoes, which contain 15 per cent. of starch, and milk with its 3 per cent. of lactose, are forbidden; while gluten bread and all the fancy articles from the diabetic food shops, many of which contain from 25 to 40 per cent. of starch are allowed without stint. There is no attempt at dosage; forbidden articles are absolutely excluded, but no limit is placed on the quantity of those permitted. It is not at all uncommon to find a patient stripped of all carbohydrate food except brown bread or toast, a concession to the exigencies of the situation, but this is taken at discretion. What is the good of measuring the excretion of sugar to the decimal part of a grain, when no account is taken of that which goes to form this sugar? If it is worth while to weigh the patient, to measure his urine, and to estimate his sugar, it is quite as important to weigh his food.

My method, after all, does not involve a great sacrifice of time on the part of the doctor; in fact, all the most important observations can be made, and a register kept, by the patient himself; the only thing he cannot do is the analysis of the urine. I recommend that the patient should once weekly get weighed, and collect and measure with approximate accuracy the whole of his urine for twenty-four hours; a specimen of the urine should be sent to the doctor, who should determine the total amount of sugar in grains or grammes. Of these observations, the body weight is the most important, for if, after allowing for fluctuations of 3 or 4 lbs., it continues on the whole to be stationary or tending upwards, we have the best proof that the diet is properly regulated, even though the sugar shows a moderate increase.

In order to determine the diet most suitable to each patient we must proceed experimentally, and although this may be done either by gradually reducing or gradually increasing the amounts of saccharine and starchy food, the latter is the more convenient plan. It is easier for the doctor to make concessions than to insist upon further restrictions, and patients are contented to put up for a short time with considerable deprivations when they are told that relaxations will be made as they are found to be safely permissible. In addition, many

patients are suffering from polyuria with frequent micturition and great thirst, and these symptoms can best be checked by strict diet for a limited time, combined, if necessary, with the administration of a grain or two of extract of opium every night. Further, the result of strict diet affords valuable information for prognosis, as it is only in the milder cases that the sugar disappears under its influence.

By strict diet I mean that from which sugar and starch are excluded as far as possible. I do not allow gluten bread, but employ as a substitute for ordinary bread the "brown loaf" or starchless biscuits made by Mr. Callard, of London. If these were not procurable I should use cakes made of almond or gluten flour fermented to destroy any sugar that might be present. Callard's brown loaf contains only 6 per cent. of starch, and is quite as palatable as gluten bread; the biscuits are free from starch.

The patient should, if possible, make one meal, for example, breakfast of fat bacon or eggs and bacon, with which he may eat cabbage and the above described bread or biscuits. He is, of course, allowed other green vegetables, any animal food, tea or coffee, with cream, and, if he desires it, 2 to 3 ozs. of sugar-free alcohol, with mineral water.

When the effect of a week of this diet upon the glycosuria has been determined, I proceed according to the result. Should the sugar have disappeared entirely, or almost entirely, I add 6 ozs. of baked potatoes and $1\frac{1}{2}$ pint of milk, containing between them the equivalent of about 1,100 grains of sugar. If this causes no glycosuria I order $4\frac{1}{2}$ ozs. of dry toast, of which about 800 grains are starch. I also allow a bottle of light wine containing very little sugar, such as ordinary Bourdeaux or Moselle, or in some cases a pint of bitter Burton ale. If such a diet causes no return of symptoms, the doctor may be satisfied and the patient is generally contented, and if sugar continues to be absent the quantity of toast or bread may be gradually increased to double the amount. Such cases are, however, exceptional. As a rule the sugar, though diminished, persists; it may have been 10,000 or 12,000 grains before dieting, and afterwards falls to 2,500 or 3,000 grains. Here I proceed in the same way, giving first the milk and then the potatoes, and if there is no return of distressing symptoms I do not retrace my steps because there is some moderate increase of sugar, but watch the body weight, and I am satisfied if that shows no loss, while generally it shows a gain. In these cases I keep the patient on this diet for many weeks before venturing to make a trial of ordinary bread, and often the patient has to be content to do altogether without it. I prefer to increase the potatoes, for although physiology has so far given us no explanation of the fact, there is considerable difference in

the behaviour of the various sugars and starches. Thus glucose and cane sugar appear more readily in the urine than lactose and levulose, and I am convinced that the starch of cereals is for some reason more productive of glycosuria than that of potatoes. Levulose which can now be obtained for diabetics, is not of much value from the patient's standpoint, except, perhaps with children, who crave for sweetening agents, yet for this purpose it is inferior to saccharine. As a means of adding carbohydrate it is expensive, but can be usually assimilated if given in not greater quantity than one and a half ozs. daily.

I have not laboured very much to prove the advantage of a more liberal diet in diabetes, because it appears to me that if it can be done safely, everyone must admit its advantages. I do not care to dwell on the repulsiveness of ordinary diabetic diet, on its indigestibility, its danger when albuminuria is present, or upon its alleged action in producing acetonæmia; but I will only add that I have been treating patients on this plan for some years with satisfactory results. I admit that the same ends are often attained upon the ordinary plan as the result of compromise between doctor and patient, but at some loss of medical dignity, or at some private sacrifice of the doctor's own opinions. In urging the adoption of a standpoint from which concessions would be voluntary and given with good grace, or withheld for reasons that the patient could appreciate, I am asking your support for a method which has already many open advocates on the Continent of Europe, and probably many silent friends in England and in America. In France, Wornus and Barth have expressly recommended the plan here proposed—namely, to commence with strict diet, and add carbohydrates in such quantities as experience may show that each patient can assimilate, while similar views have been upheld in Germany by Hirschfeld and Leo. During the last few years, in papers or speeches at societies the addition of carbohydrates to diabetic diet has been supported by Leyden, Klemperer, Bouchard, Dujardin-Beaumez, Cettinger, Charrin, Lindemann, Mai, von Noorden, Grube and others. If I have failed to convince you, the fault lies with the advocate and not with the cause, which in more powerful hands must in the long run triumph over a system which struggles to keep up appearances, but is in reality either a cruel blunder or a hollow sham.

Dr. SYDNEY COUPLAND felt that it was most difficult to debate the full and scientific exposition of the subject given by Dr. Saundby, who had advocated the careful regulation of the amount of carbohydrate permissible to the diabetic, and shown that in the so-called "diabetic régime" all carbohydrate food could not be excluded. Diabetes pre-

sented itself under so many forms that all rules of treatment had to be adapted to every individual case. Moreover some responded more readily than others to diabetic treatment, although mostly it effected more or less notable diminution in the amount of sugar excreted, but very rarely caused its entire disappearance; some cases were even barely affected by it. He mentioned a case recently under his care in the Middlesex Hospital—not a severe case, and in an elderly woman—where, however, dietetic restriction did not effect the complete disappearance of sugar in the urine, which followed shortly after codeia was administered, the glycosuria returning on ceasing the drug without further change in the diet. Such an experience was not uncommon with other drugs, and yet it is impossible in any given case to predict that it would be encountered. Much had yet to be learnt of the pathology of diabetes before a rational treatment could be arrived at. In conclusion, he referred to the unexpected manner in which acetonæmia arose, due to physical or mental fatigue, and he thought this terribly fatal complication might be hastened by a too abrupt restriction of diet; so that in hospital practice it was perhaps wise to wait a few days before adopting this *régime*.

Dr. SHINGLETON SMITH expressed his belief that there was greater danger in too much latitude in diet than in too rigid restriction; that until the sugar has disappeared from the urine the restriction from carbohydrate food must be absolute unless some complication necessitates a change. Compromises are not to be admitted at first, but as soon as the sugar has been reduced below 1 per cent. then some latitude may be admitted; and thereafter the patient should be allowed as much latitude as may be possible. Drugs are of secondary importance, and the dietetic is the one all-important point in the treatment of the disease. Every case must be a close and continued study, but some such routine diet as that suggested by Dr. Saundby must be maintained continuously. Latitude in this respect is likely to be followed by more or less speedy disaster.

Dr. E. DUNCAN (Glasgow) desired to say that in his experience the estimation of the amount of sugar in the urine was not the most important point. It was quite possible to diminish the sugar in the urine and starve the patient. The estimation of the body weight and of the muscular strength was quite as important as elimination of the sugar in the urine; in cases of diabetes from extensive disease of the pancreas, it is difficult to see that any treatment can do permanent good. But there is a large class of neuroginous cases in which the excretion of sugar in the urine depends on the loss of power in the sugar-consuming cells to absorb and utilise the sugar in the blood. In these cases he believed that restriction of the diet was absolutely

essential, particularly in young persons. Rest from over-work was essential to these sugar-consuming cells, and was always followed by improvement and ultimately recovery of power and strength.

Dr. TYSON (Philadelphia) said: Whatever may be the etiological and pathological difficulties in the way of a thorough understanding of diabetes mellitus, and the consequent obstacles to a rational treatment, practically, in my experience, the cases fall very easily into one of two categories for treatment—the mild and severe. I include in the mild cases all those in which the glucose is removable from the urine, and presumably from the blood, by dietetic treatment only. In the severe cases I include all those whence the sugar is not thus easily removable. Of great practical importance is the fact that, if neglected, the mild case may pass over into the severe one. For the first class of cases the dietetic treatment may be regarded in a sense curative; for it is certainly true that as long as the urine of such a diabetic is free from sugar he is practically well. I believe this is acknowledged by all who have had very much experience in treating the disease. The degree of rigidity in diet required varies, of course, with the cases. In some the exclusion of the pure carbohydrates alone, such as sugar and starches, is sufficient. In others all kinds of bread except the purest gluten—which is at once difficult to obtain and most unpalatable as a bread—must be omitted. In a large number of such cases a very considerable latitude is permitted in the use of vegetables, and it goes without saying that a diet so little restricted is totally without disadvantage to the patient. It has happened to me in a few cases that a continuance of such a diet for some time has apparently resulted in a cure—by which I mean that the patient has subsequently been able to use an ordinary mixed diet without return of sugar. It may have been that in these instances Nature has been working a cure which she was unable to make on the ordinary diet. In other cases such improvement as that just referred to has been followed sooner or later by a relapse, in which, however, the same treatment again sufficed to bring about the same change for the better. In a certain other proportion of cases such a moderately rigid diet does not altogether remove the sugar, but reduces it to such a small percentage—say below 2 per cent., or 1 to 10 gr. in the twenty-four hours—that the patient is still practically well, and can go about his business as though nothing was the matter, though perhaps in strict truth such a patient has a tendency slowly to get worse. In such a case, too, I consider it a matter of the extremest importance that at intervals of, say, a month he should be put on a diet sufficiently rigid to take out all the sugar, and it often happens that such diet must be purely albuminous. To live upon such a diet for one, and

even two days if necessary, is not only harmless to the patient but also in no way a privation, and, so long as I can influence the urine of my patient, I regard him as perfectly safe. It does not seem to me worth while in such cases to consider the question as to whether a proteid diet is harmful by reason of any tendency to produce diacetic acid or allied toxic substance, because it is quite impossible for such substances to develop in toxic quantity in the small time during which the treatment is carried out. Let us take, however, the second class of cases, in which even the most rigid proteid diet, while it will influence the quantity of sugar secreted, does not get rid of it altogether. In these cases even the proteid radicle is split up into products, of which glucose is one, and it may be, too, that even the body albumen shares the same fate. It is well known that the addition of codein or opium to the treatment will have a useful effect; but, as I understand it, we have to do to-day only with a dietetic treatment. The problem at once becomes a more difficult one. It is to be remembered that a proteid diet still influences the quantity of sugar, but it does not take it all out of the blood. The problem is, however, rendered more simple in practice. No patient, in my experience, will submit to a pure proteid food for any length of time. Hence a certain proportion of carbohydrates in the shape of vegetables must be allowed. The question, according to some, remains. Is there any reason for modifying the diet at all in these cases? In my mind there is; for, apart from its uselessness as a force producer, and throwing out of consideration the older view that diacetic acid is, and allied substances are, direct products of sugar metamorphoses there are certain harmful effects due to sugar in the blood alone. One of the most noteworthy of these is diabetic cataract and a general degenerate effect on the tissues due to long saturation with sugar. Again, the polyuria being partly, at least, due to the effort of the system to rid itself of the sugar, is at times so annoying a symptom as to worry and exhaust the patient. So far as possible, therefore, I would still restrict even the members of the second category of cases to a diet containing a minimum of carbohydrates. In view of the fact that a total proteid diet continued more than a few days is a practical impossibility, it may seem scarcely worth while to consider the question of the possible harmfulness of a pure proteid diet as a source of diacetic and oxybutyric acids, but as this question, although not a new one, has recently been raised again by a series of excellent papers by Dr. Munson, of the United States Army, some allusion ought to be made to it. Dr. Munson has shown by observations on a single case that the diacetic acid increased in the urine during the administration of a pure proteid food, although the glucose diminished, while the symptoms became aggravated. I

endeavoured to repeat Dr. Munson's experiments in a case in my wards before leaving Philadelphia, but I soon found I was not enough of a chemist to carry them to a conclusion in the short time allowed from the very general directions given by Dr. Munson. As the studies of skilled and well-trained physiological chemists have shown that the chief source of these substances is the splitting up of the body albumen in response to the inexorable progress of the disease, I cannot conceive that the small addition due to a proteid food would seriously aggravate the condition, while as I have already said the practical impossibility of continuing such food makes the question a less important one. In conclusion, I would say that my method in the management of an individual case is precisely that of Dr. Saundby, first to place the patient on the rigid diet, and having succeeded, as one commonly does with the majority of cases in eliminating the sugar, to add gradually one article of food after another, until as much carbohydrate is allowed as is consistent with the safety of the patient, as determined by the symptoms, in which I include permanently a glycosuria not exceeding 2 per cent.

Dr. JACOBI (New York) said there is a difference of dietetic treatment according to ages. The younger the patient the more they are endangered by carbohydrates. I never saw a child getting well of diabetes under any treatment, but I saw them getting worse quickly unless their diet was strictly proteid. It alone preserves them longer. I have allowed them carbohydrates toward the end of their lives, but for the sole purpose of making them more comfortable. Old persons in whom diabetes is apt to last five or twenty-five years tolerate and require some carbohydrates, particularly those who are emaciating. As to milk diet (not exclusive milk diet), I side with those who give it, not only Donkin's skim milk, but milk in every form—pure, boiled, skim, butter milk—not cheese, or whatever it is.

Dr. LINDSAY (Belfast) thought there was not so much real diversity of view amongst the speakers as might appear at first sight. He could agree generally both with Dr. Saundby and Dr. Shingleton Smith. It came to this—that we must distinguish between cases, allowing a large amount of dietetic liberty to elderly patients, very little to young patients. The clinical condition must be the chief guiding landmark, the state of the urine, though very important, being secondary. He had recently seen a case in a child in which a marked improvement in the urine was followed by the sudden death of the patient. He strongly condemned the exclusively milk diet, but thought that in elderly patients and in mild cases a certain amount of milk should be allowed on the broad principle of keeping up the patient's nutrition.

Dr. H. P. WRIGHT (Ottawa) said: I have been for years in the habit, based upon a somewhat extensive experience, more in private than hospital practice, of dealing with glycosuria and diabetes—the former an ailment associated with, usually, digestive derangement, and always with sugar in the urine, and having no known or discoverable pathological background; the latter having some evident serious pathological cause associated with emaciation, thirst, and sugar in the urine, with polyuria. The glycosuric cases usually occur in elderly people, and with an observed, though not restricted, diet, do well and enjoy fair health for many years. The diabetic cases do not do well under any treatment, though helped in many instances. I am therefore fully in accord with the views held by Dr. Saundby. I should like here to speak of another type of case, that I discovered accidentally in life insurance examination, and would like briefly to recite one case occurring in a healthy adult, 44 years of age, muscular beyond the average, and fully up to the usual weight. As he was a patient of my own I had many opportunities of examining his urine, and always found sugar, even when a “diet” was observed. In such a case I would like to know from Dr. Saundby; should a “diet” be observed, and particularly, if I may be allowed to sidetrack the question strictly under discussion, should such a patient be accepted by any life company?

The PRESIDENT stated how greatly he was impressed with the value of Dr. Saundby's paper in dealing with the question of the limitation of diet in diabetes, and with his protest as to a rigid routine of diet in all cases. He had showed how important it was to ascertain by observation the limits to which starch and sugar could be given with advantage to the patient, being guided rather by the body weight and nutrition than by the amount of sugar in the urine. By this means much better results were obtained than by the attempt to cut off all starch and sugar.

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AN EPIDEMIC OF TINEA TONSURANS SUCCESSFULLY TREATED BY TURPENTINE AND IODINE.

BY

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In February, 1896, I was called upon to treat twenty cases of ring-worm of the scalp, which had occurred in a charitable institution of this city. The following plan was adopted.

A couple of large rooms were selected in a part of the building where the cases could be properly isolated and the children confined, except during meal-times and hours of exercise. A systematic inspection of all the children in the institution was then made, and all definite cases of the affection were immediately isolated, and suspected cases kept under careful observation until all doubt was removed. The children being all between the ages of six and ten years, there was no objection to having the hair closely cropped in either sex, and this was accordingly done by means of a pair of clippers such as barbers use. This proved a great aid in diagnosis as well as in treatment, for among the short hairs of uniform length a small area of scaliness, or any loss of elasticity of the hair itself, was easily detected. Each child was provided with an easily washed cap of white cotton, which was worn continuously in the house, and replaced by a lining of similar material in the hats or caps worn out-of-doors. The children had their meals in the common dining-room before the rest of the household, and were not allowed any communication at all with the latter. In this way, after the whole number had been inspected and infected cases separated, no new cases developed.

Owing to the length of time that many of the children had had the disease, the cases were more than ordinarily intractable. Thus, in six the whole scalp was infected, broken hairs and scales being found everywhere. In three, fully one-half the scalp, and in six, several good large patches required treatment; only five, or 25 per cent. of the whole number, had a small discrete spot or spots.

An attempt was made to determine the nature of the fungus, but it was only in part successful, owing to my not being able to make cultures on the proper medium. Where, however, the hair with its crop of spores could be obtained entire, it was not a difficult matter to determine whether the case was an endothrix or ectothrix, and the size

of the spores in the two varieties were measured by making a permanent specimen of an undoubted case of each and using this for purposes of comparison. Of the twenty cases, thirteen, or 65 per cent., were classed as *microsporion* Audouini; four, or 20 per cent., as *trichophyton megalosporion endothrix*, and the remainder, 15 per cent., could not be determined. This proportion of the two varieties corresponds very nearly to the results obtained by the examination of cases in the Montreal General Hospital. The large majority of our cases are due to the small-spore form.

The method of treatment adopted was as follows: After thoroughly cleansing the scalp with water and green soap, the hair is carefully dried and oil of turpentine rubbed in, and immediately after, while the turpentine is still wet, tincture, or liniment, of iodine is painted on. In the course of a few days a somewhat thick, dark brown, iodine-stained scale forms over the part, and it is necessary to remove this to carry on the treatment successfully. After considerable experience with various oils and soaps, I found that ordinary vaseline was the most effectual solvent here, as it is also in other scaly conditions of the scalp. Sometimes, in old, neglected cases, it is necessary to soak the hair over night with the vaseline, but even in these no difficulty is encountered in washing off the scales along with the vaseline in the morning. After removing the scales the turpentine and iodine is re-applied until such time as it is thought that the fungus may be destroyed. Then, after cleansing the scalp again, no further application is made if the broken hairs and other evidences of the disease have disappeared. The former site of the disease is carefully watched for some weeks, and, on the first appearance of scaliness or broken hairs, a second course of treatment similar to the first is carried out. The use of the microscope in detecting the very earliest reappearance of the fungus is imperative.

The frequency with which these applications could be made depended entirely upon the tolerance of the patient. In some of this series of cases a daily application was carried out for weeks without causing any discomfort, but in others the head rapidly became sore, and a soothing ointment or carbolic oil (1 to 40) had to be substituted until it was safe to go on again. In two of the series the treatment produced a pustular folliculitis; in two it caused no irritation; in the rest, after a longer or shorter interval, it had to be discontinued for a time. The curative agent in the treatment appears to be the turpentine. This was shown by a mistake made by one of the nurses, who misunderstood the directions and used only the iodine. The cases under her charge made no progress at all, and, not understanding the

cause, I went through a portion of the long list of remedies recommended in the text-books. On finding out, however, that a mistake had been made, I returned to the original treatment with most favourable results.

Besides the local treatment as described, it was the practice to wet the whole of the hair every morning with carbolic oil, 1 to 40. This was intended to protect against possible auto-infection. Whether this had the desired effect or not, in only one or two cases did any outlying spots develop while under treatment.

With regard to results, one case was cured in eight weeks, six in from ten to fifteen weeks, five in from fifteen to twenty weeks, and five in from twenty to thirty weeks. The others left the institution while the treatment was in progress. In one or two cases of apparent cure a small spot reappeared after the patient had left the isolation room, but it yielded at once to the former line of treatment. In two cases, where a rapid cure was urgently needed in order to allow the children to be sent away for their health, I used a paint of croton oil diluted with olive oil, 1 to 4, and made the application myself. Notwithstanding great care in producing the pustular folliculitis, and daily watching of the case, in one of these, the spots of baldness produced by the oil appear to be permanent. For several weeks after the children had been removed from quarantine an ointment, one part of unguentum hydrargyrum ammoniatum with three of lard, was applied to the scalp once or twice a week.

It is now over a year since the treatment ceased, and in all of these cases which have remained under observation there has been no return of the disease.

Clinical Lecture.

CLINICAL REMARKS ON TWO CASES OF GROSS CEREBRAL DISEASE.

BEING THE SUBSTANCE OF A CLINIC HELD IN THE ROYAL VICTORIA HOSPITAL ON MARCH 4TH, 1898.

BY

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The two cases under consideration present features of an entirely different character. The first is characterized by general cerebral symptoms, as headache, vomiting and optic neuritis. In the second case there is an absence of such general symptoms, but a multitude of symptoms of a paralytic character.

CASE I.

Severe occipital headache—General convulsions—Vomiting—Optic neuritis—Slow cerebration. Gradual disappearance of the above symptoms. The fundus presenting atropic appearance—Ataxia—Loss of knee-jerks. (Reported by Dr. Robins, Senior House Physician.)

H. B., a schoolboy aged 9, of French Canadian origin, was admitted to the Medical Wards of the Royal Victoria Hospital on Feb. 8th, 1898, complaining of severe occipital headache, dimness of vision, constipation, and colicky pains in the abdomen.

The history of his illness, so far as it could be obtained from his mother, is as follows:

On Jan. 5th, 1898, the patient was feverish, and complained of epigastric pain and slight headache. On the following day (Jan. 6th), the child had a cough. There was pain in the elbows, and he had some nausea and vomited once. He was seen the same day by a physician, who pronounced the trouble to be bronchitis and dilatation of the heart. There was some pain in the chest on coughing. Hæmaturia was not present, and the patient had no sore throat.

The fever lasted only two days, and the cough passed away in a fortnight.

The patient vomited seven or eight times in the five weeks preceding his admission, the last occasion being a week before admission (Feb. 1st). The vomiting generally took place after food. It was

preceded by nausea and epigastric distress, and the vomitus consisted only of food taken.

Crampy abdominal pains were of frequent occurrence, and the bowels were very costive, usually requiring enemata to make them act.

About Jan. 15 the boy complained for the first time that he was unable to see clearly. The dimness of vision became progressively worse until the time of his admission (Feb. 8), when he was only able to tell the difference between light and darkness.

Persistent occipital headache, liable to exacerbations and severe enough at times to make the child scream out loud, was a troublesome feature throughout the illness up to the time of his entering the hospital.

Vague pains in the extremities were occasionally complained of before his admission.

He was kept in bed almost all the time from the onset of his illness up to the time of admission.

The child was said to have lost some flesh.

There were no convulsions, and the relatives never noticed paralysis of any part or any inequality of the pupils.

In the personal history, the only facts of importance obtained were that the child had been liable to cough during the winter months for four or five years, and that a lump would come behind one of the ears (? left) in winter. This never burst, and there was at no time any discharge from the ears.

There was no history of hereditary disease obtained, though the mother at the pregnancy immediately preceding the patient's birth miscarried in her second month.

His condition soon after admission may be described as follows :

The patient was found to be a well-nourished, slightly anæmic boy of 9 years. The face had a stolid appearance. Its expression denoted suffering. The pupils on entrance were rather dilated, the left being the larger, but 36 hours later the right was a little larger than the left. He could assume any position in bed. Sleep was somewhat interfered with by severe occipital headache.

Pulso, 106 ; respiration, 24 ; temperature, 98 $\frac{1}{4}$.

The post-cervical glands were readily palpable, but not decidedly enlarged.

In the circulatory system the only abnormalities noticeable were an occasional reduplication of the first sound at the apex and a decided accentuation of the second sound at the pulmonary cartilage.

Nervous System.—The mental state was dull, but there was no

stupor and no coma. Speech and articulation were normal, Cerebration was rather slow, but the child appeared to understand what was said to him.

Sleep was broken by the intensity of the headache complained of. It was chiefly occipital, and was liable to acute exacerbations which caused the patient to cry out.

Voluntary power in the extremities was normal. Nutrition was good and no hypertonus could be noticed.

Coördination could not be accurately tested, owing to the mental dulness and to the boy's inability to walk.

No convulsive movements could be noticed, except some twitching of the left angle of the mouth at times. These movements closely resembled in character those obtained in habit spasm.

Except the kneejerks, which were not obtained, the reflexes were all active. There was obstinate constipation, but no other change in the organic reflexes.

No subjective sensory symptoms were complained of, and sensation was apparently normal all over the body.

The only one of the cranial nerves affected, so far as they could be tested, was the optic nerve. The child was almost wholly blind. He could distinguish the presence of an object held close to his face, but was unable to count fingers. There was an intense optic neuritis.

The other systems were negative to physical examination, and the urine was normal.

Subsequent Events.—For some days after admission the patient's headache remained severe. Then it gradually abated, and at the end of three weeks (March 1) had entirely ceased.

Vision improved gradually, and by March 1 patient could readily count fingers and identify playing cards, though he was unable to read even fairly large print.

The bowels remained obstinately constipated for two weeks (till Feb. 20). Since then they have been fairly regular.

For three weeks after admission (up to March 1) the patient had some tendency to retention of urine, necessitating frequent hot hip-baths, and occasional catheterisation.

During the four weeks following admission (till March 8), patient vomited three times. The vomiting usually took place while taking food or soon after. As a rule it was somewhat explosive, was not preceded by nausea, but the patient said he felt sick afterwards. The vomitus consisted only of food taken.

Patient has for the last week (since March 1) been able to walk.

His gait is somewhat ataxic, the ataxia being of the cerebellar type.

The amount of ataxia present varies somewhat from day to day. There is slight swaying when the patient stands with his heels together and eyes closed.

No further convulsive movements have been noticed, and no paresis. Inequality of the pupils still persists. The right is the larger.

The temperature has been slightly elevated since admission, ranging between 98° and 100°. The pulse has varied between 76 and 120.

The symptoms present in this case point unmistakably to a gross brain lesion, but there were at first no localizing symptoms of sufficient distinctness to warrant a diagnosis of the situation of the lesion. Since the disappearance of the headache, the boy has been able to go about, and it then became manifest that his gait is somewhat ataxic and of a cerebellar type. This symptom together with the absence of the knee jerks, the severe occipital headache, and the early and very intense optic neuritis point on the whole to a cerebellar lesion. The symptoms are, however, of not sufficient weight to justify a physician in advising surgical interference.

There is not sufficient evidence to be gained from his past and family history, and from the onset, nature and course of the symptoms, to enable one to arrive at a conclusion as to the nature of the lesion.

CASE II.

Slow and irregular development of paralysis of the right arm and leg—Paralysis of the left external rectus—Slight weakness of the right external rectus—Paralysis of both motor and sensory branches of the left fifth nerve—Pain sense in the region of the left fifth exaggerated—Temporary impairment of hearing on the left side. (Reported by Dr. McDougall, House Physician.)

P. McM., male, *æt* 13, school-boy, was admitted to the Royal Victoria Hospital, November 6th, 1897, complaining of weakness of the right arm and leg, and double vision.

One day in July, 1897, when returning home, after playing a game of lacrosse, the patient noticed that the right side of his body was a little weak. The leg on that side easily tired and the toe tended to catch on objects lying in his path. With his right hand he was not able to hold his lacrosse stick as firmly as usual.

A few days later he "began seeing double;" at first but occasionally, but about the time of his admission to the hospital diplopia had become constant, and his friends noted that "his left eye turned inwards."

Within two months from the onset of the trouble, the weakness had developed so that the patient had a very decided "limp" when walk-

ing, and the right foot was dragged forward, or swung outward in order to clear the ground.

Frequently the toe caught on the ground, causing him to stumble. The right arm hung by his side and the hand was completely paralyzed.

He never had pain, loss of consciousness, nor convulsion.

There was nothing to note in his personal history, save an attack of measles in infancy and pneumonia two years ago. There was a good family history.

On admission the patient was noted to be an intelligent, and well nourished boy of average size.

Temperature $98\frac{2}{3}^{\circ}$ Fah. Pulse 72. Respirations 20 per min.; weight $82\frac{3}{4}$ lbs.

The glandular system was normal.

The skin over the lower half of the right upper and lower extremities was moist, cool, and somewhat cyanosed; elsewhere it was warm and dry. (No scars nor eruption.)

Nervous System.—The cerebral and mental functions were normal.

Voluntary motor power on the right side, generally, was greatly diminished and the gait was hemiplegic. There was complete paralysis of the muscles of the wrist and fingers, and the remaining muscles of this extremity were more markedly affected than the corresponding ones of the lower extremity.

A barely perceptible weakness of the muscles at the angle of the mouth on the same side was noted.

There was moderate convergent strabismus of the left eye, and it (the eye) could be but very slightly rotated to the temporal side. The muscles on the right side were flabby, but no wasting could be made out. The deep reflexes on the right side were increased.

There was absence of the pharyngeal reflex, but the remaining reflexes were normal.

Co-ordination as far as could be tested was normal.

Excepting pharyngeal anæsthesia, sensation was normal.

The special senses were normal save for diplopia due to paresis of the left external rectus muscle.

The fundi oculi were repeatedly examined and found normal.

The circulatory, respiratory, digestive, and urinary systems were normal.

The patient remained in the hospital for five weeks. During that time he gained six pounds in weight, and could at the time of his discharge from the hospital use the right hand a little. The muscles of the lower extremity had so recovered that he could walk much better than at the time of admission.

For about four weeks after leaving the hospital his condition remained the same; then gradually the weakness began to increase, and on Jan. 28th, 1898, he again came to the hospital. He walked with greater difficulty than ever before; the right hand was paralyzed and the right arm muscles weakened.

The left external rectus muscle was completely paralyzed, and double vision was constant.

There was no muscular wasting.

The muscles of mastication on the left side were almost completely paralyzed. Chewing was performed on the right side only. The left masseter and temporal muscles did not swell up and harden when the teeth were strongly brought together.

On protruding the lower jaw it deviated to the left side. Food accumulated between the cheek and the teeth on the left side and the patient was unconscious of its presence.

The left external rectus muscle was completely paralyzed. (The eye was strongly rotated to the nasal side and could not by voluntary effort be turned outward.)

About March 1st, it was noticed that there was slight weakness of the right external rectus and some lateral nystagmus.

The muscles at the angle of the mouth on the right side were somewhat weak, and on smiling the mouth moved to the left side, and the left naso-labial furrow markedly deepened, while on the opposite side it was barely perceptible. The muscles of the left side of the face above the angle of the mouth were slightly but definitely weakened excepting the corrugator supercillii and occipito frontalis, at times it would appear that they were perhaps a little involved, but the evidence was not sufficient to give certainty.

Patient stated that for a few weeks previously, tears from time to time flowed over the left cheek, and the eyelids did not come together so firmly as on the right side.

For two months previously the patient noticed that the saliva tended to overflow the lower lip and trickle down the chin; at the same time his speech changed somewhat, owing to inability to use the lips as well as formerly in articulating.

The organic and the superficial reflexes were normal. Myotatic irritability was slightly increased on the left side of the body, and very markedly so on the right side. On this side (the right) the patellar reflex was greatly exaggerated. The slightest tap threw the leg in a spasm. Rectus clonus was well marked on this side, but no ankle clonus could be made out.

There was some constant rigidity of the right arm and leg.

Co-ordination appeared normal.

Sensation over the trunk was normal.

Tactile anæsthesia was noted over the left half of the face, and also of conjunctiva, nares, lips, hard and soft palate, tongue, gums and buccal mucous membranes on this side.

Anæsthesia of the pharynx had disappeared and the pharyngeal reflex could be elicited.

Sense of pain (using pin or electric brush) was much more acute on the left side of the face and anæsthetic mucous membranes than on the effected side.

Sense of smell on the left side was impaired.

Vision was good excepting diplopia.

The false image was projected to the left. Both images were seen on the same plane and vertical.

The fundi were normal, and have remained so.

Taste was normal.

Hearing was decidedly impaired on the left side but is now (March 9th) nearly normal.

(The remaining cranial nerves were normal.)

Further there is nothing to note which differs from what was observed when the patient was admitted in November, 1897.

The marked motor disturbance in this case, enables a general and topical diagnosis to be readily made. A pontine lesion will explain the paralysis of the extremities on one side and the fifth and sixth nerve paralysis on the opposite side. The disturbance of the 7th was so slight and irregular that little weight can be attached to it. Further, the two sides of the face are not symmetrically developed. What significance is to be attached to the temporary disturbance of the functions of the left eighth? I am unable to give any satisfactory explanation to this question. As in the first case it is difficult to come to any satisfactory conclusion as to the nature of the lesion.

Both patients have been under treatment since their admission to hospital. In the first there is very decided improvement, the lad is now able to go about. Seemingly there is an arrest of the progressive march of the trouble, which was a prominent feature during his early stay in the hospital. Arrest of cerebral morbid growths is more frequently met in tuberculosis formations than in the other varieties.

In the second case iodide of potassium has had no beneficial influence whatever.

Case Reports.

ACUTE MULTIPLE OSTEOMYELITIS.

BY

C. F. WYLDE, M.D.

Wm. P., aged 13 years, first complained of feeling ill on Thursday, September 23rd. His mother noticed him walking a little lame, and he had headache. About ten days previous to this he had a fall, his right knee striking the ground and causing an abrasion of the skin over an area of about one inch in diameter at the outer side of the knee-joint, and over a small portion of the upper border of the tibia. He did not complain of any pain from the fall. The abrasion healed quickly, and at the commencement of his illness there was a small dry scab, adhering to the newly formed epidermis. There was no other sign or history of injury.

On Friday, September 24th, he was sent home from school, complaining of headache and pain in the limbs. The next day, when he was first seen, his temperature was 104°, pulse 122, coated tongue, anxious expression; there was slight delirium and restlessness. He had headache and aching limbs, and pain on attempting to move. There was tenderness on pressure in the right iliac fossa. Typhoid fever was suspected, although his mother said he had had it some years previously. There were no rigors or sweats and no enlargement of the spleen. He continued to get worse. The delirium continued and there was great restlessness.

On September 28th, there was first noticed a small, dusky, red, inflamed spot over the spine of the right tibia, slightly swollen and painful on pressure. This rapidly extended downwards over the upper part of the anterior surface of the tibia, and the next morning was boggy and pitted on pressure. On the inner side of the lower third of the left femur was an oval swelling, hard and painful on pressure. There was also a small, inflamed spot over the posterior surface of the olecranon process of the right ulna, which in a few hours showed pitting on pressure. The boy also complained of pain in the left shoulder. About this time was noticed a few moist *râles* at the base of the right lung.

As the condition of the patient was bad a consultation was suggested to the parents, and Dr. F. G. Finley was called, who diagnosed the case as one of acute multiple osteo-myelitis.

At no time during the illness were the joints affected. The patient was removed to the Montreal General Hospital on the evening of the 29th. Operation was refused by the parents, owing to the boy's desperate condition. Antistreptococcic serum, cc. ii., was injected, but without effect.

On the morning of the 30th there was noticed a small, red spot over the 3rd left metacarpo-phalangeal joint. A friction rub was heard at the base of the right lung.

The boy gradually sank and died about noon. Post-mortem examination could not be obtained.

IDIOPATHIC GASTRIC CRISIS.

BY

N. D. GUNN, M.D.,

Demonstrator of Histology, McGill University.

Mrs. C. D., æt. 26, husband living, has borne two children at full term and had one miscarriage. She has five sisters and one brother living and well. Her mother was at one time confined in an asylum, but at present is well. Her father is living and well.

The patient has always been hysterical. For some days before the onset of vomiting she complained of ringing and deafness in one ear. On June 14th, 1895, she suffered from a violent attack of headache, followed by great retching and vomiting. Nothing could be retained on the stomach. The temperature was 99°, and the pulse 84. There was no abdominal tenderness. Morphine hypodermically, even in half-grain doses, failed to control the vomiting. An examination of the vomited matter showed no lactic acid, but the hydrochloric acid was one and one-half times the normal amount. On the fourth day everything was stopped in the way of medicine and the stomach washed out once a day and nutrient enemata administered four times in the twenty-four hours. This was continued until the eleventh day, when the patient (she had no nurse) told me her bowels had not moved for four days. A high enema of hot water and glycerine failed, and olive oil was tried with a similar result. There was no distension and no tenderness, so I waited. Vomiting continued every half hour until the 14th. The bowels moved in the meantime, though this was denied by the patient. On the 14th I began gavage, giving a pint of digested milk at each feeding. Vomiting ceased promptly and the patient was soon up.

There was no rise of temperature during the whole illness above that recorded on the first day, and no albumin or sugar in the urine.

On October 28th, 1895, vomiting began again after four months normal gastric action. There was no elevation of pulse or temperature. Vomiting occurred every half hour or hour night and day. The patient's spirits were good, and there was no pronounced wasting. Gavage was tried at the beginning but failed, and rectal feeding was then adopted, and in ten days the stomach again resumed its normal functions. Another attack followed in August lasting ten days.

There was in this case no organic nervous affection such as tabes. The vomiting was periodic; the gastric secretion changed and increased in amount. In many particulars the case resembles those described by Rossbach under the head of "gastroxynsis" and undoubtedly expresses some irritation of the gastric nerves.

RETROSPECT OF CURRENT LITERATURE.

Medicine.

UNDER THE CHARGE OF JAMES STEWART.

The Lingual Tonsil as a Cause of Cough and Paroxysmal Dyspnoea.

BEVERLEY ROBINSON, M.D. "Etiology and treatment of certain kinds of cough."—*The Amer. Journal of Med. Sciences*, Nov. 1895.

MAYO COLLIER. "A case of lingual varix with severe paroxysmal dyspnoea."—*West London Medical Journal*, July, 1897.

The general practitioner is under considerable obligation to these two observers for directing attention to the lingual tonsil as a cause of distressing and obstinate cough, as well as of dyspnoea, sometimes associated with hæmorrhage.

As shown by Dr. Robinson, many cases of frequent dry paroxysmal cough, from which but little relief is afforded by anodynes, are due to the abnormal enlargement of the lingual tonsil.

By the aid of the laryngoscope these cases become clear, the epiglottidean fossa being found filled up and distended by a rounded mass of lymphoid tissue. When this mass encroaches upon the free border of the epiglottis, cough is most troublesome.

Varices are frequently found upon its surface. Disturbances of the circulation may account for the paroxysmal character of dyspnoea as well as of cough.

Such cases are more frequently found in women toward middle life; sometimes associated with menstrual derangements. Not infrequently the subjects of this enlargement experience a feeling of fulness or choking, and constriction of the neck, or as if some foreign body were lodged in the throat.

The treatment consists first, in the use of sodium salicylate internally, and the local application of the compound tincture of iodine. If this treatment is not followed by good results within a short time,

the tonsil may be partly destroyed by the galvano-cautery, at successive sittings.

The Pathology and Treatment of Emphysema.

HARRY CAMPBELL, M.D., F.R.C.P. "The pathology and treatment of emphysema."—*West London Medical Journal*, July, 1897.

Dr. Campbell holds that the two essential factors contributing to the enlargement of the chest in hypertrophous emphysema are: (1) Defective pulmonary elasticity, and (2) Dyspnœa.

He says, in consequence of the former, the suction action of the lungs is diminished, and the thoracic elevators no longer properly antagonised, gain the upper hand and expand the chest, which may thus go on enlarging for years before any decided symptoms develop.

"Sooner or later dyspnœa supervenes, and inasmuch as this excites the inspiratory more than expiratory muscles, there is now a still greater preponderance of the expanding over the contracting forces."

Hence the hypertrophy and permanent shortening of the inspiratory muscles, and the fixation of the chest in the inspiratory position. The course then, according to Dr. Campbell, is:

- (1) Defective pulmonary elasticity.
- (2) Dyspnœa.
- (3) Increased thoracic expansion, due to contraction of the thoracic elevators.
- (4) Emphysema.

With the increased thoracic expansion there is a strong tendency toward fixation, and thus the *expiratory range* is diminished.

The treatment is considered under three divisions:

- (1) Preserve the elasticity of the lungs.
- (2) Prevent overaction of the costal elevators so as to check thoracic expansion.
- (3) Maintain the normal mobility of the thorax.

Under the first division, the treatment may be summed up in a word. Avoid overstrain and diseases which weaken pulmonary tissue. The second indication for treatment is in part preventive, and is met by avoiding all causes likely to produce dyspnœa. When the earliest phase of the disease is recognized, it is recommended that expiratory exercises should be taken to antagonise the inspiratory effort.

They consist chiefly in making as deep expirations as possible. Expiration through the open mouth, the body bent forward, is recommended. Then exercises for the abdominal muscles are recommended.

The measures adopted to secure the second indication, will tend also to meet those of the third, viz.: to maintain the normal mobility of

the thorax. If fixation is established to any degree, some good results may follow, massage of the chest wall, external compression of the thorax during expiration, breathing into a rarefied air chamber, and inhaling condensed air.

Consumption.

ARTHUR RANSOME, M.D. "Consumption; A filth-disease."—*The Medical Chronicle*, Manchester, Dec., 1897.

Dr. Ransome, after quoting from Sir John Simons' account of the class of complaints which he brands as filth diseases, among which consumption does not appear, urges that according to its similarity with enteric fever in its origin and means of propagation, it should be classified as a *filth-disease*. For example, he says that the specific organism in each disease is a bacillus. They are both "facultative saprophytes." Neither disease is directly infectious. They are spread by means of excretions from the body.

Since the general improvement of drainage and water supply both diseases have greatly declined. Within sixty years consumption has been reduced to one-third its former prevalence, and enteric fever to one-fourth or even less.

Dr. Ransome would further establish the reasonableness of his claim by evidence: (1) Statistical, and (2) Experimental.

Under the first he shows that between 1838 and 1894, according to the returns of the Registrar General in England, there has been a decline from over 3,800 per million, to 1,380, or an army of 75,000 lives in a year. Again, this view is supported by a study of this disease in sections. Its incidence is seen most frequently in crowded unsanitary areas, where all kinds of filth prevail, especially air sewage. That poverty, weakness and bad food, cannot account for the number of cases in such localities, is shown by the frequency of deaths from consumption among soldiers, men with good constitutions, who were exposed to "bad ventilation and imperfect drainage of the barracks."

Ordinary filth is not sufficient, but a specific form of impurity such as that afforded by phthisical expectoration is necessary, as shown by Dr. Coret, in statistics relating to the German nursing orders. The dirty ill-ventilated and ill-lighted rooms are favourable to the growth of the tubercle bacillus; sunshine destroys them.

Statistical evidence has been strengthened by that afforded by experiment.

The observations of Villemin and Schottelius show that the inhalation of tuberculous matter, or its ingestion, convey the disease, and also that it may be inoculated.

Koch showed that dried pulverized tuberculous sputum was most infective.

The author has also shown, by the aid of Prof. Dreschfeld, that poor ventilation and moisture favoured the preservation of the virulence of tuberculous sputum, while exposure to air and sunlight destroyed the virulence. Quoting from the "Weber-Parkes" prize essay, Dr. Ransome shows that the condensed vapour from healthy breath, phthisical breath, cellar air in Southampton, cellar air at Bournemouth, weaver's shed in Blackburn, and pure ground air proved excellent cultivating media, simple glycerine agar, potatoe, or pure filter paper serving as the supporting medium.

Dr. Ransome says: "It may then be regarded as certain that the bacillus can grow outside the body whenever it can get hold of a sufficiently impure soil, and whenever its activity is not interfered with by the adverse conditions of abundant air and daylight."

Further, the writer points out the danger to delicate people which exists in the theatres. Such buildings, poorly ventilated, excluding the sunlight, frequented by many tuberculous subjects, are often mere death-traps to susceptible people. Churches which are poorly lighted are also dangerous.

The article closes with a review of the means to be adopted for the suppression of tuberculosis, measures similar to those directed against typhoid.

(a). Notification of the disease, especially those in whose sputum bacilli have been found, and those who are careless and likely to spread the infection.

(b). Disinfection of excreta.

(c). Hospital treatment.

(d). General sanitary measures.

Among the latter the disposal of "*air sewage*," is of greatest importance.

W. F. Hamilton.

Surgery.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

Pressure Pouches of the Œsophagus,

BUTLIN. *British Medical Journal*, Jan. 1, 1898, p. 8; *Medico-Chirurgical Transactions*, Vol. LXXII, 1892, p. 299.

CHAVASSE. *Transactions of the Pathological Society of London*, Vol. XLII., 1891, p. 82.

WHITEHEAD. *The Lancet*, Vol. I., 1891, p. 11.

Towards the close of 1890, Mr. Butlin was consulted by Captain X., aged 48, "on account of symptoms of an œsophageal pouch, namely, the return of undigested particles of food some time after they had been taken, and the presence of an ill-defined swelling on the left side of the neck, which became larger after a meal, and out of which gas and particles of food could be pressed."

There were no signs of stricture of the œsophagus, and his general health was good.

Mr. Butlin learned that Professor von Bergmann had operated upon a similar case with success. The case is published in full in the *Archiv. f. Klin. Chirurg* (Bd. XLIII., Hft. 1).

Mr. Butlin removed the pouch by operation on the 14th June, 1892, following the directions laid down by Professor von Bergmann. The captain made a good recovery, and the wound was healed by the middle of July. The specimen is in the museum of St. Bartholomew's Hospital. Mr. Butlin operated on another similar case in November, 1895, and has seen six cases in all.

The pouch is not covered by muscle, although a thick ring of muscle is formed at the neck of the pouch.

The elasticity of the first pouch removed was very considerable. It could be dilated to two or three times its natural size.

No cord was discovered attached to its free extremity, such as is sometimes attached to the base of a dermoid cyst. They may be regarded as pressure pouches. The first symptoms in all his cases occurred in adult life, and the frequency was much greater in men. Mr. Butlin is strongly in favour of the view that these pouches have their origin in defective development. "Their constant occurrence at the same part of the alimentary canal, and where it is supported by

the vertebrae behind ; their shape in this and many similar cases ; their tendency always to pass out towards the left side ; the slit-like opening through which they communicate with the alimentary canal ; the very great rarity of their occurrence in spite of the careless habit of many people in eating ; the resemblance of this pouch to some of the Meckel's diverticula of the intestine, were very marked ; and although most of the Meckel's diverticula are covered throughout with muscular fibre, they are not all so to the free or distal extremity.

The true pressure pouch is almost invariably situated at the junction of the pharynx with the oesophagus, and it projects almost invariably at the back of the oesophagus between the gullet and the spine. As it enlarges it bulges on one or both sides of the neck, below the level of the cricoid cartilage ; if the bulging is on one side, it is almost always on the left side.

Return of fragments of undigested food is the one constant symptom in every case ; not immediately after the food has been taken, but many hours afterwards. For instance, one patient said that he had coughed up a fragment of fish which he had taken several days previously, and he was quite sure of this, for he had not taken any fish since. The fragments may be coughed up or choked up, and sometimes liquids taken during the evening will run out and make the patient cough, when he changes his position, during the night.

Pressure on the side of the neck, in the posterior triangle, usually on the left side, causes fragments and liquid to return into the mouth. Pressure may cause the escape of gas which develops and collects in the pouch. This gas sometimes causes annoyance by gurgling up at frequent intervals during the movement of the head and neck.

A bougie passed into the pouch is arrested eight or nine inches beyond the teeth. The bougie may be passed on by the opening into the stomach.

Wasting and loss of flesh are not common until late in the history of the case. Eventually, however, emaciation begins and gradually increases. Zenker and Ziemssen found that of twenty-seven cases taken from medical literature, in which the diagnosis was confirmed at the autopsy, that thirteen died of the results of the pouch ; eight of them died of other diseases ; while the cause of death of the remaining six was not stated, and the manner of death has been in most cases by slow starvation. Diagnosis of oesophageal stricture has sometimes been made, probably, partly because the bougie entered the pouch instead of passing down the oesophagus. With the object of relieving the symptoms, gastrostomy has sometimes been performed.

In Mr. Chavasse's case the patient, a man aged 49, died two days

after the completion of the operation of gastrostomy, of exhaustion and hypostatic pneumonia.

Mr. Whitehead's patient lived a little more than five years after gastrostomy had been performed. Her symptoms began at the age of 40, and gastrostomy was performed eight years later, when the obstruction of the œsophagus was complete from the swelling of the pouch, and the patient was much emaciated. She got along well after her operation, gained in weight and was in good health, but tiring of her method of feeding, and thinking that her neck was well, she began to take food by the mouth and her gastrostomy wound closed. She died of starvation, due to recurrence of difficulty in swallowing.

The treatment is removal of the pouch.—The operation is said to be not a difficult one. An incision is made along the anterior border of the sterno-mastoid, with its centre opposite the cricoid cartilage. The dissection is then carried down between the trachea and œsophagus on the inner side and the great vessels on the outside. The superior thyroid artery is tied and the omo-hyoid muscle divided, and the pouch discovered lying behind the œsophagus at its junction with the pharynx and projecting a little towards the left side. It should be cut away from above downwards, and the edges brought together with silk sutures.

Mr. Butlin has operated twice, and one other case has been operated upon in London. Von Bergmann operated on one case, Billroth on one case, Mixtor on one case, and very likely others have operated. Only one case proved fatal and from an unexpected cause—suppression of urine.

Geo. E. Armstrong.

Ophthalmology.

UNDER THE CHARGE OF J. W. STIRLING.

Granular Conjunctivitis.

G. T. STEVENS, M.D. "Suggestions regarding an element in the etiology of trachoma."—*Ophthalmic Review*, September, 1897.

LEOPOLD MILLER. "Bacteriology of trachoma."—*Wiener Klin. Wochenschrift*, No. 42, 1897.

SIMEON SNELL, F.R.C.S., Edin. "Electrolysis in the treatment of trachoma."—*Ophthalmic Review*, July, 1897.

M. SANTOS FERNANDEZ. "Subconjunctival injections of potassium permanganate in trachoma."—*Revue d'Ophthalmologie*, October, 1897.

ERNST NEESE. "The treatment of trachoma."—*Deutsche Med. Wochenschrift*, No. 43, 1897.

H. KUHN. "The treatment of granular and tuberculous conjunctivitis."—*Deutsch. Med. Woch.*, No. 28, 1897.

The above are but a few out of the many articles on granular conjunctivitis which have appeared during the past year.

Stevens, following out his elaborate studies on the subject of heterophoria, considered that the pressure of the upper lid on the eyeball exerted to produce a change in the visual plane of the eye, as in anophoria, does act as an important factor in the production of trachoma. Anophoria certainly favours the development of the specific germ, if such be the immediate cause of trachoma.

Stevens asserts that he has observed in cases of trachoma, which have resisted other methods of treatment, a recovery following the correction of the anophoria, and that within a few weeks.

Miller has isolated a bacillus in cases of trachoma, which was similar both in form and culture results to the bacillus of influenza.

Miller does not claim absolutely the causative connection of this bacillus with trachoma yet.

Snell uses electrolysis in chronic cases, and bases his article on the experience gleaned from over a dozen cases. The negative pole is applied to the cheek, the lid is everted and the positive pole, which is probe shaped, is applied to the granulations. The current varies in

intensity from 3 Ma to 5 Ma. Before applying the poles, cocain is freely instilled, as there is some pain at the time, which forthwith ceases on shutting off the current. The platinum probe of the positive pole is well pressed on the palpebral conjunction over the granulations, and then firmly drawn along the lid—a frothy white track follows the platinum point.

This operation may be repeated every few days, as very slight reaction follows.

Snell considers the procedure as better than the sulphate of copper stick, or the expression of the granulations by forceps. As the treatment of this disease requires change from time to time, electrolysis can certainly be recommended as an alternative one.

Fernandez first injects a one per cent. solution of cocain into the cul-de-sac, followed in twenty minutes by an injection of permanganate of potassium solution of a strength of one to one thousand of water. He injects of this solution one half to one gram, and repeats in eight days or so—in the meanwhile using an antiseptic collyrium daily. Fernandez claims very good results.

Neese uses one to two per cent. solutions of creolin if there be not very marked pannus. He also favours close attention to the condition of the lachrymal canals, as they are frequently narrowed, and this narrowing favours the chronicity of trachoma and the development of pannus.

His other methods of treatment are not novel.

Kuhnt's article is an able *resumé* of the various indications for the methods of treatment already known. The treatment of any complication, the treatment of the various stages, and the removal, if possible, from the damp low-lying neighbourhoods which favour the development of trachoma.

Ophthalmia Neonatorum.

F. T. REILING, M.D., "Report on cases of ophthalmia neonatorum."—*Amer. Journal of Ophthalmology*, October, 1897.

Reiling finds as a result of his investigations that gonococci are not always present in the discharge from the eyes. These cases do far better under mild treatment than the severer methods, which latter are effective in cases where the gonococci are found.

Hence he urges the microscopical examination of the discharge, and dependence on Gram's method of staining.

The gonococci which are present in the cells are not stained by Gram's method, whereas any other diplococci which may be present in the cells are stained.

Ulcers of Cornea.

URTHOFF AND AXENFELD. "Bacteriology of suppurative keratitis." *Archiv. f. Ophthalmologie*, XLIV., 1, 1897.

This is a further report of the most interesting study of this subject pursued by these two able investigators.

It has in this article mainly to do with the serpiginous ulcers of the cornea.

They found in every case the Fränkel-Weichselbaum diplococcus, in a few cases slightly mixed with staphylococci and Xero bacilli.

This points to a serpiginous ulcer being a true pneumococcus infection.

THOS. J. PLEASANTS, M.D. "Hydraulic curetting of certain corneal lesions with sublimate solutions."—*Amer. Journal of Ophthalmology*, October, 1897.

This is really the application of Santarnecki's treatment, and is so acknowledged by the author. The eye is first cocainized, a solution of corrosive sublimate, of a strength of one in a thousand, is then used in a syringe fitted with a very fine nozzle—about an ounce of the solution is used. The stream is directed against the ulcer or wall of the abscess with increasing force until the necrotic tissue is thoroughly washed away.

The results appear to be very satisfactory.

Syphilis of the Eye.

HENRY JULER, F.R.C.S., Eng. "Syphilitic diseases of the eye and its appendages."—*Lancet*, December 11, 1897.

In chancre of the eyelid, the preauricular gland is always swollen, firm and painless, unless roughly handled,—the absence of tenderness being of diagnostic import.

Primary syphilitic sore in this region may be mistaken for rodent ulcer, epithelioma, lupus, chalazion, hordeolum, and tuberculous ulcer of the palpebral conjunctiva.

Chancre of the eyelid is always accompanied by enlargement of the pre-auricular or submaxillary gland or both—whereas rodent ulcer, tertiary syphilitic ulcer, lupus, chalazion, and hordeolum generally may be excluded, since in all of these the preauricular gland seldom, if ever, becomes enlarged.

By the time an epitheliomatous ulcer had caused enlargement of the preauricular gland a hard chancre would have healed spontaneously and the patient be well on in the secondary stage of syphilis.

In suppurating chalazia and hordeola, the preauricular gland enlarges, but is in this case tender, and the skin over it red and œdematous. It is an acute lymphadenitis very different from the chronic induration already mentioned.

By a process of exclusion only one lesion is left, tuberculous ulcer, which is exceedingly rare, here the base of the ulcer is not indurated.

Local Anæsthetics in Eye Surgery.

W. H. BATES, M.D. "Painless eye operations."—*New York Medical Journal*, October 16, 1897.

F. C. HOTZ, M.D. "Holocain versus cocain."—*Journal of American Medical Association*, November 13, 1897.

E. BOCK, M.D. "Injurious effect of holocain."—*Centralblatt für Prakt. Augenheilkunde*, September, 1897.

V. VAMOSSY. "Anesin."—*Deut. Med. Woch.*, September 2nd, 1897.

G. VINCI. "Eucaïn B."—*Archiv. für Path. Anat. and Phys.*, Band 149, H 2, 1897.

Bates uses the extract of the suprarenal capsules, together with cocain as Darier, of Paris, has already done.

The suprarenal extract acts as a powerful astringent, reducing congestion of the eye in inflammatory conditions and allowing the cocain to penetrate the tissues more deeply than it otherwise would, as for instance in glaucoma, and in tenotomies of the ocular muscles.

He makes the solution by mixing ten grains of the powdered extract (Armour's) in half a drachm of water and then filters it. The solution must be made fresh just before the operation, and instilled into the eye alternately with the cocain.

To prevent pain and soreness after the operation, he douches the eye with three quarts of a salt solution of one drachm to the pint of water, at a temperature of one hundred and fifteen degrees.

This douche is applied immediately after the operation, before the effects of the cocain have worn off.

Hotz infers as the result of his investigations on holocain, that it is a very rapid and very superficial anæsthetic. Cocain is preferable for the longer and deeper operations. Curiously this is the very opposite to what Wurdemann and Black claim for holocain.

Bock, after seventeen satisfactory results, got a troublesome one in his eighteenth case.

He used a one per cent. solution in the case of an old woman previous to extracting cataract. It caused much pain, dryness and rapid

roughening of the tissues, leading to superficial ulcerations which healed under treatment.

Anesin internally is a hypnotic and locally a non-poisonous anæsthetic. Vamossy made a two per cent. aqueous solution. It is very superficial in action, is harmless, non-toxic.

Vinci finds in Eucain B. a local anæsthetic better than cocain, in that it is less irritant locally, is less poisonous, and has a more marked bactericidal action.

A solution in water of two per cent. is all that is necessary for eye-work.

Optic Neuritis in Intracranial Tumours.

J. M. MARTIN, M.B., etc. "The localizing value of optic neuritis in intracranial tumours."—*The Lancet*, July 10, 1897.

After mentioning the generally accepted statement that optic neuritis is of no value in localizing intracranial tumours, Mr. Martin describes the result of his study and analysis of six hundred cases.

Optic neuritis was constantly present in tumours of the corpora quadrigemina, so that absence of optic neuritis would exclude this area. Next in frequency came the cerebellum and parieto occipital regions 39 per cent. But few cases of optic neuritis occurred in tumours of the corpus callosum, pons, and oblongata.

A comparatively small number of cases showed primary atrophy of the optic nerve in tumours of the pons, medulla, tempero-sphenoidal lobe, motor area, corpus callosum, or corpora quadrigemina.

In cases of monocular optic neuritis, the seat of the lesion is on the same side as the optic neuritis in the proportion of 71 to 29.

Optic neuritis is most frequently absent if the tumour be tuberculous, and is most frequently present if the tumour be gliomatous or cystic.

As to strabismus in cases of intracranial tumour. Martin found in thirty cases that 27 had internal strabismus and it was on the same side as the tumours in 24 cases.

J. W. Stirling.

Dermatology.

UNDER THE CHARGE OF G. GORDON CAMPBELL.

Pemphigus Neonatorum.

L. EMMET HOLT, M.D. "A case of pemphigus neonatorum, associated with a general infection by the staphylococcus pyogenes."—*The New York Medical Journal*, February 5th, 1898.

In reporting this case, the author points out that the acute form of pemphigus seen in very young children has nothing in common with the chronic form seen in older children and adults. He believes that the majority, if not indeed all the cases noted, with the exception of those due to hereditary syphilis, are due to some form of general septic infection of which the bullous eruption is only one of the manifestations. That this was so in this particular instance is abundantly evidenced by the following condensed report of the case.

An otherwise healthy infant of nine days, vigorous, and well nourished, was admitted into the Babies' Hospital (New York) on Dec. 9th, 1896, with the shoulders, buttocks, and thighs covered with bullæ of the usual characters, and with a purulent ophthalmia not due to gonococci. The contents of two of the bullæ examined showed pure cultures of staphylococcus pyogenes aureus. The following day symptoms of general infection were present, and from that time on its condition became gradually worse until death on the 22nd. During this time, new bullæ kept on making their appearance, and their evolution was very rapid. The autopsy showed the presence of various pathogenic organisms in the lungs, kidneys, spleen, and liver. The staphylococcus pyogenes aureus and streptococcus longus were both found in all the organs mentioned except in the lungs.

A Case of Ainhum.

JAMES B. HERRICK, M.D. "A case of ainhum."—*The Philadelphia Medical Journal*, February 5th, 1898.

Cases of this rare and interesting disease are reported from time to time, but no additional knowledge has been gained of the pathology and etiology of the condition. The present case had reached the stage when the affected toe was practically gangrenous before it came under observation. The chief points worthy of note are summed up by the author as follows: (1) Its occurrence in a negro who had been in

Illinois over thirty years. (2) Its rarity in the northern part of the United States, no previous case being reported north of St. Louis except Dr. Shepherd's case in Montreal in 1887. (3) The location of the constriction, apparently in the lower third of the proximal phalanx and not through an articulation. (4) The absence of clinical evidences of leprosy and of lepra-bacilli in the tissues.

Pityriasis Rubra.

JAMES B. COLEMAN, M.D. "Note on a case of pityriasis rubra."—*The Dublin Journal of Medical Science*, January, 1898.

The case reported was an example of Hebra's type of the disease in a young man aged twenty years. The disease had been present for only six months, but in that time had involved the entire surface of the body, and desquamation was so active that every morning as much as a pint of scales and powdery detritus was found in his bed. Several of the nails had become separated from their bed by the heaping up of epithelium beneath, and the hair was falling out. The general condition was excellent and the mucous membranes were not affected. An interesting point was the condition of the blood, which showed considerable leucocytosis (37,000 per cubic mm.) a considerable increase being noted in the eosinophiles, as found by Neusser in many skin affections. The sp. gr., hæmoglobin, and red corpuscles were normal.

Coleman refers to the confusion caused by including this condition under lichen ruber, and objects to the term "dermatitis exfoliativa" as well, reserving that term for cases somewhat similar to this, but secondary to other skin diseases—such as psoriasis and eczema. The diagnosis of the case was based upon the absence of thickening, moisture, or any primary lesion; there had never been papules present at any stage of the disease.

Seborrhœa Nigricans.

JOHN K. MITCHELL, M.D. "Seborrhœa nigricans."—*The Philadelphia Medical Journal*, January, 1898.

The patient, a young girl of 24, born in New York of Jewish parents, had been afflicted with a discolouration extending from the eye-brows almost to the alæ of the nose for five years. She was of markedly neurotic temperament and suffered from various manifestations of hysteria. The discolouration became deeper at each menstrual period, especially when the period was more than ordinarily painful. It was increased by extremes of heat and cold, and varied in degree from day to day, and especially after fatigue and mental exertion or

emotions. "On attempting to wipe it off, it gives to the cloth used in wiping a look of smuttiness, as if fine lead-pencil dust were upon it. It can be removed if some force is used and pretty hard scrubbing, but when washed off, is renewed in a few hours. After washing in this way, the skin is found somewhat sensitive, and a little flushed where the colouring has been removed, but this is in part the effect of the rubbing. If she is kept entirely at rest for a few days, making no exertion whatever, the discolouration area lessens and the hue is somewhat less deep." The general condition was good, and treatment directed towards improving the hysteria and locally by means of washing and the application of astringents was of no avail. Careful watching led to the conviction that the pigmentation could not be self-inflicted.

Dr. Mitchell gives in the paper condensed reports of quite a number of published cases, the vast majority of which occurred in young hysterical girls. In the present case the substance removed was examined microscopically by Dr. A. C. Abbott, and was seen to consist of "amorphous masses that resembled only bits of blackened dirt, and the result of bacteriological examination were only those that were usual from normal skins."

Blastomycetic Dermatitis.

T. GASPER GILCHRIST, M.R.C.S., and WILLIAM STOKES, M.D., Baltimore.
—*The Journal of Experimental Science*, January, 1898.

This paper is of such interest that we cannot do better than reproduce the summary given by the authors themselves.

"The case reported in this article is one of a somewhat extensive cutaneous disease, which occurred in a man, 33 years of age, who gave the following history: The disease first made its appearance eleven and a-half years ago, at the back of the left ear, as a pimple, which soon became pustular. The process extended forward very slowly and gradually encroached upon and covered almost the entire face, the central portion of which now presents an atrophic condition. Another similar lesion occurred one month after the primary invasion, on the back of the hand, which healed in about four years, after treatment with caustic. A third lesion appeared on the right side of the scrotum (six months after), which increased in size for a year, and then healed spontaneously. A fourth inoculation appeared on the anterior surface of the left thigh just above the internal condyle, and grew for a year, after which it gradually healed spontaneously. A fifth lesion appeared on the back of the neck and also healed spontaneously after growing for a year. The disease when first examined presented many of the features of a lupus vulgaris.

There were no enlarged lymphatic glands, and the patient's health had always been good. The family and personal history revealed no syphilitic or tuberculous taint.

Sections from the cutaneous lesions showed the presence of what appeared to be budding blastomycetes. In many sections also almost typical tubercles were found.

The organisms in the tissue are chiefly spherical unicellular bodies varying from 10 to 20 *m.* in diameter, and consist of a doubly contoured membrane, which encloses a finely granular protoplasm with sometimes a vacuole. Many budding forms in various stages were found; no nucleus could be demonstrated, neither were any mycelium or hyphæ present in the tissues. The parasites were almost always found outside of cells, comparatively few being enclosed in giant cells.

Pure cultures of the organs were obtained from the cutaneous lesion in two places from the pus squeezed out from between the papillomatous variety of the lesion. The organism grew on all ordinary media, and especially well on potatoe and beer-wort agar. The cultures showed both budding forms and a fairly profuse mycelium. The organisms in the cultures were round, ovoid, doubly contoured, refractive bodies, varying in size from about 10 to 20 *m.* in diameter. The mycelium was, on rare occasions, of two varieties, very fine and also coarse with sessile buds and conidia.

Dogs, a horse, a sheep, and guinea-pigs were successfully inoculated, the most striking results being nodules, grossly simulating tumours, in the lungs. Microscopically these nodules were of a chronic inflammatory nature, and contained numerous parasites identical in appearance with those in the patient. In the tissues of none of the animals inoculated was any mycelium found. Since our organism did not ferment sugar and produced in cultures mycelium, it may either belong to the blastomycetes or the oidia, but in conformity with prevailing nomenclature we regard it as a blastomyces.

We shall term the disease which has been produced by this organism *Blastomycetic Dermatitis*. We give the name *Blastomyces dermatitidis* to the parasite which we have isolated and described in this paper.

In closing, we are of the opinion that it would be advisable to examine more carefully all tuberculous lesions of the skin, and especially those of tuberculosis verrucosa cutis, for the presence of blastomycetes. This can be readily and rapidly done by soaking the unstained sections in ordinary liquor potassæ, when the organisms, if present, will stand out as doubly contoured refractive bodies."

G. Gordon Campbell.

Pediatrics.

UNDER THE CHARGE OF A. D. BLACKADER.

Functional Enuresis.

JAMES H. MCKEE, M. D. "Functional Enuresis: Its Nature and Treatment."—*University Medical Magazine*, December, 1897.

McKee, in this paper, endeavours to show that the majority of cases of "functional enuresis" are dependent upon faulty metabolism, and, therefore, that treatment should be directed to correcting the "underlying morbid states" rather than to the symptom itself. In this he is only following in the steps of the more recent writers, though he lays less stress than usual upon the importance of local irritation of the genito-urinary organs as a reflex cause. After a description of the physiology of micturition, the difference between the act in the infant and the adult is pointed out, namely, that up to two or three years of life it is entirely a reflex action, but after this, and in the adult, the lumbar centre is under the control of the cerebral cells. Why the primitive act is supplanted by the adult process so much more easily and so much earlier in some children than in others, and why, when once acquired, the power of controlling it should be lost through disease not directly affecting the nervous system, is not explained except on the ground of general *malnutrition*.

All cases of enuresis are arranged in five groups:

1. Cases exhibiting marked malformation or disease of the genito-urinary tract.
2. Individuals who present developmental or acquired disease of the central nervous system.
3. Cases in which are found marked anatomical evidences of past or present malnutrition.
4. Cases which present nutritive disturbances which are far less apparent, but which a careful study will reveal.
5. Cases where nutritive disturbances need not manifest themselves in palpable form, but in which we are led to conclude that the nutritive balance of the sensitive neuron has been interfered with.

It is with the latter three that the paper deals, and the author includes them all under the *nutritive series*. In group 3, rhachitis, phthisical or scrofulous types, the subjects of tuberculous disease and the subjects of valvular disease of the heart, are included. Under group 4, we have gastro-intestinal disease, any infectious disease, but

especially measles and pertussis, and more rarely gout and lithæmia. The last group (5) embraces the large class of cases in which, either through inherited tendencies or through the weakness of the parents, the child possesses what is commonly called a neurotic constitution. In order to determine this, the existence of neuroses in the family history must be sought for. Or the child itself may be the subject of a neurosis, such as chorea or night terrors. The "reflex factor," which is assigned such a prominent place by some authors, McKee thinks is only of importance as tending to aggravate the neurosis.

From what has been already stated with regard to the etiology, the treatment is naturally directed towards the underlying state as well as to the relief of the symptom itself. "General treatment must be moral, hygienic and medicinal. Uniform kindness should be extended to these little cases, though such kindness need not lack the element of firmness." This is perhaps the case among the middle and better classes of society, but when dealing with the class of out-patients met with in hospital practice, where cleanly habits are often only acquired through the inconvenience resulting from their neglect, one is tempted to advise the use of "the rod" as a preliminary before resorting to other treatment. For the worst cases Mitchell's complete rest cure is indicated. Hours of rest, diet, exercise, bathing, etc., are all worthy of consideration. The old custom of waking up the child in the early hours of the night, in order that he may pass urine voluntarily, is considered of value. Of drugs, cod-liver oil and strychnine are accorded first place. The latter should be given in increasing doses until tolerance is reached. Locally, cold douching of the spinal region and genitalia, and electricity and massage, may be tried. The use of belladonna for its local effect is admitted to be often of inestimable value in controlling the symptom. The passage of a sound and circumcision, in the author's experience, are rarely of any value as therapeutic measures.

Sudden Death in Infants.

JAMES CARMICHAEL, M.D., F.R.C.P. "Intestinal Catarrh—Convulsions—Sudden Death."—*Pediatrics*, December 15, 1897.

In connection with a report of a case of sudden death in an infant aged three months, Dr. Carmichael draws attention to the number of cases in which the cause is undetermined. In the case in question the infant was admitted to hospital on account of "fits." On examination the child was found to be apparently quite healthy. The first convulsion had come on three weeks previously, a second two weeks later, and a third the morning of admission. There was no history

of illness beyond a slight diarrhoea, which improved steadily for ten days after admission, but on the tenth day the temperature suddenly rose to 106, and the following day he died. Post mortem, a healthy condition of the organs was found, with the exception of enlargement of the solitary glands of the small intestine. An examination of the brain was not permitted. The cause of death was considered to be hyperpyrexia, from septic auto-infection. It is unfortunate that the brain could not be examined; but from the absence of any symptoms pointing to a cerebral lesion, the author's conclusion seems justifiable.

Hyperpyrexia *per se* is probably frequently the cause of sudden death in the onset of acute disease, and Carmichael considers that in such cases the cause cannot be determined, as the disease does not get time to declare its nature. Of other causes, he mentions asphyxia either from pulmonary collapse, as in cases of pleuritic effusion, or from laryngismus stridulus, or again from food passing into the air-passages in paresis of the muscles of deglutition; marasmus, by sudden lowering of the temperature; and internal capillary hæmorrhage, either from a mucous surface or from some internal organ.

G. Gordon Campbell.

Pasteurized Milk.

HENRY KOPLIK, New York. "Milk Poisoning Occurring in Infants and Children who Have Been Fed upon Pasteurized Milk."—*Medical Record*, February 19, 1898.

The principal purpose of this paper is to bring to light a certain class of cases which can be distinctly labelled as cases of milk poisoning caused by the administration of pasteurized milk to infants and children.

The author points out that in none of the writings of Pasteur do we find him advocating pasteurization, (60°—65° C., as applied to wine,) as a means for the sterilization of milk, but that he established, that in order to completely sterilize milk, it was necessary to subject the fluid to an additional one-half atmosphere of pressure and a temperature of 110° C. Hence, pasteurization of milk is a process which did not obtain the sanction of the master whose name it bears. Flügge, Lazarus, and others have shown that the pathogenic germs of most of the known diseases would be destroyed by pasteurization, but none of them claim that the process would or could be applied to the destruction of all the bacteria in milk. Flügge distinctly warns the profession against the dangers of pasteurized milk as an article of food for the infant. The bacteria and toxins which are to be considered as

the etiological factors in the causation of gastro-intestinal disorders of infancy are not in any way destroyed or inhibited in growth by this process.

These germs may be divided into :

- (a) The lactic-acid-forming group.
- (b) The butyric-acid-forming group.
- (c) The peptonizing group.

The first group is very active in causing gastro-intestinal disturbance, but may be destroyed by the process of sterilization at 90°-95° C. Russel has obtained from milk fresh from the dairy and pasteurized, at least three separate varieties of acid-forming bacteria. The forms in the second and third groups are not destroyed by any process of sterilization at or below 100° C. Milk with exact percentages may be given, but if it is not kept pure, or moderately so, and free from acids and toxins, we shall see it disagreeing with the patient.

A very definite set of symptoms of "milk poisoning," of an insidious nature in some cases, very marked and troublesome in others, are described. Infants or children who have taken a pasteurized milk will in many cases, as a first suspicious symptom, have frequent movements in the twenty-four hours. Children who have had only one movement, or a constipated movement, will suddenly have five, six or seven loose movements. At first the movements will have a yellow, curdled, lumpy appearance, and a distinct acid odor; or they will have an admixture of green and an intensely disagreeable odor. Such an infant is restless, has colicky pains and a slight rise or no rise of temperature.

In other cases, a baby taking pasteurized milk will to all appearances be in good health and spirits, its appetite will be good, and the alvine discharges will have a normal appearance, three or four a day, when suddenly the baby will have a number of greenish, ill-smelling movements of a very acid character, and then after a dose of oil relapse to a normal state.

In other cases the children will have a number—one, two or three normal movements a day. Following such movements will be a large semi-fluid or soft movement of an extremely acid character and a distinctly penetrating sour odour. After such a movement the patient feels very weak.

In other cases the movements are simply increased in number. They are normal in colour and odour, but more fluid than they should be, and the patient does not seem to increase in weight; there may or may not be a slight rise of temperature towards evening. Lastly,

there are infants who take pasteurized milk well enough for a short time, then suddenly develop a sharp attack of gastro-enteritis, which endangers their existence.

The writer in his clinical work has made several unsuccessful attempts to substitute pasteurized milk for sterilized milk. In his laboratory the milk is delivered by one of the best dairies in the city at a very early hour in the morning. In pasteurizing the milk he first made use of his steam sterilizer, noting the temperature with thermometer, and then, after the milk was kept at 75°-80° C. for forty minutes, it was rapidly cooled and then kept on ice or in ice-water until hard. When the milk was given away the people were supplied with orders for ice with which to keep it cold. With the greatest exercise of care, complaints were made that the milk curdled, or that the infants suffered from one of the forms of insidious sub-acute diarrhoea pictured above.

Eight cases are mentioned in detail to illustrate the deleterious effects of pasteurized milk, and the improvement following the substitution of sterilized milk for it. From these cases we must conclude that there was some irritant substance in the milk, and that bacterial proliferation must be fixed upon as the etiological factor.

If milk is sterilized at 90°-92° C., the first group of bacteria, the bacterium lactis class, is rendered inert, and if unprotected with cold the milk suffers only from the peptonizing group. It is found that without ice the acidity of such milk remains stationary for from three days to three weeks in the warmest weather, and when it does coagulate it does so with an alkaline reaction.

What then is the extent to which our knowledge goes in regard to milk for infant feeding?

Milk should be heated at least to a temperature of 90°, 92° or 100° C., the latter being a preferable temperature, for ten minutes. It should be rapidly cooled and kept cool, below 20° C., until ready for use. In this way the peptonizing bacteria are kept inert.

The argument that the high heat lessens the digestibility of the milk by coagulating the albumens and changing them has not been verified or borne out by actual study on the waste albumens contained in the fæces of infants.

Kenneth Cameron.

Pathology.

UNDER THE CHARGE OF J. G. ADAMI.

Recent Observations upon the so-called "Dust-bodies of the Blood." (Blutstäubchen of H. F. Müller.)

H. F. MÜLLER. "Ueber einen bisher nicht beachteten Formbestandtheil des Blutes."—*Centralblatt f. allg. Path. u. Path. Anat.* 1896, No. 13.

STOKES AND WEGEFARTH "The presence in the Blood of free Granules derived from the Leucocytes and their possible Relations to Immunity."—*Johns Hopkins Hosp. Bull.* Dec. 1897, p. 246.

Towards the end of 1896 or the beginning of the following year, while studying under Schreiber of Vienna, the present writer had an opportunity of seeing for the first time, a fourth element of the blood, then just attracting some little attention through the work of H. F. Müller, of the Klinik Nothnagel. Bodies had been mentioned by Schiefferdecker, Kossel and Hayem, as occurring in the blood, which were probably the same as those under discussion, and in Montreal in a case of malaria W. F. Hamilton and G. D. Robins had observed the same appearances, which at the time were thought to be possibly spores. While, therefore, not a discovery on Müller's part, nevertheless to him belongs the credit of first attempting to study these bodies in a scientific way and to bring them into prominence.

These particles, for which Müller proposed the name of *Blutstäubchen* or *Haemokonien*, were first noticed by him while studying the blood in a case of Addison's disease. In a native preparation were countless minute, shining, refractile bodies, showing active molecular movement, and which at first sight resembled micrococci or very fine fat droplets. The writer could not regard these as being derived from the hæmatoblasts or as destruction-products of the red corpuscles. The particles varied extremely in number, and at times were difficult to find, but were never absent in normal blood, while they were also present in the few diseased conditions which he investigated. According to the original description they were usually globular, rod-shaped, or in pairs, varying in shade according as they were in or out of focus, and being 1 *m.* in diameter or under. By ringing the preparation with vaseline they could be kept for two or three days. They were not tinged by osmic acid, were not dissolved in acetic acid, and probably

not in ether. From these reactions Müller concluded that they were probably not fat, nor escaped neutrophile granulations, while from his technique he was certain that they had not been imported from without. He also pointed out that they must be carefully distinguished from Kahane's micramœbæ, found in the blood from cancers and cancer patients, which possess cilia and have independent movement. On the whole Müller was inclined to consider them as allied to fat or albumin.

L. Schreiber, who had also studied them, possessed somewhat different views, which he gave to us at that time as follows:

The *Hæmokonien* contain a small amount of hæmoglobin and probably possess automatic movement. As the particles die they resemble very closely hæmatoblasts, and he thought that he had observed cilia. Both Müller and Schreiber agreed that the bodies were especially numerous after the ingestion of food, and that they were neither fat nor neutrophile granulations.

Müller did not appear to have made any attempt to stain them, and Schreiber further assured us that they had not as yet been stained.

Nothing further was published on these interesting appearances until Stokes and Wegfarth brought out their studies on the subject in December last.

These writers amply confirm Müller's original observations, finding the "dust bodies" in the blood of 500 individuals, 100 of them being in good health, and also in many of the lower animals. While they confirm in their own work the few tests that Müller made as to the nature of the particles, they draw some conclusions which are different from those of Müller.

These authors emphasise the fact that the granules vary in size, approximating closely to that of the eosinophilous and neutrophile granulations contained in leucocytes. *No attempt was made to determine their relative frequency in diseased conditions.*

They further observed that when preparations were kept for an hour at 35°C. the granules within the leucocytes were in active motion, resembling the swarming of bees, and the number of free granules in the plasma was perceptibly increased. They did not make out with certainty that the granules left the leucocytes, although they thought that they did so; nor could they convince themselves that there was any destruction of the granules in the leucocytes. In hardened specimens, deep red solutions of eosin stained both large and small granules. They next made a series of observations on the blood of the horse, rabbit, cat, rat and guinea-pig. There they found similar appearances to those in man, only in these cases the size of the

free bodies in each case corresponded to that of the granulations within the leucocytes and varied as they varied.

The authors next pass on to the subject of immunity, and refer to the theory of Metchnikoff and its modifications by Buchner. They also refer briefly to the work of Hahn, Bordet, Schattenfroh, Bail, Dziergowski, Denys and Hanet, the combined work of which observers may be considered as proving that the leucocytes contain a substance which has the power of inhibiting the growth of many bacteria.

Stokes and Wegefarth next pass on to a detailed description of some elaborate experiments with filtered and unfiltered serums from the dog and rabbit, in order to determine their relative power to inhibit bacterial growths. They were enabled to determine that blood deprived of the leucocytes lost its bactericidal property. They also found that by adding new leucocytes to the filtered serum, they could restore its inhibiting action, although the eventual growth of bacteria was not prevented, owing probably to the nutritive material dissolved out from the red cells.

They further added typhoid bacilli to various normal bloods and serums with a view to determine if there was any attraction of the bacilli for the free granules, but without avail. Only with the serum of an immune guinea-pig did they get slight evidence of attraction.

From a consideration of the above mentioned facts, the authors conclude that the free granules are almost certainly derived from the granular leucocytes, and from a consideration of the suggestive work of Hankin, Kanthack and Hardy, they advance the following theory, that

“The bactericidal power of the leucocytes of the blood, and of the serum of man and many animals, is due to the presence of specific granules, especially the eosinophilic and neutrophilic.

“When called upon to resist the action of invading bacteria, the granular leucocytes can give up their granules to the surrounding fluids or tissues.”

From a careful study of the very valuable and painstaking work outlined above, we must conclude that while many suggestive facts are brought forward tending strongly to identify the Blutstäubchen of Müller with the acidophile and neutrophile granulations of the leucocytes, yet the train of reasoning does not amount to a mathematical proof.

It is true that in hardened smear-preparations of blood-stained bodies can be seen extra-cellularly situated, which may be either stained Blutstäubchen or granules which have escaped from the leucocytes, but it is evident that in the process of smearing leucocytes are often

destroyed and the granules set free. This possible source of error must be eliminated. Further, we should be able to settle that the polymorphonuclear leucocytes do shoot out their granules, although this has already been shown in the case of the eosinophilous cells of the frog by Kanthack and Hardy.

To prove the first point beyond cavil, we have to satisfy ourselves that the free bodies in the *plasma* possess the same micro-chemic reaction as those within the leucocytes.

To determine the second will need much further study, not only of healthy blood, but that in diseased conditions. And until these missing links are filled in we cannot think that the authors' conclusions reach beyond the point of extreme probability.

When we pass on to discuss the theory of immunity in the light of these new studies, we must, at the outset, bring in the verdict "not proven" with regard to the theory advanced by the authors which is merely a modification of Hankin's, beautiful and simple as it. In fact the theory is too simple, for we have every reason to think, from already observed facts, that since the developmental history of infective micro-organisms within the animal organism varies according to the nature of the germ and its virulence; so the production of immunity would vary also, both quantitatively and qualitatively, in particular cases. That the blood or serum has not the same power for destruction over all germs is well established from the researches of Fodor, Petruschky, Nuttal, Pansini and others.

For instance, human blood or blood serum can destroy typhoid, diphtheria and glanders bacilli, but not anthrax; and dog's blood or serum can kill typhoid and cholera germs, while it has no effect upon the proteus and pus cocci. Then again certain germs prove pathogenic for man, while harmless for the lower animals and *vice versa*, and yet free granules are found in the sera of all. Evidently the granules are different in each case, or else other factors must be taken into consideration. Before we should even advance with any degree of confidence the hypothesis that the bactericidal power of the blood is due to free granulations, we should have some information as to the relative proportions of these granules in the different diseases, and whether the power of filtered serums bears any relation to their abundance or otherwise.

As yet we are in the dark on these points. Further, we must have some information as to the causes which will bring about an increase in the numbers of the free granules in the plasma and their relation or otherwise to leucocytosis. That leucocytosis is not everything in the struggle against germs is very clear. Leucocytosis is not always

an evidence of the presence of an infection, as, witness the leucocytosis after ingestion of food, in pregnancy, or the form present in the death agony; and in certain diseases, notably typhoid, there is not only no leucocytosis but in severe cases indeed a leukopenia, and in miliary tuberculosis, measles, and typhus, and influenza, either no leucocytosis, or merely a trifling one. On the other hand, in the case of leukæmia, carcinoma and sarcoma, where germ influence can probably be excluded, there is marked leucocytosis. Further, we have the important fact that the leucocytosis artificially induced by the injection of proto-nuclein or pilocarpin has, at least clinically, no destructive or controlling effect upon the germs present in infective diseases, although recent experiments of Durham's seem to indicate that a local induced leucocytosis does have some effect in restraining the advance of infections; yet this may be due to the mere mechanical effect of the presence of so many white cells. Then again not only is leucocytosis in infective diseases a varying quantity, but its quality also varies. For instance, in typhoid fever, when there is a diminution in the number of leucocytes, it merely effects the polymorphonuclear forms, while there is a relative leucocytosis of lymphocytes, even amounting to 80 per cent. of the white cells present.

The eosinophiles too, which in Hankin's classical experiment in the case of a frog appears to take the initiative, are much diminished in typhoid and sepsis, and in pneumonia do not make their appearance till just at the crisis, when spontaneous cure is beginning. In fact eosinophiles are practically absent during the fastigium of all infective diseases, with the exception of scarlatina, malaria and febrile tetanus. It seems, however, to be a pretty general observation that towards the close of most infective diseases the mononuclear elements prevail. So that the nature of the free granules in the plasma would have to be determined as bearing a definite relation to the predominating type of leucocytes. The important influence of the tissue juices and the lymphatic system in this connection need only be mentioned.

The method by which immunity, then, like most vital processes, is brought about is not so simple as at first sight it might appear, and is probably due to the working of several co-ordinated factors, one or more of which may predominate at any given time. The most common predominant element is certainly leucocytosis, and we must, I think, accept the view first advanced by Hankin, that the elaboration of alexin materials is to be referred to the leucocytes, although his view, that the alexin material is formed by the solution in the plasma of the free eosinophile granulations is by no means generally accepted. The general trend of experimental evidence, however, is in

favour of Hankin's first contention, that the leucocytes are the most important element in the production of immunity. As to the way in which they do this we are still in doubt. For the fact that the anti-toxin of one disease does not protect against the ravages of another seems to argue that there are specific qualities in the method of immunity production in the different diseases, whether this consists in the actual destruction of the bacteria concerned, or the neutralisation of their toxins, or merely the strengthening of the body tissues to a sufficient power of resistance. Buchner, on the contrary, assumes the action of a specific substance derived from the bacteria themselves, and does not believe that the leucocytes destroy or consume the germs.

Enough has been said to at least indicate the manifold nature of the problem before us, and when we have so many hypotheses before us we may be excused from accepting any until more facts are at our disposal. The theory of Stokes and Wegefarth as to the relationship of the escaped granulations to the induction of immunity is certainly a very pretty one, but we think that we must wait until more facts are forthcoming before we accept it unreservedly. Nevertheless the authors are to be congratulated on having brought together so many valuable observations. Their work is of great value and interest, and if not indeed convincing, is very stimulating and suggestive.

A. G. Nicholls.

Canadian Medical Literature.

UNDER THE CHARGE OF KENNETH CAMERON.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian work published in other countries) for notice in this department of the JOURNAL. Such reprints should preferably be addressed to Dr. Kenneth Cameron 903 Dorchester street, Montreal.]

PERIODICALS.

- (A) The Canadian Practitioner.
- (B) The Canadian Medical Review.
- (C) The Canadian Journal of Medicine and Surgery.
- (D) The Canada Lancet.
- (E) Canada Medical Record.
- (F) The Dominion Medical Monthly and Ontario Medical Journal.
- (G) The Maritime Medical News.
- (H) L'Union Médicale du Canada.
- (I) La Clinique.
- (J) La Revue Médicale.
- (K) The Kingston Medical Quarterly.
- (L) British Medical Journal.
- (M) Journal of Cutaneous and Genito-Urinary Diseases.

Abdominal Surgery—Experience of two hundred and forty-eight cases of. A. L. Smith, Montreal, (A) Dec. 1897, p. 884, and (E) Dec. 1897, p. 780.

Action of certain drugs on the gastric secretions. Andrew Halliday, Shubencadie, N.S., (L) Dec. 25th, 1897, p. 1716.

Address, Introductory—to the nurses in training at the Western Hospital. Price-Brown, Toronto, (B) Nov. 1897, p. 145.

Address, President's,—to the Toronto Pathological Society. H. B. Anderson, Toronto, (A) Nov. 1897, p. 781.

Address, President's—to the Toronto Clinical Society. A. A. Macdonald, Toronto, (B) Dec. 1897, p. 179.

Adenoid vegetations at the vault of the pharynx. E. A. Kirkpatrick, Halifax, N.S., (G) Dec. 1897, p. 405.

Des affections du sein pendant la période puerpérale. E. A. René de Cotret, Montreal, (H) Jan. 1898, p. 28.

Anæsthetics in midwifery. J. J. Cameron, Antigonish, N.S., (G) Jan. 1898, p. 7.

Application of the principle of osmosis to the treatment of toxæmia. Walter McKeown, Toronto, (A) Jan. 1898, p. 1.

A visit to the Willard Parker Hospital. M. A. B. Smith, Halifax, N.S., (G) Jan. 1898, p. 11.

Bacillus *nërogenes capsulatus*—Notes on some cases of infection. Albert G. Nicholls, Montreal, (L) Dec. 25th, 1897, p. 1844.

Baldness and its relation to seborrhœa—The pathology of. W. Pepler, Toronto, (A) Dec. 1897, p. 871.

Behring's serum in diseases not due to the Klebs-Loeffler bacillus—A preliminary report on the action of. H. A. McCallum, London, Ont., (L) Dec. 25th, 1897, p. 1709.

Carbon monoxide—New, test for. A. P. Reid, Halifax, N.S., (G) Dec. 1897, p. 412.

Carcinoma of the stomach with sub-cutaneous metastases. H. J. Hamilton, Toronto, (A) Jan. 1898, p. 10.

- Contusion suivie d'une arthrite suppurée et d'une ankylose. E. Pâquet, St. Aubert L'Islet (J) No. 20, p 153.
- Contracted foot. B. E. McKenzie and H. P. H. Galloway, Toronto, (D) Jan. 1898, p. 213.
- Coprinacetoxime—On the muscarine-like physiological action of. F. Morley Fry, Montreal, (L) Dec. 25th, 1897, p. 1713.
- Cortical cerebral localisation: with special reference to rodents and birds. Wesley Mills, Montreal, (L) Nov. 20th, 1897, p. 1485.
- Dacryocystitis—A second contribution to the etiology of. A. A. Foucher, Montreal, (L) Jan. 8th, 1898, p. 84.
- Dilatation aiguë de l'estomac—Un cas de. Albert Jobin, St. Roch, Que., (J) No. 23, p. 177.
- De la diphthérie et son traitement—Statistiques. J. E. Laberge, Montreal, (J) No. 16, p. 121.
- Diphtheria antitoxin—On the preparation of. Alfred T. Bazin, Montreal, (L) Dec. 11th, 1897, p. 1711.
- Diphthérie sérothérapie, tubage et trachéotomie—Deux ans d'expérience personnelle—Résultats obtenus en pratique privée dans 70 cas de. J. I. Archambault, Cohoes, N. Y., (H) Dec. 1897, and Jan. 1898, p. 705.
- Eclampsia—Treatment. W. J. Wilson, Toronto, (C) Dec. 1897, p. 276.
- Effects of age on the vascular system. Stewart Skinner, St. John, N.B., (G) Nov. 1897, p. 373.
- Effects of gravity on the circulation. R. D. Rudolf, Toronto, (A) Nov. 1897, p. 789.
- Endometritis, chronic—Its causes and treatment. J. W. S. McCullough, Alliston, Ont. (D) Dec. 1897, p. 159.
- Elephantiasis. J. M. Rohler, British Guiana, (E) Nov. 1897, p. 734.
- L'état hygiénique de nos écoles rurales. J. C. Paradis, Montmagny, Que., (J) No. 19., p. 145
- Feigned eruptions—Some cases of. Francis J. Shepherd, Montreal, (M) Dec. 1897, p. 543.
- Formaldehyde—Notes on household disinfection. Wyatt Johnston, Montreal, (L) Dec. 25th 1897, p. 1813.
- Glandular therapeutics. W. H. Merritt, St. Catharines, Ont., (F) Jan. 1898, p. 1.
- Hydrophobia versus common sense. G. A. Stockwell, Detroit, (F) Dec. 1897, p. 885.
- Hypertrophie des amygdales et de son traitement. L. N. J. Fiset, Quebec, (J) No. 21, 22, p. 161.
- Hystérectomie vaginale, avec un rapport de quelques cas—Les indications pour. A. Laphorn Smith, Montreal, (J) No. 18, p. 137.
- Laryngitis—Chronic Arytenoid. Price Brown, Toronto (L) Nov. 27th, 1897, p. 1556.
- Massage. T. J. R. Cook, Toronto, (A) Dec. 1897, p. 887.
- Massage as an occupation for the blind. A. G. Bennett, Buffalo, N. Y., (D) Nov. 1897, p. 105.
- Mechanical obstruction in the female pelvis—Cases of. T. K. Holmes, Chatham, Ont., (A) Jan. 1898, p. 13.
- Mental disease—A political aspect of. Ezra H. Stafford, Toronto, (C) Jan. 1898, p. 12.
- Methods and results in the Burnside Lying-in Hospital, connected with the Toronto General Hospital, Toronto. Adam H. Wright, Toronto, (B) Nov. 1897, p. 155.
- Obstruction of the bowels—The surgical treatment of. H. C. Wyman, Detroit, (F) Nov. 1887, p. 841.
- Odor as a symptom of disease. J. H. McCassy, Dayton, Ohio, (B) Dec. 1897, p. 183.
- Orthopedic aspect of diseases of the nervous system. B. E. McKenzie and H. P. H. Galloway, Toronto, No. 1, Infantile paralysis, (C) Dec. 1897. No. 2; Spastic Paralysis, etc., (C) Jan. 1898, p. 1.
- Persistent foramen ovale. R. D. Rudolf, Toronto, (A) Dec. 1897, p. 879.

Phénomènes psychiques et la médecine—Charles Verge, Quebec, (J) No. 26, p. 201.

Pneumonia with recurrent effusion into both pleural cavities, and pericarditis with recurrent effusions—A case of bi-lateral. Geo. E. Drew, New Westminster, B.C., (G) Nov. 1897, p. 383.

Pregnancy—Some considerations in the management of. E. E. Harvey, Norwich, Ont., (A) Dec. 1897, p. 864.

Pyoktanin-blue in cancer. H. H. Mackay, New Glasgow, N.S., (G) Dec. 1897, p. 414.

Relation of chronic endometritis to early rupture of the membranes in labor. M. Currie, Picton, Ont., (A) Dec. 1897, p. 877.

Septicæmia lymphatica—A severe case of. Alex. Forin, Rossland, B.C., (D) Nov. 1897, p. 110.

Surgery and facts. James F. W. Ross, Toronto, (F) Nov. 1897, p. 229.

Surgical cases—Some interesting. James Newell, Waterford, Ont., (F) Nov. p. 1897, 845.

Testicle—Brief notes on inflammatory, cystic, and degenerative diseases of the. Thomas H. Manley, New York, (C) Jan. 1898, p. 17.

Tonsillitis—The relatives of. J. R. McIntosh, St. John, N.B., (G) Jan. 1898, p. 1.

Tuberculose—Histologie et traitement climatérique de la. H. A. Larue, Quebec, (J) No. 19, p. 145.

Tuberculosis—Pulmonary. W. H. Hattie, Halifax, N.S., (G) Nov. 1897, p. 373.

Tuberculosis—The place of the state in dealing with. P. H. Bryce, Toronto, (A) Jan. 1898, p. 16.

Tumours of the rectum. Geo. Bingham, Toronto, (A) Dec. 1897, p. 859.

Virulence et immunité. A. Rousseau, Quebec, (J) No. 24, 25, p. 185.

Kenneth Cameron.

Reviews and Notices of Books.

A Clinical Text-Book of Surgical Diagnosis and Treatment for Practitioners and Students of Surgery and Medicine.
By J. W. MACDONALD, M.D., Graduate in Medicine of the University of Edinburgh; Licentiate of the Royal College of Surgeons, Edinburgh; Professor of the Practice of Surgery and of Clinical Surgery in Hamline University, Minneapolis, etc. With 328 illustrations. Philadelphia: W. B. Saunders, 925 Walnut street. 1898.

Dr. Macdonald in the present volume sets out to do for surgical diagnosis what DaCosta, Musser, Vierordt and others have done for medical diagnosis. When confronted with a surgical case, the first question naturally is, "What is the disease or injury?" The second question is, "What is the proper treatment?"

To answer these questions correctly, an intimate knowledge of the principles, pathology and bacteriology of surgical diseases and injuries is necessary. Indeed, Dr. Macdonald partly supplies this knowledge in addition to the subjects indicated on the title page, thus enhancing the value of the book.

The diagnosis is at times treated more briefly than might have been expected in a book especially devoted to diagnosis and treatment. More space, for example, might have been devoted to the signs of commencing malignant disease in different organs. It is now decided that cancer is at first a local disease, and the indications are to remove it entirely, to eradicate every vestige of it. To do this one can hardly wait until lymphatic glands are enlarged and cachexia is evident.

The treatment is, as a rule, up to date. In some parts one might well wish for fuller, more detailed descriptions of operations. In cancer of the breast, for instance, Halstead's operation is the only one given. It is given well, however, and fully illustrated, but a description of Kocher's method of extirpating the breast in malignant disease, which possesses some advantages over Halstead's, would have been an advantage.

In the operation for removal of the tongue in cancerous disease of that organ, Kocher's operation is well described and illustrated, while Whitehead's operation, so commonly performed at present, is disposed of in ten lines. Fractures and dislocations, which form so large a part of acute surgery, are treated in a very satisfactory manner, both as regards treatment and diagnosis. Dr. Macdonald very properly emphasizes the advisability of always breaking up the impaction in Colles' fracture of the radius, and the relative unimportance of splints.

Dr. Macdonald has done his work well, and the publishers have issued a handsome volume. It will be a ready reference book.

Orthopedic Surgery. By JAMES E. MOORE, M.D., Professor of Orthopedics and of Clinical Surgery in the College of Medicine of the University of Minnesota; Fellow of the American Surgical Association; Member of the American Orthopedic Association; Surgeon to St. Barnabe's Hospital; Consulting Surgeon to the Northwestern Hospital for Women and Children, to St. Mary's Hospital, and to the City Hospital, Minneapolis, Minn. With 177 illustrations. Philadelphia; W. B. Saunders, 925 Walnut street. 1897.

The author and publisher are to be congratulated upon the neatness of this book. The illustrations are beautifully clear and accomplish their object to a very great degree. The text is concise, to the point, and very readable.

The chapter on lateral curvatures is well illustrated, and the directions for appropriate gymnastic exercises so fully given, that no one need err. The difference clinically between a rickety spine and angular curvatures are pointed out.

Very full descriptions are given of the methods and apparatus in use for the treatment of Pott's disease of the spine and hip-joint disease.

The perfect rest secured by the maintenance of the recumbent position in the progressive stages of the disease is emphasized.

The surgical treatment of tubercular abscess is dealt with fully and in a properly conservative manner, while the objections to radicalism and ultra conservatism are set forth in unmistakable terms. The same may be said of the handling of the question of excision of tubercular joints.

The book is commendable, and we believe will be highly appreciated by all those who are studying and practising orthopedic surgery.

Diseases of Women. By A. H. N. LEWERS, M.D., Lond. Fifth edition, Cr. 8, pp. 526. Published by H. K. Lewis, Gower Street, London.

This work has now run through four editions, and there has been a demand for another, which is evidence of the popularity of the book. The new edition contains some eighty-seven pages more than the former one, thus making an important and useful addition, containing as they do articles upon sterilization of the hands, instruments, hysteropexy, abdominal hysterectomy for fibroids, etc., subjects which were either completely ignored or merely touched upon in previous editions.

The author considers the operation of shortening the round ligaments too dangerous to recommend to patients, but he neither describes the operation nor states what the dangers are. He is a great admirer of pessaries, saying that "no plastic operation will cure cases of procidentia. . . . If, however, she wears a ring, a permanent condition of comfort is obtained." He makes no mention of the fact that you undoubtedly can cure the vast majority of cases of procidentia by a plastic vaginal operation plus either ventro-fixation or Alexander's operation.

One of the most noteworthy articles in the book is that upon "Deciduoma Malignum," which the author considers to be a primary sarcoma of the uterus, which may arise quite independently of pregnancy.

Although the book cannot be recommended as one of great utility to the student, yet it is one which is written in excellent English and an attractive style. F. L.

Mediterranean, Malta, or Undulant Fever. By M. Louis HUGHES, Surgeon-Captain, Army Medical Service. Macmillan & Co., Limited, London and New York, 1897, pp. 232.

This is probably the most complete work on the subject that has ever appeared. The author, on arrival in Malta for six years' service, in 1890, found that this fever, though constituting such a large proportion of all the diseases met with in the island, was so little understood that it was confounded with enteric fever on the one hand and malarial fever on the other. He undertook, therefore, to clear up the confusion prevailing with regard to it, and by the careful observation and pathological and bacteriological investigation has given us a very complete account of the affection, and confirmed the observations of Surgeon-Major Bruce in 1886 concerning the presence of a specific micro-organism. The book is well written throughout, and the author does not claim too much for his work, which, he explains, is necessarily incomplete in some respects, owing to lack of time and money. It is proposed, with seeming good cause, to change the name of the disease from Malta or Mediterranean fever to undulant fever. The two former names have been used indiscriminately for several diseases, while the latter has the merit of being descriptive—the course of the temperature being marked by a series of waves—as well as original. G. G. C.

Transactions of the American Ophthalmological Society. Thirty-third Annual Meeting, Washington, D.C., 1897. Hartford: Published by the Society, 1897.

The transactions of this Society at their annual meeting, in 1897, forms a volume of rather larger dimensions than usual.

The contents comprise material of rather more novel character than usual, very interesting and due to research.

In previous years it has been too much of the nature of a series of case reports.

Case reports are always interesting and valuable, but one looks also for something betokening research and study.

Dr. G. M. Gould communicates a very interesting paper on the refraction changes following increase or decrease of body weight.

The increase of the general body weight being due mainly to adipose tissue, there is simultaneously an increase of the orbital fat, and *vice versa* in a condition of loss of bodily weight.

The increase of orbital fat by its pressure on the posterior pole of the

eye, produces an antero-posterior shortening of the globe with a corresponding increase of hypermetropia, or diminution of myopia, the converse also holds. Dr. Gould illustrated his paper by several cases.

The use of the Röntgen rays in localizing foreign bodies in the orbit is dwelt on by Dr. Oliver and Dr. W. Thomson.

Dr. Richey urges the use of taxis in increased intra-ocular tension, holding that the tension is due to deficient outflow through the *venæ vorticosæ*, favoured by their oblique course through the coats of the eye, which if untreated may result in thrombosis. He urges this taxis proceeding in chronic cases.

Dr. G. E. DeSchweinitz reports on a case of Tobacco Amblyopia, with sections of the nerve.

Dr. Spalding has a paper on optic atrophy following sexual excesses in four cases of boys of sixteen years of age.

Pages 103 to 105 are missing, a rather unpardonable offence, especially in society proceedings.

As is always the case there is much material of interest in these proceedings. J. W. S.

Mastoid Abscesses and their Treatment. By A. BROCA, M.D., and F. LUBET-BARON, M.D. Translated and edited from the French by HENRY J. CURTIS, M.D., F.R.C.S., Eng., with eleven coloured illustrations. London: H. K. Lewis, 136 Gower Street, W.C., 1897.

This is really a valuable work and well worth the translation, which by the way is remarkably well done.

The book is a series of case reports with a running commentary on them, and useful deductions therefrom. This seems the most valuable way of teaching a subject and impressing it on the mind.

It is almost impossible in a case of this kind to particularize any special part of the work.

There is perhaps a little too much elaboration in the classification.

The coloured plates are a little crude but very useful.

For an extensive, detailed account of the subject, the work could hardly be surpassed, and can be strongly recommended.

H. K. Lewis publishes the book in his usual first rate style. J. W. S.

Outlines of Rural Hygiene. By HARVEY B. BASHORE, M.D., Inspector for the State Board of Health of Pennsylvania. T. A. Davis, Phila., 1897, pp. 89.

This book shows on every page that the author is evidently both a practical and scientific sanitarian—two qualifications which by no means always go together. The addition of a well-written chapter regarding the significance of the normal chlorine in the water of a district gives it a special value. J.

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, January 7th, 1898.

ROBERT CRAIK, M.D., PRESIDENT, IN THE CHAIR.

Dr. E. W. Archibald was elected an ordinary member.

The Treatment of Fractures by the Ambulatory Method.

Dr. G. E. ARMSTRONG showed a man whom he was treating for fracture of the tibia by the ambulatory method, and gave the following description of it :

The idea is to apply a fixation apparatus that will enable the patient to use the broken leg in progression. To allow the patient to get out of bed and to go about with the aid of crutches is the idea in the ambulatory treatment of fractures. To attain this object any fixation splint may be used, but plaster of Paris has been chiefly employed, either alone or together with other splints. I have tried to carry out the idea in eight or ten cases recently admitted to the wards of the Montreal General Hospital, and I find that in properly selected cases this method possesses decided advantages.

In this man, the fracture is of both bones about the middle of the leg, and the fracture of the tibia is very oblique. He limps along as you see, but that is about all the inconvenience he has. One great advantage is that the patient can get out of bed. The ability to move about is a great gain. A business man may go down to his office for an hour or two each day and look after his affairs. The advantage is still greater in the case of old people with fracture of the neck of the femur. By avoiding the confinement to bed pneumonia is prevented. I find this method adapted to the treatment of Pott's fracture and fractures of the fibula.

The other advantages claimed for the ambulatory method are lessening of the muscular atrophy and the stiffening of joints, more rapid repair, and the avoidance of delirium tremens.

Meniere's Disease.

Dr. F. G. FINLEY exhibited a case of Menière's disease.

The patient, aged 44, baggageman, was admitted to the Montreal General Hospital on Dec. 29, 1897, complaining of attacks of vertigo with vomiting.

About four years ago, whilst apparently in perfect health, he began to have attacks of giddiness on rising in the morning, staggering always towards the left side. The attacks lasted from 45 to 60 minutes, and came on every two weeks, and latterly have become rather more frequent. About the same time he noticed noises in the ears, compared to rumbling or whistling, and these sounds have continued constantly since.

For the past year there has been diarrhœa, a loose stool being passed after each meal, but not accompanied by pain. Vomiting with the attacks of vertigo set in two months ago.

For the past six months deafness has been noticed.

On the day before admission, whilst at work, he suddenly fell down and lost consciousness for half an hour, hurting his shoulder, but not biting his tongue or passing urine.

His health previous to the onset of the attacks of vertigo was always good, with the exception of an attack of pleurisy 18 years ago. A brother is stated to have died of this disease, but there is nothing further pointing to tuberculosis in the family history.

Examination.—The patient is a rather spare man, with small muscles. The temperature is normal (and continued so during his stay in hospital) and the pulse 76.

The right lung presented marked dulness at the apex posteriorly to the 5th spine, with slight blowing breathing, and fine crackling *râles*. There was no cough or expectoration nor had there ever been. The other organs and urine were normal. The bowels moved once or twice daily after his admission, the stools being rather loose.

The ears were examined by Dr. Birkett, who reported R. ear 1-40, L. ear c-40, membranæ tympanorum, indurated and thickened, no reflex. Bone conduction very defective, especially for the higher notes.

During his stay in hospital he was treated with pilocarpin hypodermically, with a view of influencing the chronic catarrhal condition in the ears. Although there were no attacks of vertigo in the hospital, this is rather to be attributed to rest and quiet than to treatment, as the attacks recurred as frequently as ever after his exit.

The case is evidently a typical one of Menière's disease, the four cardinal symptoms—vertigo with vomiting, noises in the ears, and defective bone conduction being present.

The chronic catarrhal otitis media points to a similar condition of the labyrinths.

The importance of examining the bone conduction with tuning forks of different pitch is very well exemplified in this case. With a

low pitched note, no departure from the normal could be made out, but with a high note the difference was very obvious.

The diagnosis of aural vertigo is usually easy, although the condition is frequently overlooked and attributed to biliousness. According to Gower 90 per cent. of cases of vertigo are due to labyrinthial disease, and the importance of "*Vertigo e Stomaco Laeso*," doubtless owing to the teaching of Trousseau, has been much over-estimated. Gastric disturbance undoubtedly increases the frequency and often precipitates an attack, but inquiry into the aural symptoms, and particularly careful testing of bone conduction, almost always shows that the origin of the disease is in the ear.

The chronic diarrhoea, with evidence of disease in the apex of the lung, was attributed to tuberculosis.

Stated Meeting, January 21st, 1898.

ROBERT CRAIK, M.D., PRESIDENT, IN THE CHAIR.

Irritative Trismus,

Dr. J. ALEX. HUTCHISON read the report of this case and presented the patient before the society. (See page 132 of the February number.)

Appendicitis in an Infant.

Dr. J. ALEX. HUTCHISON read the report of this case. (See page 133 of the February number.)

Stated Meeting, February 4th, 1898.

ROBERT CRAIK, M.D., PRESIDENT, IN THE CHAIR.

Osteomyelitis of the Tibiæ and Femur.

Dr. BELL presented two tibiæ and the lower half of a femur, illustrating the late effects of osteomyelitis, and gave brief reports of the cases as follows :

CASE I.—A. W., a strongly built man, æt. 44, was attacked with acute osteomyelitis in the lower third of the left tibia, at the age of 12 years. He recovered after a long severe illness, with a sinus persisting. Several years later another sinus appeared higher up the leg. These sinuses kept healing over and breaking out at intervals, and on one occasion a sequestrum about three inches long escaped from the uppermost sinus. Eight years ago the bone was operated upon. He was laid up for eight or nine months and it was a year and a half before he could go about as usual,—the sinus still persisting. Four years ago he fell and broke the bone about the middle. He was laid

up four or five months and the bone united, but the sinus still persisted. Three years ago he broke the bone again at a point a little higher up than the first fracture. He was laid up four or five months and union took place. He was able to get about and work on his farm until the 30th of December, 1897, when he fell and broke the bone again on a still higher level than the previous fracture. Two days later he came to the Royal Victoria Hospital. There was a clean transverse fracture across the tibia, at the junction of the upper and middle third, but no displacement. The anterior subcutaneous portion of the tibia, in the middle third, was exposed. It was free from periostium, rough and irregular. A sinus led down to the bone from a point about three inches below the tuberosity of the tibia, on the inner and posterior surface, and another about eight inches lower down. On the 6th of January, 1898, the leg was amputated through the knee joint, (lateral flaps), and the patient made an uninterrupted recovery, with an excellent stump.

The tibia was dissected out and sawn down the centre throughout its whole length. The bone was greatly sclerosed, the medullary cavity obstructed, and it showed three or four old abscess cavities in the cancellous tissue.

CASE II.—W. B. McG., a pale, neurasthenic man, *æt.* 48, was seized suddenly one evening, after a hard day's skating, when 14 years of age (1863), with acute osteomyelitis in the upper part of the left tibia. He was very ill for several months, and recovered with a sinus. The usual history of sinuses—healing over and breaking out again—followed, but he was laid up with acute suppurative conditions about the leg in 1870, 1881, 1885, and November, 1886. Since the last attack he has suffered a great deal of pain in the tibia and has not been able to get about without a crutch, and he had an attack of synovitis of the knee joint, which, however, left the joint functions unimpaired. On January 1st, 1897, there was general thickening of the bone with tender spots, just below the tuberosity on the inner side and about the middle third and the upper part of the lower third. There were no sinuses. Trephining was recommended, but the patient declined to have any operation except amputation. This was done, through the condyles, on the 21st of January, and the patient made an excellent recovery.

Vertical section of the bone showed numerous abscess cavities throughout its whole length. The medullary cavity was obliterated and the whole bone very dense. It would have been quite impossible to have located and enumerated the many abscess cavities found.

CASE III.—A pale, emaciated boy, *æt.* 19, was seized with osteomye-

litis in the lower portion of the femur in August, 1894. A long illness of many months followed, during which the leg became flexed to an angle of 45° . Sinuses persisted and operations for the removal of sequestra were performed in September, 1896, September, 1897, and January 13th, 1898. At this latter operation it was decided to recommend amputation. On the 28th of January, 1898, a circular amputation was performed at the junction of the middle and upper portions of the thigh. The patient made an excellent recovery.

Section of the bone (in its length), showed obliteration of the medullary cavity, sclerosis and deep irregular cavities in the lower end of the bone, from which sequestra had been removed.

In presenting these cases Dr. Bell expressed the opinion that surgeons, in their laudable desire to save limbs, probably often erred in doing repeated, serious operations upon hopelessly diseased bones instead of amputating. He thought every one would admit that these cases were hopelessly diseased and that the patients who recovered in three or four weeks, and would be getting about on modern artificial limbs in three or four months, would appreciate the more radical treatment.

Dr. G. E. ARMSTRONG, said :

Hospital surgeons are more frequently called upon to treat the sequelæ of osteomyelitis, than the disease itself. With the exception of the acute cases arising during the convalescence of typhoid patients transferred from the medical wards, hospital surgeons rarely see these cases during the early stages. This is unfortunate and hard to account for. The pathology and bacteriology of osteomyelitis are now well understood. The diagnosis and treatment during the early course of the disease are not difficult, but the closure of the large bone cavities found in old cases of long standing is extremely unsatisfactory. I have seldom been able to close these cavities with blood clot as advised by Schede. Nor does Senn's method of closing them with decalcified bone chips yield much better results. I believe that these extreme cases, necessitating amputation, would not occur if osteomyelitis was recognized early and treated properly in the early stages. I have tried twice unsuccessfully to close the cavities by filling them with sterilized plaster of Paris. The insuperable difficulty is to render these large irregularly shaped spaces sterile.

Dr. BELL, in reply, said that he agreed with Dr. Armstrong about the way in which cases were overlooked when acute, though this was not so much the case now as it was many years ago, when the cases of which the report had been given were in the acute stage. One of these occurred 35 and another 32 years ago. With reference to the

closing of large cavities, he had used both chips and blood clot with not very great success. Healing by blood clot he considered the ideal method. Irregular cavities could not be rendered aseptic.

Vaginal Hysterectomy upon an Old Woman.

Dr. F. A. LOCKHART read the following report :

The patient, from whom the accompanying specimen was removed, is a Mrs. F., aged 75 years. She was first admitted to the gynecological ward of the General Hospital on November 5th, 1897. Her complaint was "falling of the womb," which she said had only existed for eight days, but this is probably incorrect, as her statements are very unreliable, and the ulcerated condition of the vaginal mucous membrane pointed to a duration of at least several weeks. She first menstruated at 14 and was regular every month until she was 21 years old, when the flow ceased and did not return. She had pain in the right iliac region for seven or eight days each month at the time when the flow should have appeared.

She had one full-time child, who, she says, is 33 years old, but I think that either this statement or the previous one that her menses finally disappeared when she was twenty-one years of age is wrong, as she would be very unlikely to have a child after the cessation of menstruation, whereas an extremely probable cause of that cessation would be superinvolution of the uterus.

The patient's general condition was fairly good, but all of the superficial arteries were very atheromatous, which made one rather anxious to avoid operation.

Local examination of the genitals revealed a large mass, consisting of the uterus, part of the bladder and rectum, and the vagina, protruding from the vulva, the cavity of the vagina being reduced to about half an inch in depth.

The mucous membrane was eroded all around the protruding mass for fully two inches from the external os uteri, and was also greatly hypertrophied and thickened. There was no enlargement of the inguinal glands.

The uterus was carefully washed with creolin, and, after dusting it with a powder consisting of oxides of bismuth and zinc and boracic acid, was easily returned inside of the vulva, and a large boroglycerine tampon inserted to retain it in position. The above proceeding was repeated daily for the next ten days, the patient being kept in bed, after which the vagina was simply douched with creolin twice daily until the patient left the ward on Nov, 29th, by which time the uterus had returned to its normal condition and the ulceration had healed except at the margin of the os uteri.

The patient re-entered hospital on Dec. 11th, the uterus having remained in position for ten days only after her leaving the ward. Four days later, the uterus and appendages were removed *per vaginam*, ligatures being used. The only points about the operation worthy of note were the extreme difficulty at first on account of the thickened mucous membrane obscuring the usual landmarks, and the presence of a unilocular cyst of the right ovary, the size of a large orange. (This occupied the site of the periodic pain from which the patient suffered.) After the uterus had been completely separated on the left side, the cyst bulged into the wound and was punctured and removed without much difficulty.

On account of the atheromatous condition of the vessels, chloroform was used instead of ether.

The patient's convalescence was uneventful, the pulse only twice going up to 90 and the temperature never reaching 100° F. She sat up in a chair on the 18th day and left the hospital on the 30th.

The pathologist reported the presence of very early cancer of the cervix.

I am greatly indebted to the care and watchfulness of Dr. Chas. Gurd, who was house gynecologist at the time, and to the nurses, as without their active co-operation the result might have been different.

Dr. LAPHORN SMITH thought removal of the uterus was the proper procedure in cases of procidentia such as this, because the cervix was most often the seat of beginning cancer. It was so in three of his cases. When the patient would not consent to this, ventro-fixation was satisfactory, if the uterus was not too large. Where the uterus was large and heavy Alexander's operation was preferable, because there was too much pulling on the abdominal wall after ventro-fixation. In either case the cervix should be amputated and an operation performed for narrowing the anterior and posterior vaginal wall.

With regard to whether one should use ligatures or clamps in vaginal hysterectomy, he thought the ligatures gave the best results, although they rendered the operation much longer and more anxious. In one case he had sewed the two broad ligaments together and closed up the opening in the vaginal roof with cat-gut and thus greatly strengthened the floor of the pelvis. This patient went to work as a charwoman a week later against his orders.

Dr. J. C. WEBSTER asked if Dr. Lockhart had performed the operation for cancer or for the relief of the procidentia. On the operator replying that it was for suspected cancer, Dr. Webster pointed out

that it was important to make the distinction, as this operation had been repeatedly tried for procidentia uteri and had been justly condemned by such men as Pozzi, Leopold, and Müller among others. The reason for this was a very simple one. Procidentia uteri was simply a hernia of the pelvic floor, and removal of the uterus not only did no good, but actually did harm by taking away part of the support. He had never seen a case that could not be helped by amputation of the cervix, anterior and posterior colporrhaphy, perineal repair, and, in addition, in many cases, ventro-fixation of the uterus.

Total extirpation could only be regarded as justifiable when the removal of some condition associated with the procidentia was necessary, *e. g.*, carcinoma or myoma uteri.

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THE COLLEGE OF PHYSICIANS AND SURGEONS OF QUEBEC.

Upon another page we have printed a circular addressed to the English members of the profession of this Province by a committee of physicians, which is paralleled by a circular in French, addressed to our French confrères. From this it would seem, that at last the agitation against the College of Physicians, as it is at present constituted and conducted, has taken an active form. For ourselves, we cannot but agree with the signers of this circular, and we cordially hope that the result of this agitation will be to bring about the election, next July, of men who will put an end to the existing condition of affairs. We have no hesitation in saying, that that condition is eminently, not to say notoriously, unsatisfactory.

There is, we know, a disposition on the part of the English speaking members of our profession, to be callous with regard to the College, and to "let sleeping dogs lie." We are in so small minority, that what we do appears to be of little influence; in short, the general disposition has been to let the French members run the College their own way, and only to think of agitating when the French representatives of the College appear by their legislation to be encroaching upon our prerogatives. This attitude of mind is inexcusable. If the French majority in this Province are working towards better things, the right spirit on our part is to support them cordially, and, in the present instance, to argue upon a lower plane, it is to our advantage to support the reform movements, for such support cannot weaken the English representation in the College; it may possibly improve it. It is, for example, utterly indefensible, that under existing conditions, the large body of English speaking physicians in this city, has no direct representation upon the Governing Board. To put the con-

dition of affairs plainly, as matters at present stand, while nominally the mass of members of the Board of Governors of the College is elected by the profession at large, the truth is that the profession absolutely plays no part in the election. With few exceptions, including the university representatives, the members are elected upon one ticket and under the present regulations whereby members of the profession in this Province can vote by proxy, it is possible for any one who is politically minded, to collect together such a number of undated and indefinite proxies simply signed by the names of practitioners in the Province, that at the election he can produce all these proxies and completely swamp the vote of those present. Thus it is possible for one man who has been sufficiently energetic in the matter of collecting proxies, and who has sufficient influence, direct or indirect, to do this work, to elect a working majority upon the Board of the College, a majority completely subservient to him. We grant freely that under certain conditions this power might be utilised to the advantage of the profession in general; indeed we know from history that autocratic rule has been at times fraught with great advantage, but we know also that it can be fraught with most serious evils. Without beating about the bush, we may say that the autocrat in this case is the Registrar of the College, Dr. Beausoleil, and we would ask what has Dr. Beausoleil done and what is his position in the profession of this Province, that he should by his influence over the members of the College, control our medical legislation? No one will deny that influence. Indeed it was as a consequence of it that recently, in order to bring Quebec into line and to bring about reciprocal legislation between licensing boards of the various provinces, he was appointed President of the Canadian Medical Association. But he would be a bold man who would state that Dr. Beausoleil owes his present position to any one gift or superiority over his fellows in matters essentially pertaining to the medical man. It is not as a medical man, but as a medical politician that he has come to the fore, and it may well be questioned whether it is seemly that the profession should be controlled by him. It is true that largely through him reciprocal inter-provincial registration between several of the provinces has become possible, but that has been at the cost of making him President of the Canadian Medical Society, and having raised him to this honour, it cannot be said that he has achieved full success. It is true that again through him the College has obtained some few hundred of the Theses of the University of Paris, but it is ludicrous to hear those Theses spoken of as though they themselves constituted a library, and as though they were to be circulated by post to the

members of the profession scattered through the province. We are inclined to ask Dr. Beausoleil if he will state clearly the circumstances which led to the College of Physicians coming into possession of these same Theses. It is interesting further to hear from Dr. Beausoleil's circular that the College is going to establish a clinical and physical laboratory for the benefit of the profession. Is this also going to be circulated? What is the scientific standing of the gentleman, of whom now we hear for the first time, who is to be appointed head of the same? Certainly the name is not familiar to us. And lastly, as to the improvements which, according to Dr. Beausoleil's circular, have been forced upon Laval University, the very tone of the reference to these improvements indicates most clearly the spirit in which they were brought about. We are not versed deeply in the matter, but it is abundantly evident from the circular that personal spite rather than public spirit would seem to have been at the bottom of the changes which have been made.

Had Dr. Beausoleil been able to point to legislation achieved for improving the status of the physician in the law courts, for putting some stop or attempting to put a stop to quackery, for controlling to some extent the competition and sale of proprietary medicines, and had he, in short, been able to show that through the period during which he has controlled affairs, the status of the profession and the position of the College itself had been improved, there might have been a very different verdict returnable next July. The status of the College is not improved; indeed it is impossible to respect a body which allows unsavory rumours to circulate concerning the finances, and concerning the attitude of its officials with regard to the granting of licenses, which ignores these rumours and never demands investigation. The only way in which to bring about a betterment of affairs is to effect some radical alteration in the mode of election of the Board of Governors of the College. It can be no disadvantage to appoint members of that Board for districts, and to make them responsible to the members of the profession for their districts; thereby the governing body will no longer be irresponsible but responsible; thereby the standing of the College and its Board will assuredly be raised.

The College of Physicians and Surgeons represents not only the French, but all the members of the profession in this Province, and anything that lowers its standing, lowers our standing and self-respect. It is the duty of each and every one of us to demand that the present unsatisfactory government of this body continue no longer, and to work actively to make it a respected and creditable organisation.

THE MONTREAL BRANCH OF THE VICTORIAN ORDER OF NURSES.

We are glad that at last the Victorian Order of Nurses, after much debate, has settled down to practical work, and that in Montreal, Toronto, and in other large centres in Canada, an active beginning has been made. We wish that the policy which now animates those interested in this most excellent movement had been made evident from the first. Members of our profession, and not only they, but the well-to-do and the charitable in this and other cities, showed a most natural hesitation in supporting the scheme as it was first brought to their notice. The scheme was altogether too large, and we must say, too pretentious, add to which, as some of our contemporaries have pointed out, undoubtedly as at first put forward, too large a proportion of the income of the Order would have had to be devoted to the central organisation and too little to the working of the local branches and to the nurses scattered, as it was hoped, throughout the Dominion.

It is a general law ruling all human institutions, that if they are to succeed they must begin in a small way and undergo a natural evolution. No better examples of this can be afforded than the futile attempts that have been made to establish a fully developed parliamentary system, as it obtains in the home of its origin, upon half-civilized people like the Egyptians, or the very partial success that has been attained by the same system when transplanted into most advanced civilisations like the French and the Austrian. The only successful way of promoting this scheme of district nursing is to perfect carefully the local branches, and when these branches have been brought into thorough accordance with the needs of our Canadian people, to allow them naturally to develop into a national institution of district nurses.

Thus, therefore, it is with great pleasure that we note the modest beginning that has been made here in Montreal. Three thoroughly good nurses have been chosen and given a central home, and it is open to all medical men of the city to obtain their services for deserving cases in the order for which they are called for.

With so small a staff it is impossible that they can be called out upon night service, and indeed it would be unadvisable that they should be required night and day. The main object of this district nursing, is not that the nurse should remain permanently with the patient, but that she should call in one or two times each day, see to the comfort of the patient, follow the doctor's orders with regard to the cleaning and bandaging of wounds, and perform those services which

the medical man cannot expect from the untutored friend or relation. More than this is not necessary for the practical success of the scheme. We are glad to see further that while no charge will be made for the nurse's services in necessitous cases, where a patient can afford to pay, something will be required in return for the services rendered ; how much is to be asked in each individual case will be determined by the Committee of the Branch. We have no fear that working along these cautious and practical lines the Victorian Order will be found of great aid, not only to the patients, but to members of the profession, and we feel assured that it will steadily gain in popularity, and will obtain increasing support from the charitable.

We candidly confess, however, that we cannot but regret that at the moment when the local branches are being started in this eminently sensible manner, it should have been thought wise by the central authorities to issue an appeal for funds to send nurses to the Klondyke. Were those who are now rushing northwards impelled by noble desire, were their object to add to the glory of our Dominion rather than fill their own pockets, there would be strong reason for asking for this fund for nurses ; as it is, it is difficult to manufacture sympathy for the run after gold. We do not mean to say that it is not right that there should be nurses, and good nurses, in the Klondyke, or that we are insensible to the hardships which will be undergone in the far north ; we only say this, that, as a matter of policy, the appeal, coming at the present time, is a mistaken one. It is but another proposal by which it will be impossible to arouse enthusiasm for the Victorian Order. No one can bring forward serious objections against local efforts on the part of the Order—indeed everyone must eventually sympathise with the work done under their eyes—but people can and will object to supporting an order which, from the start, enters into a big and doubtful project. We do not say this selfishly, we do not wish to urge that the money of the charitable should be applied locally, but we do say that, as a matter of policy, a series of simple and well sustained local efforts will be the means whereby the order will grow in favour, and when it becomes of established popularity it is then, and not at its inception, that wider schemes may be indulged in.

OSTEOMYELITIS.

Dr. Wyldc's report of a case of multiple osteomyelitis on another page is interesting in that it draws attention to a somewhat rare condition, but one that unfortunately only too often ends fatally, from acute septicæmia and pyæmia. Whether surgical treatment would have changed the result or not is doubtful. The diagnosis should not be difficult, but similar cases have often been incorrectly diagnosed as acute articular rheumatism, or typhoid fever, or pyæmia, the true nature of the condition being subsequently determined in the post-mortem room.

The bacteriology of acute osteomyelitis has been pretty thoroughly worked out in recent years, and the nature of the disease is understood, but the treatment is yet unsatisfactory, in this, as in so many infective diseases. The idea, at one time entertained by the German and French investigators, that osteomyelitis had a distinct germ of its own, so to speak, has been disproved, and it is now known that many pyogenic organisms, if properly introduced, under favourable circumstances, may give rise to osteomyelitis; the staphylococcus and streptococcus are frequently the active agents. The typhoid bacillus alone, or in association with some other germ, is a not infrequent cause of osteomyelitis of a mild subacute form. It is not so easy, however, to explain the onset of these cases of acute multiple osteomyelitis, in which the infection is of a most virulent type, spreading from bone to bone and proving fatal in a few days. Sometimes, as in Dr. Wyldc's case, the onset follows an abrasion, a slight wound, or compound fracture, and gun shot injury on the battlefield may be the exciting cause, but in many cases there would seem to be no such etiological factor evident. A boy becomes heated during play, throws himself upon the grass, and develops acute osteomyelitis. Where is the "*locus minoris resistentiæ*" in such a case? Through the intestines, as suggested by Kocher, or through the tonsil, as suggested by Kraske, or through some other channel?

Clinically, the great point is early diagnosis of the lesion and a correct estimation of the virulence of the infection.

The first point may be determined by a careful physical examination, and the second by the character and degree of the constitutional disturbance.

The pain is generally referred to a joint, say the knee-joint, but further investigation will show that the point of maximum tenderness and the pain are a little above or a little below the articulation.

The joint itself is seldom involved, and if at all, only secondarily. The starting point is invariably near the epiphyseal cartilage, "the zone of election of pathological processes" of Ollier.

The only effective treatment is surgical, but just how many cases of the pyæmic form of osteomyelitis may be saved by early surgical interference, further experience is needed to answer. The indications however are clear. Incise over the infected spot, trephine the bone and scrape out all the infected area. To accomplish this a Volkman's spoon should be used and the cavity should be flushed out with strong germicidal solution. Formalin in watery solution might be used as strong as 1-300 or 1-200, and the cavity, if well limited, might be carefully dried and touched with pure carbolic acid. When several bones are involved, and the patient is decidedly toxic, the prognosis would be decidedly bad, but if operative procedures are not contra-indicated by the conditions obtaining at the time of examination, the patient should surely be given what chance there is.

If operation is refused, probably the next best course would be the packing of the part in ice and the free use of stimulants and supporting measures.

The cases reported by Dr. Bell before the Medico-Chirurgical Society of chronic osteomyelitis, or more correctly the sequelæ of that condition, present the subject in an entirely different aspect. The difficulty in the latter instance is to obtain closure of a septic discharging bone sinus, the problem in the other class of cases is to save the patient's life from acute septic poisoning.

DISTRICT ELECTORAL COMMITTEE OF THE MEMBERS OF THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

CIRCULAR TO THE PROFESSION.

SIR,—For some time past many members of our profession have urged that the elections to the Board of Governors of the College of Physicians and Surgeons of this Province should be made by districts, so that each part of the province might choose its own representatives on the Board. In that case each representative would be responsible to his constituents in his own district for his acts and votes, and such an arrangement would make it practically impossible for any one or two men to control the election for the whole province, as is now practically done.

The present governing body, or more correctly, those who presume to act for it, have persistently opposed this most legitimate demand, and have managed to defeat every motion with this end in view which

has been brought forward at the meetings ; they have also done their utmost to defeat any legislative amendments to the Medical Act which would render such territorial representation possible. It would be vain, therefore, to hope that they will ever spontaneously accord to the profession this right ; for, during the passage of the recent medical legislation at Quebec, they actively opposed and managed to defeat an amendment, having this end in view, which a prominent medical man had brought before the Legislative Council of the Province.

The Board has not resisted, as it should have done, the numerous applications made by different individuals at every session of the Legislature to obtain an irregular entrance into the profession ; and it is hard to believe that all the reports, which are current, of licenses obtained by roundabout methods are purely mythical. Add to this that the financial administration of the Council is far from satisfactory, and lends itself to abuses which all must have noticed who read the official reports. Reforms in the manner of keeping and collecting the accounts are urgently needed, and it is imperative that the duties of the Treasurer, Registrar and Secretaries should be clearly defined and enforced. If the salaries of the officials were not augmented, or new ones needlessly created, and if the Treasurer collected yearly the dues of all the medical men in the province, it would be easy to lessen the amount of the annual assessment and still meet all expenses. The present system of allowing the arrears of dues to accumulate is not only a serious injustice to those who do pay, but is also a source of annoyance to those who do not pay, purely because notice of the amount due is not regularly sent to them ; inasmuch as they are thereby debarred from voting at the triennial election of governors, and, in addition, lose their legal rights before the courts.

In order to remedy these and other abuses in the present order of things, the undersigned, at the request of a large number of the profession, have formed themselves into an electoral committee. This committee begs you, at the coming election, to aid it in electing a Board of Governors who can be depended upon for the reforms indicated in this circular, and generally to see that the affairs of the College are managed in a straightforward, business-like way, and that a sincere effort is made to give the profession proper representation and the protection from illegal competition to which it is entitled ; and to make to the members of the College of Physicians and Sur-

geons of this Province some adequate return for the dues collected from them each year.

D. C. MacCullum, M.D.

R. Craik, M.D.

Wm. H. Hingston, M.D.

F. W. Campbell, M.D.

G. P. Girdwood, M.D.

T. G. Roddick, M.D.

James Perrigo, M.D.

James Stewart, M.D.

F. J. Shepherd, M.D.

H. A. Lafleur, M.D.

Wm. Gardner, M.D.

D. F. Gurd, M.D.

J. A. MacDonald, M.D.

A. D. Blackader, M.D.

F. Buller, M.D.

Geo. Wilkins, M.D.

James Bell, M.D.

A. Proudfoot, M.D.

Geo. E. Armstrong, M.D.

A. A. Browne, M.D.

Laphorn Smith, M.D.

F. R. England, M.D.

J. J. Gardner, M.D.

Wyatt Johnston, M.D.

J. M. ELDER, M.D.,

Secretary.

NEW BOOKS, ETC., RECEIVED AND NOTED.

The Physical Correlation of Religious Emotion and Sexual Desire. By James Weir, Jr., M.D., Louisville, 1897.

The American Year-Book of Medicine and Surgery. Edited by George M. Gould. W. B. Saunders, Philadelphia, 1898.

The Elements of Clinical Diagnosis. By Professor Dr. G. Klemperer (Berlin). Authorized Translation by H. E. Brill, M.D., and S. M. Brickner, M.D. The Macmillan Co., 1898.

Diseases of Women. By Arthur H. N. Lewers, M.D. H. K. Lewis, London, 1897.

A System of Practical Medicine by American Authors. Edited by Alfred Lee Loomis, M.D., LL.D., and William Gilman Thompson, M.D. Lea Brothers & Co., New York and Philadelphia, 1898.

Orthopedic Surgery. By James E. Moore, M.D. W. B. Saunders, Philadelphia, 1898.

Braithwaite's Retrospect. Vol. 116. July, December, 1897.

The Transactions of the American Microscopical Society. Vol. XIX, December, 1897.

A Modern Pathological and Therapeutical Study of Rheumatism, Gout, Rheumatoid Arthritis, and Allied Affections. By Edmund L. Gros, M.D. (Translated from the French).

Electric Treatment in Gout and Uric-acid Diathesis. By Robert Newman, M.D. Reprinted from the Medical Record, 1897.

Trois Cas de Chirurgie du Larynx. By J. Pantaloni, M.D. (de Marseille). Reprinted from the Archives Provinciales de Chirurgie, September, 1897.

Statistique des Opérations Practiquées au Mans. Du 1er Janvier au 31 Decembre, 1896. By H. Delagénère.

The Antitoxin Treatment of Tuberculosis. By Charles Denison, A.M., M.D. Reprinted from the Journal of the American Medical Association, February, 1908.

Notes on the Non-Surgical Treatment of Boils, Carbuncles, and Felons. By L. Duncan Bulkley, A.M., M.D. Reprinted from the British Medical Journal, December, 1897.

What Inferences may be drawn from Cases of Pulmonary Tuberculosis, reported to have Originated in Colorado. By S. G. Bonney, A.M., M.D. Reprint from the Annual Report of the Colorado State Medical Society, 1897.

Pharmaceutical Items, and New Appliances.

What a Malt Extract Is.—A malt extract is the essential quality of malted barley. It is the “attar of rose” of barley. An extract of malt, if properly made, contains all the good qualities which can be found in this nutritious strengthening, and food supplying grain. It is made by drawing out of the grain and concentrating to an essence that part which is the best adapted for the human system, and putting it in such form that it is not only palatable, but can be properly assimilated and taken into the system.

To this is added the collected and refined, nerve calming and sleep producing, restful quality of the flower of the hop vine, and the combination of the two elements, which the chemistry of Nature is pronounced perfect, makes a food product and a nerve tonic which cannot be surpassed, and which is admitted by all physicians to be pre-eminently the best tonic in existence.

There are many malt extracts, but there are a few which stand peculiarly in the front rank, and among these we claim properly the highest place for Pabst Malt Extract, the “Best” Tonic, for this is the only institution manufacturing a malt extract on sale throughout the United States and Canada that has the most modern scientific appliances, utilized especially to produce a medicinal article of this kind, and years of experience has failed to develop a successful rival.

It can be had from every druggist throughout the Dominion. This valuable preparation is recommended for building one up after illness, and to give strength for a surgical operation, or during a wasting disease. It is an ideal preparation for nursing mothers, giving them abundant nourishment to resist the extra drain upon the system; for the dyspeptic it opens the way to perfect health. It will produce sleep for the sleepless and calm the nerves of the nervous and over-worked. In a hundred ways its usefulness is easily demonstrated.

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By this concession, the best constructed limbs, fully guaranteed, can be obtained by Canadian patrons at no additional cost.

The distinguished Japanese diplomat, Count Okuma, present Minister for Foreign Affairs, obtained one of our legs, after investigating the field in the most thorough manner.

M. Finot, of Paris, a wearer of artificial limbs of long experience, recently bought an artificial leg from us; he is now an enthusiastic advocate of our work.

These cases, coming from remote parts of the earth, together with many thousand testimonials held at this office, attest that Marks' artificial limbs are the best and give the greatest satisfaction. A. A. Marks, 701 Broadway, New York.

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The One of Many.—Among the testimonial letters received from physicians by the manufacturers of Imperial Granum is one in which they take even more than usual pride, and from which we quote as follows: "I am sending you a photo of my little two-year-old boy, who has been raised nearly altogether on Imperial Granum. He was very delicate, and we had a great deal of trouble with him owing to his weak digestion, and I feel that your Imperial Granum saved his life. He never tires of it, and it is the only one of the many prepared foods that seems to agree with him."

Samples of this justly celebrated dietetic preparation are sent to physicians on request.

Aseptolin-Edson.—In some diseases, such as malaria, septicæmia and la grippe, this effect is so immediate that the disease is often cured as if by magic. In others, such as tuberculosis and phthisis pulmonalis, the effect is often slow and tedious, requiring the most careful attention to adjuvant measures, for the application of sprays, general hygienic care, and scientific nutrient treatment are essential to successful results.

If the remedy is used with care and skill the practitioner will be rewarded by obtaining a larger percentage of recoveries (55 to 60 per cent.) than by any other known treatment. It is not claimed that Aseptolin is a "sure cure" for phthisis or any other disease, but it is claimed that it affords the best known method of treatment for diseases originating from germ infection.

For reports from physicians who have tested this preparation, see advertisement.

Unguentine.—In cuts, burns, eczema, bruises, blisters, abrasions, chilblains, bromidrosis, circumcision, indolent ulcer, use Unguentine.