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ON CANADIAN EFFORT AGAINST TUBERCULOSIS.

BY

J. G. ADAMI, M.A., M.D.

Meeting thus, and at this time at the Royal Edward Institute, it is inevitable that one matter is foremost in the thoughts of all of us, the death of the great King who gave his name to this building. It is but a few brief months since we were met together outside the door of the Institute under the presidency of one who took the keenest interest in our work and gave it hearty support,—the late Sir George Drummond—awaiting the moment when for the first time the King's touch, in England, should open an institution in the greater Britain across the seas. And following the opening of the doors and the raising of the flag by His Majesty's hand, there came his message: "I shall always take a lively interest in the Institute, and I pray that the blessing of the Almighty may rest upon all those who work in and for it, and also upon those for whom it works." Close upon twenty years ago it was my privilege to hear the King, then Prince of Wales, sound the first effective note of his interest in the campaign against tuberculosis and thereby start the active campaign in Great Britain. It was at the International Congress of Hygiene, in London, of which he was President, when in his opening address referring to the ravages caused by the disease and the evidence brought forward that it is preventable, he uttered these memorable words: "If preventable, why not prevented." These words may truly be said to have initiated the campaign in Great Britain. You all know the active part taken by him in the British Association for the Prevention of Tuberculosis, and how after his recovery from that illness before the coronation, an illness which stirred the empire to its depths, he dedicated the thank offering of his people to the establishment of the King's Sanatorium at Midhurst. In the work, therefore, of those who with us are carrying on the warfare against preventable disease, Edward the Seventh played a very active part. There will be other monuments raised throughout the empire for the beloved monarch,—beloved as no King of England has ever been; there will be another

Presidential Address at the Annual Meeting of the Canadian Association for the Prevention of Tuberculosis, Montreal, June, 1910.

raised here in Montreal, but none of them will carry down to posterity that peculiar possession of almost personal relationship with the great King of the British people.

And here, while touching upon these wider themes, it is right and fitting that this meeting take official cognizance of the passing away within the last few days of another great man intimately associated with our work,—the man, indeed whose discovery of the bacillus and whose masterpiece of demonstration of the essential nature of tuberculosis made the campaign of prevention possible. Generations before Robert Koch it was known that some cases of consumption underwent cure. Generations before, certain communities—but certain communities only—realized that the disease is infectious, but in the absence of sure knowledge the means adopted for its prevention were lamentably deficient. It is, in the nature of things, that the discovery of the *causa causans* of a disease offers the key to a thorough understanding of the phenomena of that disease and of its mode of development and spread. Robert Koch and his discovery made the world-wide campaign against tuberculosis possible. Without the demonstration of the existence of the tubercle bacillus, of its habits of growth and modes of conveyance from man to man, from animal to animal, from animal, I may add, to man, we would remain unprovided with a gospel of means of prevention. We could not advance as we are advancing at present with the sure proclamation that the disease is preventable; we could not surely teach the people how to arm themselves against this greatest social scourge of modern life, and, if it be not presumptuous to strike the personal note, may I add that I am grateful that the honor you have done me in electing me President of this Association, permits me to voice what must be the sentiment of all of us when mentioning the name and achievements of the great Prussian bacteriologist, and this because it has fallen to my lot on more than one occasion, as at the now historical private conference held at the Congress in Washington two years ago, to take a somewhat prominent position in opposition to Koch's attitude, more particularly on the subject of bovine tuberculosis. Two years before Koch's famous pronouncement at London, in 1901, the observation conducted by Dr. C. F. Martin and myself, on behalf of our Government, led us to advise the Minister of Agriculture that the main cause of human infection was from man to man, but at the same time to point out that the very difficulty in the conveyance of tuberculosis from man to cattle, indicated that it was possible by simple methods of isolation to eradicate tuberculosis from among the cattle of the Dominion and thus not only save our farmers from great future loss, but also by the establishment of uninfected herds bring them great future gain. The work of the last ten years only makes

me the more convinced of the rightness of my contention. Koch, unfortunately, as most now agree, in his celebrated pronouncement failed to draw this latter deduction and failing, placed in the hands of the retrogressivists a powerful instrument against legislative advance. But if thus, while agreeing with him upon the main data, it has been my fate to join issue with him over the most important matter,—to be a David to his Goliath—that does not one whit detract from my admiration of his great achievements and recognition of the debt owed to him by humanity for all that he accomplished in the development of bacteriological technique, and, above all, for his discovery of the tubercle bacillus. And I would propose that this congress convey to the German Consul, for transmission to his Government, a vote of appreciation of what Canada and the world in general owes to the great man of science recently deceased.

But if we have to commemorate these most notable losses, here in Canada the last twelve months have been memorable as no previous year has been, for enthusiastic and active advance all along the line and that from the Atlantic to the Pacific. Everywhere our people have been roused to a realization of the seriousness of the problem, of the losses that phthisis and other forms of tuberculosis inflict upon the community, of the possibility and the practicability of counteracting the inroads of the disease. The secretary's report, read this morning, gave us in detail the progress made in the Maritime Provinces, in Quebec, Ontario, Manitoba, and the central west and in British Columbia. From each province comes the same story of associations being established, of hospitals and sanatoriums being either in the course of erection or thrown open, of generous aid to the work by private individuals, of municipal contributions and support, and last, and not the least, of participation by the local Governments in the good work and direction and support of the efforts of the municipalities and antituberculosis associations in the different provinces.

More than ever it is brought home to us that this is not merely a campaign against tuberculosis, but is the inevitable centre of a great movement making for social betterment, for the healthy home, for the well being of our people and for their prosperity. If, recognizing the danger to infants from the milk of tuberculous cows, we succeed in establishing a system of inspection of farms and bacteriological examination of milk supplied to our cities we do much more than banish tuberculosis from the dairy herds: we inevitably lead to the production of a milk that is clean and healthy in every respect: to the establishment of well ventilated byres and cattle that are properly cared for; we raise the

standard of dairy farming throughout the district. If, as was well seen after our tuberculosis exhibition in Montreal and Quebec, we impress upon the people the value of sleeping with open windows as a means of strengthening the system against consumption we at the same time raise the general health of those who follow this piece of advice, and consequently their powers of resistance against all forms of infection. If, we demonstrate to our cities for the mortality statistics that slums and regions of overcrowding are the hot beds of tuberculosis, and persuade them that by legislative enactment these slums must be suppressed, we inevitably develop schemes of city planning, of provision of parks and playgrounds, of schemes for the provision of healthy houses for the artisan class, such as we must rejoice to see M. Bourassa persuaded our local house at Quebec to make one of the matters that the Commission of Enquiry upon city planning for Montreal is to enquire into—and here let me express the debt of gratitude which Montreal owes to Sir Lomer Gouin, who personally brought the Bill establishing that Commission before the House, and by his influence carried it through.

I might thus afford instance after instance. Everything, in short, that makes for impoverished health makes for susceptibility to tuberculosis. Everything that makes for better social conditions develops naturally as an object and outcome of our campaign. Thus, it is coming to pass that our tuberculosis leagues and associations are becoming the centres and meeting points for all in the various communities who actively interest themselves in the betterment of social conditions.

Discussing our Annual Report, I cannot forbear calling attention to the admirable work accomplished by our conjoint secretary and lecturer, Dr. Porter. He has during the year travelled from one end of the Dominion to the other, and such is his capacity as a popular lecturer, such his enthusiasm and organizing ability, that he has succeeded in attracting crowded audiences, and in establishing numerous branch associations. Only this last month with Dr. Seymour, of Saskatchewan, he has succeeded in establishing 20 district associations in that province. We owe much to him for the advance of our work.

Yet another matter is likely to develop out of the report, namely, the most important subject of the care of the indigent incurable cases. In accordance with a resolution passed at the Hamilton meeting last year, when Dr. Lafferty, of Calgary, so admirably filled the presidential chair, I wrote, as president, to the various provincial governments and to the general hospitals throughout the Dominion calling attention to the urgent need that cases of this order be not treated as social outcasts, but that where a general hospital is in receipt of government assistance, and

where in a district there exists no institution for incurable cases there is a distinct call upon such general hospitals to assume the care of such. This principle, I may say, is acted upon by all the western provinces from Manitoba to British Columbia, and to all intents and purposes is admitted and acted upon under the Ontario law. The eastern provinces alone do not as yet admit it and, as I learn, this official communication on my part was received with not a little opposition in New Brunswick. Let me admit freely that the conditions of hospital support are very different in the east and in the west; that the Government subsidy in the former is not per capita, and that the sum granted to the individual hospitals is not on the same scale. Nevertheless, I am sorry that, to put it frankly, those who criticized my letter did not read between the lines, and see that it could not be the intention of the Association, composed as it is largely of medical men, to demand that the hospitals should spend the relatively inadequate subsidy received from the Government upon tuberculous cases and be out of pocket to boot. Such, they may be assured, never entered into the heads of those who framed the resolution. On the contrary, the obvious intention was that the willingness to perform the necessary public duty would create a demand upon the Government and the municipalities to assume the cost of caring for these cases which they would be powerless to resist, seeing that this duty is now recognized by all governments that can be called civilized throughout the world. I would further lay down, that it is an economical mistake to multiply special hospitals when it is possible to utilize pre-existing institutions.

And thus I come back to the text of my address before the Association in Hamilton last year. The success of our campaign depends upon our reducing the cost of treatment to the point at which we can show to our governments and our municipalities that it is economically possible to undertake the care, not of the individual and select cases of the disease, but of the body of those suffering from the disease and incapable of providing for themselves. While affecting all classes of the community, tuberculosis lays its heaviest toll upon those setting forth in life, upon those who have not had the opportunity to save against the rainy day. Those provided with this world's goods we do not ask the authorities to aid, nay more, it is impolitic to ask governmental aid on any large scale for those in the first and curable stages of the disease. Some we must ask, but knowing that the greater number of these cases are curable and with proper treatment can be once again made active working members of society, it is the proper and self-respecting policy so to approach and treat those that they look upon what is expended on their

behalf by society as a loan to be repaid when they are restored to health and are capable once again of engaging in profitable work. But more and more am I convinced that the crux of the problem lies in the treatment of the indigent and incurable consumptives. Isolate these and forthwith the main source of infection is removed from our midst. Permit them to remain in the bosom of their families, to live and sleep in the same rooms with other members of the poverty-stricken household, expectorating and discharging the bacilli broadcast, weakened by the disease to the point that they no longer have the energy or even the inclination to protect those around them, and they become the centres from which the whole family and succeeding tenants of the rooms become infected.

Not all our provincial governments have a Cobalt behind them, and are so wealthy and far-seeing as to afford \$4.50 per week for the isolation and care of these cases as has the Ontario government. But here, in the Province of Quebec, as I have pointed out more than once, the economical conditions are such that we are provided with a means of solving this problem. Thanks to the self-sacrificing zeal of the good Sisters of Providence, and of other religious communities, it is in our power to isolate these incurable cases to sustain and keep them in relative comfort at one-third the cost of ordinary hospital patients. Whereas the ordinary hospital patient in our general hospitals throughout this continent costs the community from \$30 to \$36 a month, the Sisters are ready and willing to undertake their care at from \$10 to \$12 a month. They are willing to take and care for all sorts and conditions, for Catholics and Protestants alike. And nobly have they demonstrated their broad catholicity. This action on their part brings the care of patients of this order within the sphere of practical politics. And our mayor, whose unavoidable absence from this meeting we all regret, and our city council, here in Montreal, and, I may add, our citizens as a body, are thankful to the devoted Sisters for their aid and are glad to accept it. At our next annual meeting I trust that we shall be able to report that Montreal has taken this notable step forward, the surest step toward rapid reduction of our tuberculosis morbidity and death rate that can be taken.

How, it may be asked, can the Sisters possibly undertake the work at this low cost? The answer to this first question is simple. The Sisters devote themselves and their lives to the service of God and of their fellows without thought of gain, and as a consequence the cost of service is reduced to what is verily an inconceivable minimum. Whereas a fully trained hospital nurse to maintain herself requires not less than fifty dollars a month or \$600 a year—and, as the cost of living goes, this is far from being an excessive sum—I have been informed by a dignitary

of the Church that on enquiry he found that the cost to the mother house of each Sister of one of our leading orders in Montreal was \$25 a year, and this included the cost of the habit and clothing. There is the full and eloquent answer to the first question.

How can other and non-Catholic parts of the Dominion follow in the footsteps of Catholic Quebec? I would say, ladies and gentlemen, that it is within the bounds of possibility. Through its religious Sisterhoods the Catholic world has solved one of the painful difficulties of monogamous society. I need not tell you that more women children than men children attain adult life. Living in a Protestant society you know, as I know, each of us more than one case, perhaps many cases, of those who, whether for lack of will or lack of opportunity, have passed the marriageable age. Not a few of these we see active in all good work, the very salt of the earth, but not a few we know lacking initiative, wanting direction, gnawing out their hearts in inactivity, becoming morbidly introspective with the bitter belief that they are failures in life; that their families regard them as such, becoming unduly sensitive, nay often hysterical or confirmed semi-invalids; and if married brothers or sisters ask them to stay with them to help with the family, they imagine either that they are asked out of charity, or that their labours, which may be great, meet with no appreciation; who look upon themselves as family encumbrances, suffered but not welcomed. I can imagine few more bitter lots in life.

Yet this is all unnecessary. Look at our French-Canadian Society. This type of woman is there almost wholly wanting. I know that we Protestants are apt to regard nuns as pusillanimous weaklings who, fearful of facing the world and its duties, have fled to the convent, often before they have known the world and what it has to offer. Ladies and gentlemen, the more I see of the work of the good Sisters, the more I learn from my Catholic friends regarding the inwardness of their lives, the more I find reason to doubt our preconceived verdict regarding them, the more I find to admire in them and their lifework.

There are, of course, Sisterhoods and Sisterhoods, but with rare exceptions I hear from the relatives of the Sisters, that instead of gnawing out their hearts as do so many of their unmarried Protestant cousins in the outer world, their lives are filled with deep peace, and, indeed, their placid faces, when we meet them on the street, give the lie to our Protestant conception of the convent. And we know their good works.

What I would say is, that the time has come for our Protestant

Society to follow the Catholic example. In place of feeling themselves incumbrances let our single women band themselves into Sisterhoods for good works. There is abundance for them to accomplish. I am far from recommending the vow of perpetual chastity, but let them, after a novitiate, bind themselves for at least three years, choosing that Sisterhood and that line of work which appeals to them. And while I believe that a deep sense of religious duty is necessary for such a life, and grows in the fulfilment thereof, and that a due regularity of religious exercise is essential, I would not say that such sisterhood should by any means necessarily be under the dominance of any one particular sect. Let the work to be undertaken, and not the sect, be the dominating principle. But this I do recognize, that the success of any such sisterhood at its inception depends wholly upon governance by some forceful, clear minded and single-hearted woman, and I would be so far worldly as to suggest that to attract other women such a leader should already be of distinction in our society.

I do not think that I am suggesting too much. They have successful orders of Deaconesses in Protestant Norway. I have met them there. I have met them in Germany. They have them in Protestant Scotland. So I would urge that some good strong woman come forward and devote her life to the noble work of establishing a sisterhood for the care of the incurable tuberculous in generous emulation of the work that is being accomplished by her Catholic Sisters. Surely here is a life work that will appeal to our Canadian womanhood, a work that must spread and spread until it embraces all Protestant Canada. Who will come forward?

THE CONDITION OF THE LYMPHATIC GLANDS AS A FACTOR IN THE DIAGNOSIS OF TUBERCULOSIS OF THE HIP AND LOWER SPINE.

BY

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In the past great difficulty has been experienced in making a differential diagnosis between early tuberculous lesions of the spine and the hip. In November, 1909, I observed that the deep lymphatic glands in the iliac and inguinal regions were more likely to be enlarged in disease of the spine than in hip disease. Tuberculous lumbar lymphatic glands have long been recognized by orthopaedic surgeons as a cause of Pott's disease, and lumbar Pott's disease may be the cause of tuberculous lumbar and iliac glands.

In early cases of hip disease it is most unusual to see a bilateral or even a unilateral enlargement of the lymph glands, whereas in lumbar Pott's disease, and in tuberculous lesions adjacent to the lumbar region, such a unilateral enlargement is, the writer thinks, common, and a bilateral enlargement is certainly not uncommon in his experience. This statement is strengthened by a study of the lymphatic system. The lumbar region has a most profuse lymphatic supply. This is associated with the iliac glands and these, in their turn, are associated with the inguinal glands. On the other hand the hip joint seems to have a very limited number of lymphatics.

In corroboration of this clinical fact I beg to draw your attention to the following:—

A SMALL SERIES OF CASE REPORTS ILLUSTRATING THE DIFFICULTIES OF THE DIAGNOSIS BETWEEN TUBERCULOSIS OF THE LOWER VERTEBRÆ AND HIP DISEASE, AND SUGGESTING THE POSSIBILITY OF THE CONDITION OF THE LYMPHATIC SYSTEM BEING A FACTOR IN THE DIAGNOSIS.

1.—B. L., age 6 years.

This little child was brought for examination on 21st September of the year 1906. The mother stated that the child had first been noticed to walk with a limp last spring. Later pain was felt in the right hip joint. One month ago the mother noticed the hip becoming flexed.

Examination.—The hip is flexed to almost a right angle, and the child complains of pain on the slightest movement of it. There is generalized muscular spasm. Measurements to demonstrate both real and apparent length of the limb, and the circumference of the thigh and calf show no difference between the two sides. This fact was considered significant, but, as there was so much muscular spasm on circumduction, the following opinion was written to Doctor T. P. Shaw, who had referred to the case for examination:—

“We are forced to the conclusion that there is either a Pott's disease of the lower lumbar vertebrae, with the resulting contraction of the psoas, or tubercular arthritis of the hip.”

On December 6th (3 months from the first examination) another examination was made.

The note of this examination says:—“The child was admitted for hip disease. The diagnosis was always in question, although there was slight muscular spasm on the right side. The measurements have always remained the same.” On this date it is mentioned that there was no scoliosis but there was slight psoas contraction of the right side, that

there was a quarter of an inch atrophy of the right thigh, and that it was impossible to swear to spasm of the erector spinae.

The child was put in a plaster spica, and 4 months after the first examination the plaster was removed because the child was soiling it, and a further examination and measurements were made. This showed that the left anterior superior spine was held at a slightly lower level than the right, indicating probably scoliosis. Measurements of both extremities were the same. There was no flexion, and no adduction. The patient was kept in bed. On December 31st Dr. Shaw was written to and on this date it was stated that the diagnosis had always been in doubt, that a lumbar Pott's disease, a tuberculous lesion of the hip, and an infective arthritis of that joint had all been discussed, and that as the child was now apparently well, it seemed most probable that we had been dealing with an infective arthritis.

On January 16, 1907, four months from this first appearance, another note was taken. This note is interesting. These are the words:—
“Right psoas contraction: slight rigidity of the lumbar spine: *glands enlarged in both groins*: slight flexion of the right thigh: no adductor spasm. The question of diagnosis had to be again considered.

On November 27, 1907, child was again brought for examination, not having been seen since March of that year. The note states:—
“The mother says that this child was discharged at her request on the end of March last. The diagnosis was always in question, it being considered lumbar Pott's, but it was impossible to verify this tentative diagnosis. The child is brought back to-day with a prominence of the second lumbar vertebra, muscular spasm being apparent, the diagnosis of lumbar Pott's disease being verified.”

The preceding is the first case which I wish to discuss. Its history, as looked at to-day in the light of our present knowledge, is not so very confusing. I think if that little patient were brought to us to-day that we would realize from the beginning that she was suffering from lumbar Pott's disease, and not from anything else, but, although we strongly suspected it, when she was brought to us, and on subsequent examinations, we never could be certain, and kept vacillating in our diagnosis between lumbar Pott's disease, tuberculosis of the hip, and infective arthritis.

There is one point of special interest to me in this history, and it is that at the time of making these examinations I knew nothing of the significance of an involvement of the lymphatic glands, and did not look for such involvement, yet the history distinctly records that these were involved. One thing was not done which to-day we always do

when in doubt, namely, we omitted to use tuberculin. This, as you will see, was used in the three following cases.

The second and third cases which I wish to present should be grouped together because of their similarity.

Case II.—E. D., age 8 years.

A synopsis of her history, as seen in the records of the hospital, was taken on December 28th, 1909.

This little child was brought for examination in the month of June. The diagnosis was then made of tuberculosis of the right hip, but the statement was made in the report taken on that day that the left hip was said to have been affected at different times. The patient was put in a right plaster of Paris spica, and kept in bed. The position in which the patient was placed was probably that of extension and abduction of the right thigh, although the note does not say so.

The synopsis of the 28th December, 6 hours after her admission, states:—"Yesterday my attention was drawn to the fact that the patient had been complaining of pain in the 12th dorsal vertebra, consequently the plaster of Paris has been removed, and we find that the patient, when lying on her back, lies with the right thigh slightly abducted; the lumbar spine in the position of lordosis, and the left thigh decidedly adducted.

The right thigh being fixed, it is found that it is possible to abduct the left thigh without tilting the pelvis on that side. Measurements showed the right thigh to be only a quarter of an inch smaller than the left thigh. Measurements taken from the umbilicus to the inter-oral condyle demonstrate an apparent lengthening of the right side. When the patient lay in the prone position the right thigh was found to be lying in a line with the right side of the trunk, whereas the left thigh was found to be adducted. There was muscular spasm in relation to both thighs, but the spasm was greater on the left side. Both erectores were noticed to be in spasm, but the right erector was shown to be in greater spasm than the left. There was a prominence of the 12th dorsal vertebra. The 11th dorsal, and 1st and 2nd lumbar also shared to a smaller extent in this prominence. Slight scoliosis was noticed. Examination of the right thigh and hip showed, firstly, that the *glands in the groin were enlarged*; secondly, that there was not very great muscular spasm in the muscles controlling the hip. Examination of the left thigh showed *an enlargement of the glands also*, and distinctly more muscular spasm in the muscles controlling the left hip than there was in the muscles controlling the right hip. These words are extracted from the note:—"The diagnosis was made of right hip disease, but the state-

ment that the left hip has been occasionally affected suggests that the affection was more likely to be one of the lumbar vertebræ than of the hip."

From the examination made to-day (28th December), 6 hours after the former examination, we are led to strongly doubt the existence of a tuberculous lesion of the right hip, although the fact that there is greater spasm in the right erector than in the left is against the lesion being a tuberculous one of the spine. Still one cannot help feeling that the indefinitely discovered and complained of, lesion of both hips, is secondary to a primary lesion, if not in the spine, certainly adjacent to it, and that the present condition is probably due to a tuberculous lesion of the dorso-lumbar vertebræ, perhaps added to an original or primary lesion which, as we have before suggested, was probably adjacent to that vertebra.

A large dose of tuberculin was administered. This was followed by a *definite reaction in the region of the dorso-lumbar spine.*

May I draw your attention to two or three points in this history: First, how indefinite were the symptoms. At one time in the right hip, and then in the left hip. Please note the irregular spasm of the erectors, and lastly, note that the *glands in both groins were definitely enlarged.* The statement that has been made that the lesion was possibly not primarily in the vertebræ but rather adjacent to it, is based on the fact that lesions of the vertebræ, as a rule cause generalized muscular spasm and not irregular spasm as found in this case. The eventual diagnosis which was made, and verified by the use of tuberculin, was dorso-lumbar Pott's disease.

Case III.—L. B., age 5 years. The patient, whom I associate with the last, is a little child of nearly five years of age. She was brought to the hospital in the same month as the last, viz., in June. Her parents complained that the child walked with a limp. Examination showed muscular spasm about the right hip, but apparently there was no atrophy. The left hip was free from spasm. There was no spasm of the psoas muscles. A tentative diagnosis was made of beginning arthritis of the right hip, which was placed in a plaster of Paris spica, in which she remained for six months, during which time she was treated with injections of tuberculin.

About the 19th December this spica was removed, and the patient was left in bed without other form of immobilization. In two or three days the patient was brought up for examination, because it had been noticed that there was persistent flexion of the *left hip.* Examination: The patient lies on her back without lumbar lordosis. The right hip and

thigh are larger than the left. There is a distinct fulness in both inguinal regions. An examination of these fulnesses shows that they are due to an *enlargement of the inguinal glands*, especially those of the right side. An examination of both hips shows that there is equal muscular spasm on both sides. With the child lying in the prone position, the right gluteus seems a little fuller than the left, and the first lumbar vertebra seems a little more prominent than any other.

The argument written on that day, six months after treatment was begun, states that it seems certain that symptoms have been seen in both hips, and it seems certain, also, that there is no acute disease in either hip, consequently our attention is drawn particularly to the lower dorsal and lumbar vertebræ. Examination shows little, if any, spasm in either psoas muscle, although hyperextension of the left hip is to some extent restricted. The erectores show equal tone on each side. The administration of a dose of tuberculin to accentuate the symptoms was suggested. This patient, according to instructions, was given $\frac{1}{2}$ mg. of tuberculin, following which there was a general reaction.

Examination: Patient lying on her face shows a definite prominence of the first lumbar vertebræ. The 12th, 11th, 10th and 9th dorsal are apparent. The 2nd, 3rd, and possibly the 4th lumbar are also apparent, their prominence being according to the order given. Hyperextension is more resisted on the right side than on the left. Muscular tone is greater in the right gluteus than in the left. There is definite spasm of the erectores, although, perhaps, there is more spasm in the right than in the left. Hyperextension of the spine is to some extent limited, proven by placing her alongside a normal child of about the same height. In the normal child a more acute curvature of the spine is apparent on hyperextension than in the patient under consideration. In the normal child a distinct furrow was shown in the region of the dorso-lumbar spine, while in the patient under consideration no such furrow is seen. The patient, lying in the supine position, a slight tilting of the pelvis is noticed in this, as in a previous case.

Case IV.—D. C. This little child has a history of trouble in the right hip for just about one year. On October 26th, 1909, she was brought to hospital because of this, and has been treated for tuberculosis of the right hip ever since. On January 20th, 1910, she was admitted for treatment in a Thomas abduction splint.

On April 12, 1910, the following note was made:—"One of the first things noticed in the examination of this patient is that the *lymphatic glands in the right groin are greatly enlarged*. Those in the left groin are enlarged also."

As, by this time, I had become convinced that an enlargement of the lymphatic glands was of some significance in the differentiation between hip disease and dorso-lumbar Pott's disease, I quote verbatim from the case report:—

“As this, (the enlargement of the lymphatic glands) is not without significance a careful examination for purposes of differential diagnosis will be made. Patient lies with lumbar lordosis. The circumference of the right and left thighs is the same. There is muscular spasm on endeavouring to move either hip, but this spasm is not very great, although it is certainly greater in the right hip than in the left hip. The patient does not complain of pain in either hip. Adduction is slightly freer on the left than on the right side. Patient being placed in the prone position it is noticed that the 12th dorsal spine is more prominent than that of any other vertebra; that the 9th and 11th spines are the next most prominent. There is a slight suggestion of scoliosis, and a definite muscular spasm on the right side. It is impossible to extend the right hip without moving the pelvis, and impossible to demonstrate spasm of the erectores. Child should be given an injection of tuberculin because it might be well to ascertain the position of the tuberculous lesion.”

On April 15, 1910, the note is:—“Child has had $\frac{1}{2}$ mg. tuberculin, with a slight general reaction. Locally the signs have not materially differed with the exception that there is a little greater spasm of the erectores, especially that of the right side.” Three days elapsed from the last note, and on the 18th April another note was taken. This states that three days after the administration of the tuberculin the child's temperature rose to 103° , and an examination was made. The erectores were found to be stiff and boardlike. Psoas contraction was marked on both sides, but especially on the right side. On the following day the temperature having subsided, a careful examination of the local conditions was made with the patient lying in the prone position. A marked prominence of the dorso-lumbar vertebræ is apparent. Both erectores are still in marked spasm and any attempted movement of either extremity throws them into a position of hypertonicity. There is little if any, psoas contraction of the left side. There is more psoas contraction of the right side, it being impossible to hyperextend that hip without moving the pelvis. With the patient lying in the supine position bi-lateral glandular enlargement is apparent; there is spasm of the right adductors, and greater spasm of the left adductors. The diagnosis is dorso-lumbar Pott's disease.

The fifth case whom I present seemed to me one in which the diagnosis

was very apparent, but still, as it had caused others to err, I cite it in a very few lines.

Case V.—A. O., age 25. This Italian came to the hospital and was sent by the segregating officer to the medical clinic. His complaints were simply pain in one hip. An examination being made it was found by the physician in charge that he was suffering from a certain amount of flexion and that there was pain on any attempted movement of this member. Tuberculosis of the hip was suspected and he was admitted for treatment.

On examination the first thing noticed was an enlargement of the glands in the iliac and inguinal regions of the affected side. These were not only palpable, but were apparent to the eye and resembled a bunch of grapes. The hip was flexed, there being a contracted psoas muscle. Under our present knowledge an examination of the spine was suggested, even before that of the hip. Rigidity of the dorso-lumbar spine was noticed with extreme spasm of the erectores. A careful examination was then made of both spine and hip, and this revealed that the patient was suffering from unmistakable dorso-lumbar Pott's disease.

The sixth and last illustrates to the writer's mind how difficult has been the diagnosis between dorso-lumbar Pott's disease and hip disease in the past.

The writer, about the time of the recent Congress in Washington, was invited to attend a surgical clinic in one of the largest medical centres in the United States. When at this clinic his attention was drawn to a child of about ten years of age, who was being treated in a hip splint. The chief of clinic, in explaining the case, stated that there had always been a certain doubt as to the diagnosis, but that the symptoms had not been severe enough to warrant that of tuberculosis of the hip, and, consequently, a diagnosis of infective arthritis had been made. The glands in both groins were enlarged, and easily palpable. The history simulated that cited as the first of this series of cases. An examination was asked for and granted. The erectores were in extreme spasm, and the patient was suffering from dorso-lumbar Pott's disease, to which diagnosis the surgeon in charge did not take exception.

I have drawn your attention to this series of case reports of patients suffering from tuberculosis of the dorso-lumbar region of the spine, in all of whom the diagnosis of hip disease had been made, not to warn you of the difficulties of the diagnosis between these two affections, but to suggest the possibility of the condition of the lymphatic system being an important point in considering the diagnosis. I recognize that the evidence which I produce is very small in favour of my view that the lym-

phatic glands are enlarged in Pott's disease more frequently than they are enlarged in hip disease, and I do not speak *ex cathedra* nor ask you to accept what I say without further observations being made on this point. I would, in fact, have much preferred to have waited until I could have reported a hundred cases of these two diseases, and been able to state the condition of the lymphatics in them, but I realize that because my opportunities to collect such a number of cases are few, it might be four or five years before I could report on the subject. I have, therefore, taken you into my confidence, and ask you, in closing, to observe the condition of the lymphatic system in these patients in order to ascertain whether we have not now another symptom characteristic of spinal or allied disease, as opposed to tuberculosis of the hip.

THE USE OF DIFFERENTIAL PRESSURE IN THE TREATMENT OF EMPYÆMA.

BY

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As the bar to progress in thoracic surgery has been the danger of lung collapse, clinical advance in this field has awaited the invention of a certain and practical means of preventing pneumo-thorax. This difficulty is now overcome, and there are already well recognized procedures in which the use of differential pressure is a necessary part of the technique. Among such, one might mention the removal of tumours of the thoracic wall, pleura and lung; exploration of the pleural cavity for foreign bodies; excision of the whole or part of a lobe for bronchiectasis; and gastro-œsophagostomy for malignant disease of the cardia, or benign or malignant stricture of the lower extremity of the œsophagus. The widest field, however, for the application of differential pressure is found in the treatment of empyæma, where, by its means and by the application of a suitable dressing after thoracotomy, the period of disability may be very greatly curtailed. At the time of operation and at subsequent dressings positive differential is especially suitable, as with a portable apparatus not only hospital cases, but also cases operated upon in private homes, may enjoy the benefit of this method of treatment.

The accompanying illustrations convey graphically the effects of differential pressure in the treatment of empyæma (Figs. A and B). Following thoracotomy an empyæmic cavity remains exposed to atmospheric pressure. In extensive cases the whole lung may be collapsed and may lie in close apposition with the mediastinum. Further, the mediastinum

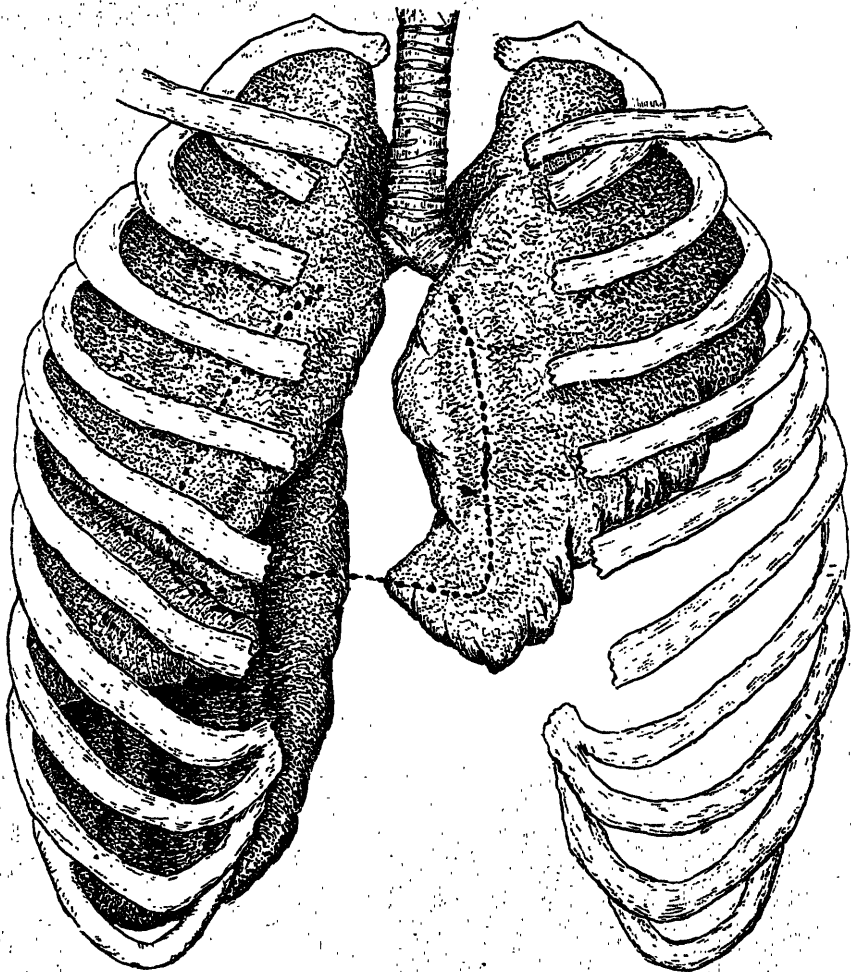


FIG. A.—Diagram showing pressure effects of pleuritic effusion upon the respiratory viscera and mediastinal structures.

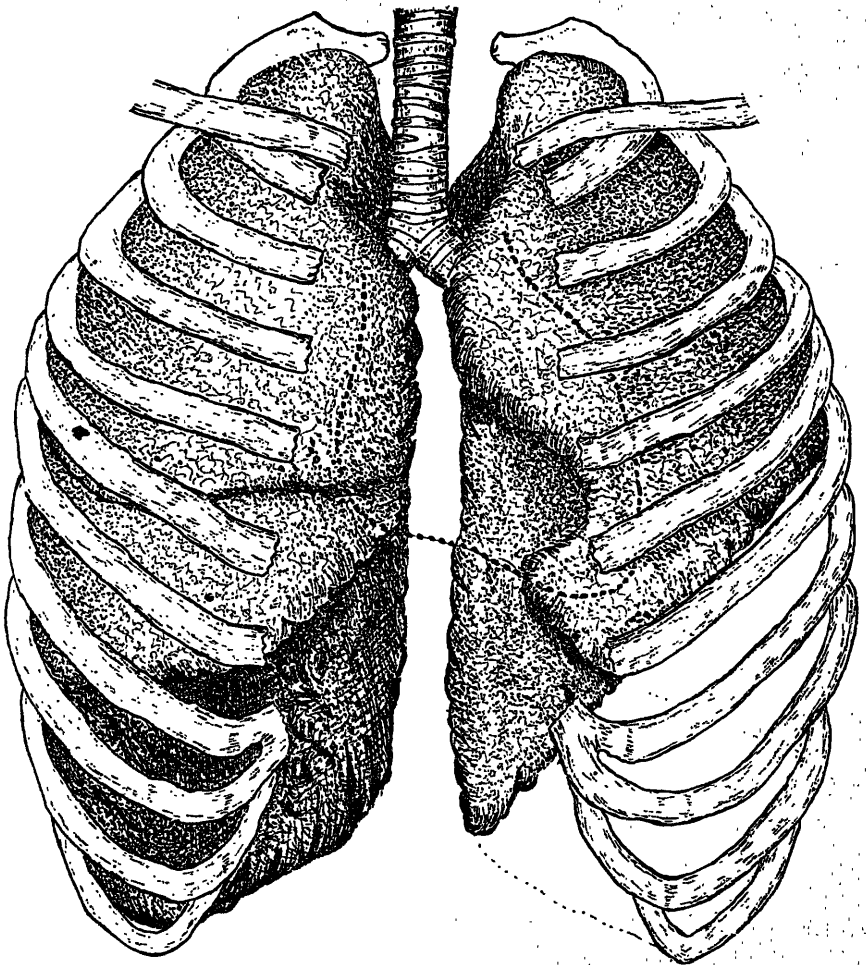


FIG. B.—Diagram showing correction of alignment of mediastinum and restoration of normal contour of lung on the unaffected side under differential pressure and in the presence of thoracotomy. The lung on the affected side also shows a slight increase in volume.

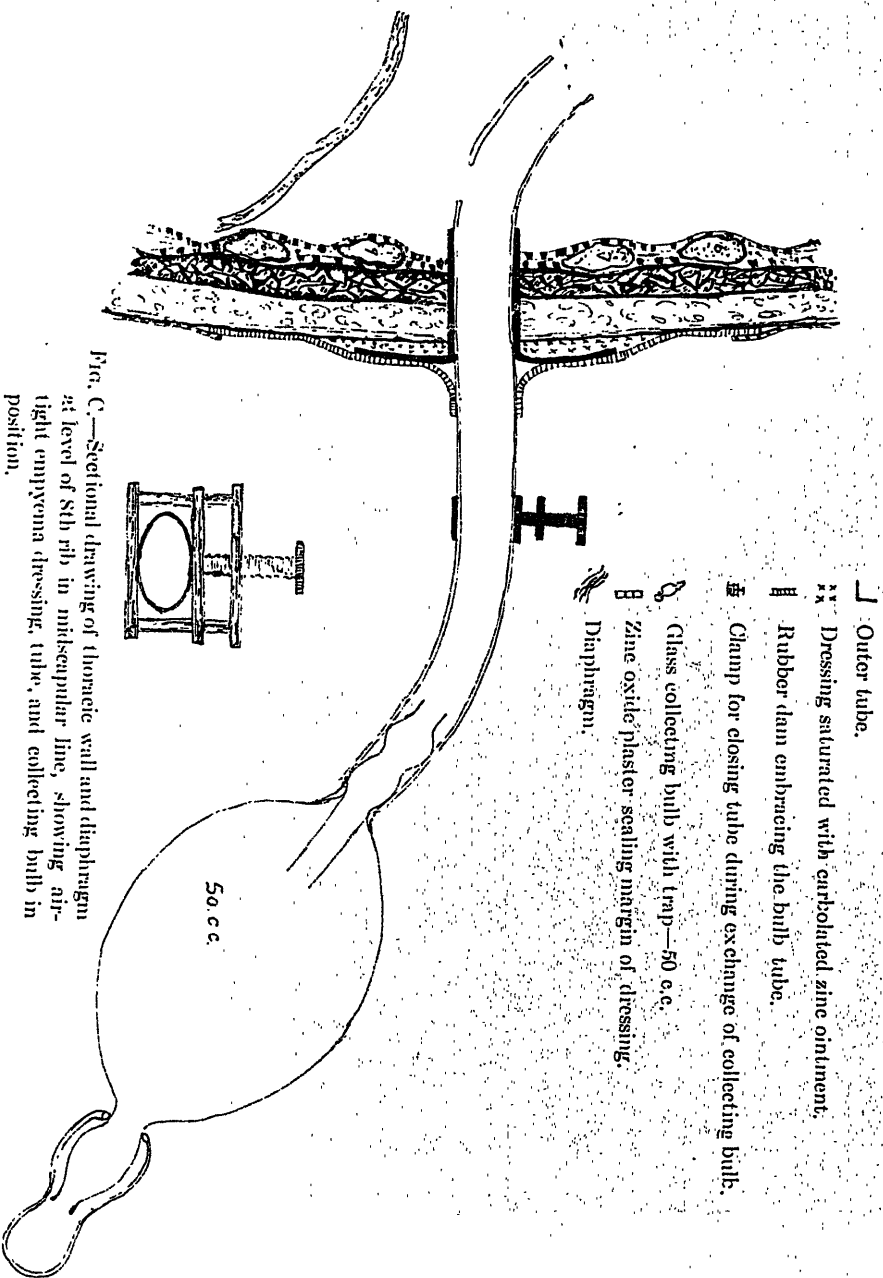


Fig. C.—Sectional drawing of thoracic wall and diaphragm at level of 8th rib in midscapular line, showing air-tight empyeoma dressing, tube, and collecting bulb in position.



FIG. D.—Photograph of patient with empyema dressing, tube, and collecting bulb in the position shown in diagram. This dressing should be adjusted under positive pressure and the collecting bulb sealed with rubber cap toward the end of expiration.

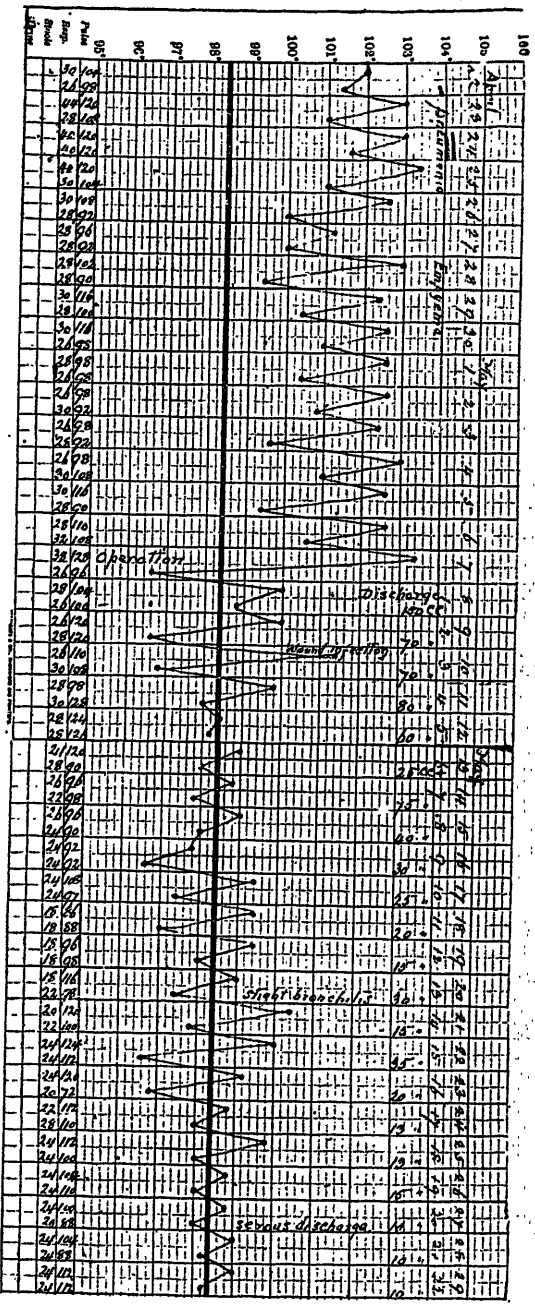
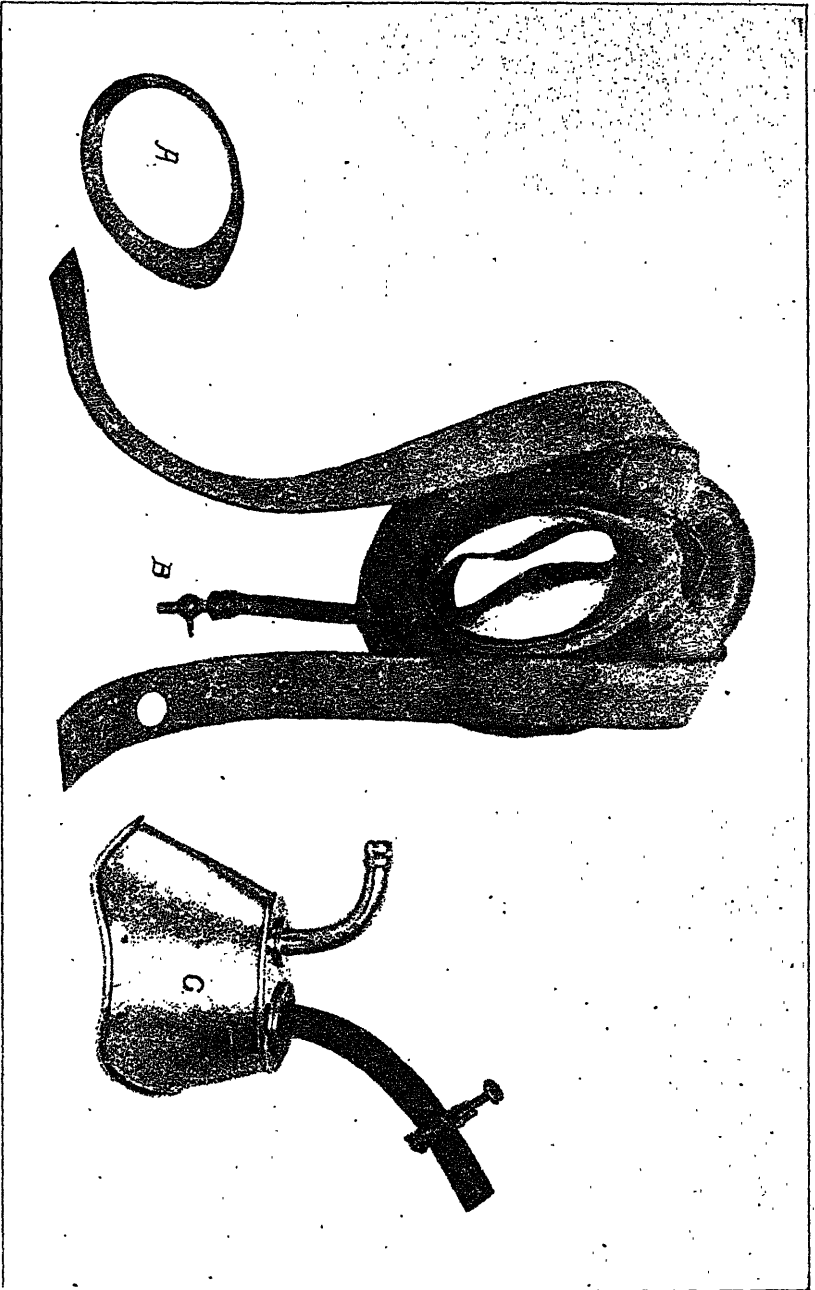
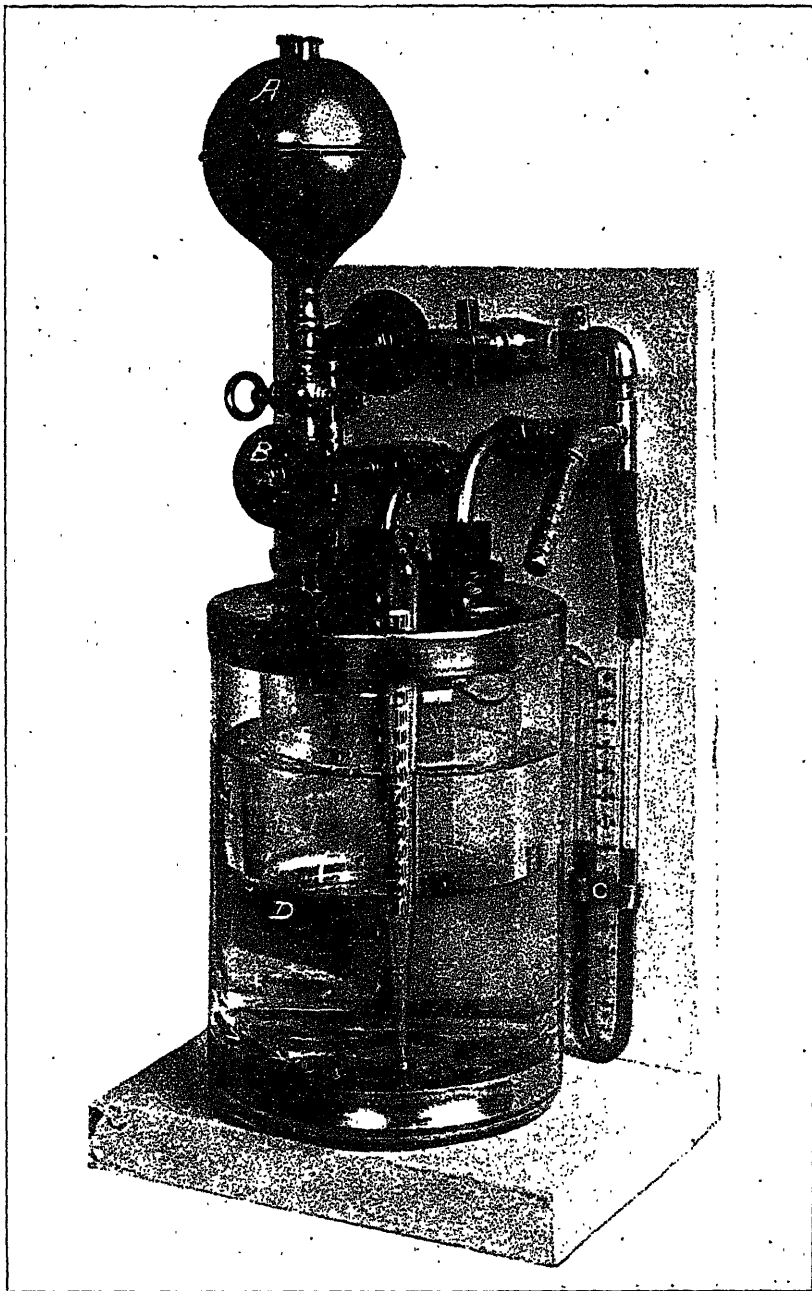


Chart from case of pyopneumothorax in girl aged fifteen, with complete collapse of the left lung of eight days' duration. The bronchial communication had closed at the time of operation, and while hyperextension (1½ mm. Hg.) corrected the mediastinal deviation, it failed to expand the lower lobe. (Obiteration of this large cavity was effected under constant negative tension in twenty days through expansion of the upper lobe and approximation of the mediastinum, diaphragm and chest wall, the lower lobe remaining in an atelectatic condition.



Mask for the human. (a) Metal ring for retaining inner rubber flange. (b) Rubber face pad showing inner rubber flange. (c) Metal form with air inlet and outlet, the latter controlled by a thumb screw. (Metal form devised by Samuel Robinson).



Portable apparatus for controlling air pressure, combined with ether segment for the automatic administration of the anæsthetic. (a) Etherlock for replenishing ether supply without stopping fan. (b) Valve to ether segment. (c) Manometer. (d) Water jacket and thermometer. This apparatus is a modification of that devised by Dr. Samuel Robinson, of Boston.

and pericardium are not infrequently displaced toward the sound lung. Under such conditions, each inspiratory act results in the deflection of the mediastinal septum and collapsed lung toward the sound side in response to the negative tension produced on that side during inspiration. On consideration, it is quite evident that the mediastinum and exposed viscera must tend to move away from the cavity so long as the tension within the cavity remains greater than the average intrapulmonic tension. This fact partially explains why, in long-standing cases, the collapsed lung fails to regain to any extent its functional activity. In these cases the empyæmic cavity is eventually obliterated by the formation of scar tissue within and, through its contraction, the approximation of the various anatomical structures forming the boundaries of the cavity, that is, the mediastinum, the diaphragm, and the chest wall. We are all familiar with the resulting deformity. In the fact that the mediastinum tends to oscillate towards the sound lung during inspiration, we have the explanation of the cyanosis and rapid respiration so frequently present after thoracotomy for empyæma. An inspiratory deflection of the mediastinum toward the sound lung must necessarily nullify, in direct proportion to its degree, the end result of inspiration by lessening the area and amplitude of infundibular inflation.

With the use of differential pressure and the application of an air-tight dressing, such as the one which I have devised (Figs. C and D), not only is the mediastinal deflection reduced and the cavity thereby diminished in size, but the air within the abscess cavity becomes negative in tension during inspiration, and, in consequence, the mediastinum and pericardium tend to be further deflected toward the cavity and the collapsed lung to expand in the same direction. An immediate result of such a method of treatment is the prompt relief of the cyanosis. Subsequently, day by day, there is an appreciable diminution in the size of the cavity. Not only does this dressing do away with the foul odour in the sick room, but, as will be seen by the chart, the amount of discharge may be accurately tabulated. *The collecting bulb in this way becomes an instrument of precision.* If the discharge shows a gradual decrease and the temperature remains normal, one may be satisfied that there is no pocketing or retention of pus. On the other hand, if there is a rise in the temperature curve, a definite knowledge of what the amount of the discharge should be may give one a clue to the cause. Apart from the curtailment of the period of disability, the absence of odour and of pain and discomfort of prolonged dressings, the earlier restoration of the collapsed lung to its normal respiratory activity may remove to a large extent the danger of a subsequent tuberculous infection.

REFLEX NASAL NEUROSES.

BY

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Under this heading may be included:—

- a. Hay fever.
- b. Asthma.
- c. Paroxysmal sneezing.

Hay fever, also known as vasorhinitis, hay asthma, rose cold, pollen catarrh and autumnal catarrh is a comparatively new disease. It is a disease of the Anglo-Saxon race. The first description of it was by Bostock in 1819. Education and civilization predispose to the affliction. The wealthy and the leisured class are those most affected. Brain workers and town dwellers are frequent subjects. Children and country folk are nearly exempt. Morell MacKenzie went so far as to say that the disease is practically unknown in the ordinary hospital patient. Since Bostock's time there have been many writers on the subject and pre-eminent among them are such names as Wyman, Blackley, Dunbar, Hemboltz, and Beard. As the most of these men suffered from the disease themselves, they naturally had a good opportunity to study its etiology and treatment. In 1873 Blackley proved quite conclusively that the disease is caused by the pollen of certain flowering grasses and cereals. Also that the mildness or severity of the malady in any particular season depends on the amount of pollen in the atmosphere.

ETIOLOGY:

Exciting Causes:

If pollen of certain flowers and grasses come in contact with the nasal mucous membrane of susceptible individuals an attack of hay fever follows immediately. The attack soon passes off when the person is removed from the pernicious influence. Ragweed and golden rod are particularly prone to produce an attack. The exhalations of certain animals such as dogs, cats, rabbits and horses may precipitate an attack. Sudden changes in temperature may produce the disease in the susceptible. Summer dust, that is dust that contains pollen is also a cause. Strong light has been known to bring on an attack of hay asthma in the hay fever season in susceptible individuals.

Predisposing Causes:

Almost every nasal abnormality will produce this disease. Amongst these may be mentioned:

- Hypertrophic rhinitis.
- Polypi.
- Deflected Septum.
- Spurs.
- Adenoids.
- Synechia.

However, more frequently the nose and naso-pharynx is perfectly normal as far as appearances goes. In these cases on careful investigation it may be found that there are several areas on the mucous membrane. These sensitive areas vary in different individuals, but a favourite site is an area on the septum about the size of a five cent piece, opposite the anterior portion of the middle turbinate. This place on the septum is congested and swollen. On probing it the patient usually sneezes or coughs. Tears usually flow from the eyes profusely. Another site for a sensitive area is the anterior end of the inferior turbinate and just beneath it, on the floor of the nose.

The general health has a great deal to do with the etiology of this disease. The individuals are of a neurotic disposition, and may have had sometime in their life manifestations of hysteria or neurasthenia. They frequently have urticaria. Gouty and rheumatic patients are especially subject to the disease. Many hay-fever patients can tell to a day when their unusual attack will come. An artificial rose has been known to bring on an attack. The neurotic element in the disease is manifest by such facts.

Conditions necessary to produce an attack:

1. Hypersensitive areas in the nasal mucous membrane.
2. Irritable condition of certain nerve centres.
3. Pollen in the atmosphere.

Pollen produces the disease in two ways.

1. Mechanically:

Under a microscope pollen is shown to have many spiny protuberances. These sharp points irritate the sensitive areas in the nasal cavity.

2. Chemically:

Inside the pollen grain is a substance that when moistened by the nasal discharges resembles an enzyme. This substance then acts as a chemical irritant.

The disease lasts during the flowering season of plants which is from

about the middle of June to the end of September. The disease is unknown on the ocean.

Symptoms:

There is no mistaking the disease. The afflicted person on rising in the morning will have a fit of sneezing. This may last anywhere between a few minutes and an hour. The sneezing part of the disease may then be over for the day. Occasionally there may be another attack in the evening. The paroxysm of sneezing is immediately followed by a profuse watery discharge and nasal obstruction. The eyes become itchy, the lids are red and œdematous and then lacrymation begins. Photophobia is frequently present. The head seems to be generally congested. Headache and malaise are soon followed by profound prostration. The duration of the disease varies with the individual and the particular kind of pollen to which the person is susceptible. Patients who suffer for years with hay fever are likely to develop asthma later on in life.

Prognosis:

The disease is not dangerous to life, but it prevents the afflicted one from enjoying the best three months of the year. Seventy per cent. of the cases may be cured, while the other thirty per cent. can be greatly relieved. It is much easier to prevent an attack in a susceptible individual than to cut short an attack that has been going on for some time.

Pathology:

1. True variety: Where the nose and naso-pharynx is apparently normal. Sensitive spots may be detected in many different areas; nearly every author on this disease has a particularly sensitive area that he has discovered. In testing for sensitive areas try and imitate as closely as possible. Apply a little absorbent cotton to a probe. Then moisten the cotton with some mild irritant, such as a weak solution of nitrate of silver. The touching with the probe does the mechanical part, and represents the spiny protuberances of the pollen, while the nitrate of silver does the chemical part and represents the enzyme of the pollen.

The tubercle of the septum is the area that I have found most sensitive. Lloyd finds the most sensitive spots high up and far forward, near where the alar cartilages meet the septum. Sensitive spots have been noted far back and high up on the septum. Both the anterior and posterior ends of the inferior turbinate are often markedly tender to touch. If they are much enlarged they should certainly be removed.

2. Pseudo variety: Where some pathological condition is found in the nose or naso-pharynx. Such conditions as the following may cause the disease:

Hypertrophic rhinitis.

Polypi.

Adenoids.

Spur or deflected septum.

Sinus disease.

Synechia.

Foreign body.

Not every small spur of the septum causes the disease. But if the spur is large and presses on the outer wall of the nose, it may be causing just sufficient irritation to bring on the attack. Small nasal polypi are more likely to cause the disease than large ones, because it is easier for small ones to change their position in the nose, and in so doing irritate the mucous membrane.

Treatment:

Remove the cause and you cure the disease. Hay fever is never present on the ocean. The disease is usually absent in mountainous districts. Frequently patients who have hay fever in America find it absent in England and vice versa.

Constitutional treatment is very necessary. Good tonics, such as iron, strychnia, arsenic and quinine are useful. Where there is a strong element of neurosis valerianate of zinc is good. In rheumatic patients, aspirin, grains ten three times daily should be ordered.

For the true variety: The proper use of the galvano-cautery is nearly a specific. The more neurotic the individual the more successful will be this treatment. It is not the idea to destroy mucous membrane but just to touch sensitive spots. The treatment may be regarded as empirical. Francis explains it by saying balance is restored to the nerve centres.

How to use the cautery: The nose must first be thoroughly cocainized with 10 per cent cocaine. Apply this on an absorbent cotton pledget, press it nearly dry after removing it from the solution of cocaine. Ten minutes should be allowed for the cocaine to act. Remove the pledget of cocaine, and then dry the nose with dry absorbent cotton. This prevents smoking during the act of cauterization.

If using the cautery on the turbinates the point should be of a cherry red colour: if touching sensitive spots on the septum a white heat is best: be sure and never allow the cautery to burn contiguous surfaces, for synechia will surely form. Do not cauterize both sides of the nose at one sitting. Never cauterize the posterior part of the septum or the posterior end of the inferior turbinate. Make it a rule never to cauterize an area that you cannot see while the cautery is acting. The middle turbinate should not be cauterized. The mucous membrane and the peri-

osteam are here very closely blended. Meningitis and death has been known to follow the simple cauterization of the middle turbinate.

For tubercle of septum: After cocainization draw the cautery point across the middle of the tubercle of the septum. The line should be $\frac{3}{8}$ inch long. In a week do the other side. This may have to be repeated two or three times before the disease is under control. If sensitive spots are found in other situations, treat them in the same manner. Frequently a great deal of relief is obtained by drawing a deep line with cautery over the anterior end of the inferior turbinate. It fixes the mucous membrane to the periosteum.

Put a small piece of absorbent cotton in the nostril after cauterization and ask the patient to remove it in a few hours. It prevents dust and pollen entering the nose and coming in contact with the raw surface. Do not cauterize sufficiently deep to cause epistaxis.

For sensitive areas at the back of the septum and on the posterior part of the outer wall of the nose use the following:

First apply cocaine 5 per cent to the area. Then by making a brush with a small piece of absorbent cotton on a wool carrier apply carefully bichloride. (1-1000) or the biniodide of mercury, (1-20).

Following the painting, congestion, sneezing, lacrymation, come on, while catarrhal symptoms remain about three days.

If the galvano-cautery is not at hand the best chemical caustic is trichloro-acetic acid. First cocainize the nose and carefully apply it to the sensitive areas. Chromic acid is a dangerous caustic.

Operative Treatment:

If the inferior turbinate is enlarged and oedematous so that the nose is nearly always obstructed, the anterior and posterior end of the turbinate should be removed and in properly selected cases the whole inferior turbinate may be beneficially removed. The ordinary results do not follow complete turbinectomy in hay fever patients, such as the formation of dry crusts in the nose and naso-pharynx. However, it is only rarely that such a radical measure is necessary.

Cocaine or cocaine and adrenalin should not be used for this disease. It only gives very temporary relief at best, and it ruins the tone of vaso-motor nerves going to the erectile tissue of the nose, so that the ultimate result is very bad.

If there is only a slight nasal obstruction and the other symptoms of hay fever not marked, the following recipe gives great relief and acts as a tonic to the vaso-motor nerves.

For a nebulizer:

R̄ Menthol grs xxx.

Cocaine grs x.

Ol. amygdalæ ʒss.

Paroleine ad ʒ i

Sig: Use three times daily for each nostril.

The small amount of cocaine in this case, acts as stimulant to the nerves.

Follantin:

Dunbar a few years ago came forward with a theory that hay fever was a toxic disease, and should be cured by a toxin. He prepared an antitoxic serum and during the last 5 years it has received a fair trial; but its results are discouraging. It has helped some, but with the great majority of patients it has been useless.

It comes in two forms; a liquid that may be instilled into the eyes, and a powder to sniff up the nose.

The Maori Cigarette:

These are very useful, and if about 6 daily are smoked a great deal of relief is obtained. They contain no morphia and were first used in New Zealand.

Diet:

Should be nutritious and easily digestible. Stimulants should be avoided. Late dinners are bad.

Hot and strong coffee is most useful. Give it on an empty stomach and until you obtain its physiological action.

ASTHMA.

Asthma is produced by a spasm of the involuntary muscular fibres of the smaller bronchi. Associated with this condition there is a marked hyperæmia of the respiratory mucous membrane. Most asthmatics show signs of instability of the central nervous system.

Bosworth many years ago claimed that all asthma was due to nasal obstruction. Since that time, careful research has shown that about 30 per cent. of asthmatic patients show signs of gross nasal disease. In the other 70 per cent., although there may be no visibly pathological condition present, yet on careful examination it can be shown that these patients have very sensitive areas on their nasal mucous membranes. Cocaine applied to these areas usually relieves the spasm in short order, thus showing that asthma is due to a nasal reflex.

Treatment:

1. If any pathological condition is present in the nose or naso-pharynx,

cure it, and the asthma is at an end: nasal polypi are frequently found. Partial removal of the polypi, with ethmoidal disease present, often makes the asthma worse. However, if all polypi and diseased ethmoid are removed, the asthma is often cured. Adenoids, nasal spurs deflected septums, synchia have all been known to produce asthma.

2. Where there is associated with asthma a nasal aura. In such cases asthma is very amenable to treatment. The attack may be preceded by a fit of sneezing, nasal obstruction or an itchy condition of the nose. Treat the conditions as was recommended for hay fever, and the results are usually very satisfactory.

3. Where no nasal pathological condition is present. Francis recommends to treat all these cases by the galvano-cautery to the tubercle of the septum. About 60 per cent. of these cases can be cured in this manner, the other 40 per cent. are greatly relieved.

Much the same as in hay fever, cocaine the nose, and with cautery at a white heat, make the smallest possible touch to the tubercle of the septum. In a week do the other side and continue the treatment for several times if necessary. The older method of free cauterization does harm rather than good. Frequently patients say that they have felt something give in their chest and afterwards they breathe much better. The general management of the cases is the same as in hay fever.

General Treatment:

Tonics are good. Iron and strychnia are usually indicated. Potassium iodide and arsenic often do good.

The fumes from the following powder has often given relief:

R Potass nitras ʒss.
 Pulv. anisi fructus ʒss.
 Pulv. Stramonii fol. ʒi.

In the *Lancet*, May 21st. 1910, Dr. Brian Melland has a very interesting article on asthma and its relief by hyperdermic injections of adrenalin.

It has been known for the last few years that the action of adrenalin is the same as stimulation of the sympathetic nervous system.

However, the stimulation of the cranial and sacral visceral nerves is just the opposite, that is, a relaxation of the muscles supplied by these nerves. The action, then, of adrenalin on the vagus is an inhibitory action, and as the vagus supplies the bronchial muscles, its stimulation causes a relaxation of these muscles, and so the asthmatic spasm passes away.

Method of administering the drug: To get the proper effect it should

be given hypodermically, 5 to 15 minims of the adrenalin chloride solution (1-1000).

Its action may be noted by the dilatation of the pupils; the face becomes pale; the palpebral fissures widen, and the singing noise in the chest ceases.

PARONYSMAL SNEEZING.

Sneezing has always been looked upon as a sign of good health, but excessive paroxysmal sneezing may arise from:

1. Nasal polypi.
2. Adenoids.
3. Hypertrophic rhinitis.
4. Pollen, especially in the case of persons of neurotic temperament.

Such people frequently have periodic sneezing fits. They have a very sensitive nasal mucous membrane.

Treatment:

Treat nasal abnormalities. Use constitutional treatment and tonics. Do not blow the nose too frequently. Avoid spices, mustard, pepper, etc.

Astringent sprays to the nose are often useful. Redundant turbinates should be reduced by the cautery. The old fashioned snuff often cures the disease.

ON PELVIMETRY AND ABDOMINAL PALPATION.

BY

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While the obstetrician without a pelvimeter may be like a physician without a stethoscope, one too often forgets that the tyro with a stethoscope may, in the over-estimation of some obscure murmur or of some slight alteration in breath sounds, go farther astray than the skilled physician who has but felt the pulse or carefully observed the front and back of the chest. The average manipulator of a pelvimeter gains less from its use than the physician from inspection in pulmonary, and from palpation in cardiac cases.

The four measurements of external pelvimetry, the distance between the anterior superior spines of the ilia, the maximum distance between the crests of the ilia, the distance between the trochanters, and finally that between the spine of the last lumbar vertebra and the anterior sur-

face of the symphysis pubis, are of little use in estimating the exact size of the true pelvis. Their value lies rather in what may be inferred from their relation one to another. True, the intercrystal measurement is supposed to be roughly twice that of the transverse of the pelvic brim, but, this, and the suggestion of rickets from an alteration in the ratio of the interspinal and intercrystal measurements is all that one obtains from such a superficial examination.

The real object of pelvimetry is to find, if possible, what, if any, effect the pelvis may have on the approaching labour; a matter difficult in that 80 per cent. of labours will end spontaneously in spite of pelvic contraction.

In the estimation of the relation of head to pelvis a pendulous belly in the last month of the pregnancy of a primipara is of far more diagnostic value than many pelvimeters. For accurate information, earlier than this, why not measure the true pelvis at once? A costly armamentarium is unnecessary. For example, if the thumb be placed against one spine and the hand then outstretched, the little finger will just fall short of the opposite spine, provided the distance between the spines is normal. Again, the two index fingers placed upon the iliac crests backward from the spines will at once show whether the relation between the interspinal and intercrystal measurements is normal. One vaginal examination made for the diagnosis of pregnancy should suffice for the measuring of the diagonal conjugate. If the distance from the promontory to the subpubic ligament is greater than that from the tip of the second finger to the metacarpophalangeal joint of the first there is no flattening of the pelvis. These methods though not exact are sufficient, for remember that absolutely exact pelvimetry is rarely a necessity, and that two specialists will invariably differ in their measurements even when using the same instrument.

A prevalent idea that pelvic contraction is always, or usually, associated with the pelvic inlet, is difficult to combat. The woman who walks like a man will be more or less unfitted for maternity, not by instinct but by her pelvis. All of us know that the male pelvis differs from the female pelvis, yet how few apply that knowledge to the interpretation of glaring obstetric facts. True funnel pelvises are rare in Canada, pelvises of the male type with narrow subpubic angle and short bi-ischial diameter are unusually frequent. The effect of the narrow angle upon the extension of the head has long been noted, but far too little is taught of the effect of such labour, particularly upon the perineum. Remember that the distance between the cephalic curves of the blades of an ordinary forceps is 8.5 cm. when closed, and then consider

the relation of such a forceps to the perineum when the transverse diameter of the pelvic outlet is 8.5 cm. or less. It will then be evident that perineal tears are not always the result of carelessness and that complete tears are usually the result of anatomical deformity.

A recent exhaustive article by Professor Whitridge Williams has dealt with dystocia due to the funnel-shaped pelvis. It is obvious that when the distance between the bi-ischial line and the tip of the sacrum, or of the coccyx if that be ankylosed, is shortened proportionately to the bi-ischial diameter, trouble must ensue. Fortunately such uniform contraction at the outlet is rare in this country, and I have yet to see in a Canadian woman a pelvis contracted to such an extent as to make birth impossible. Lateral contraction, on the other hand, is unusually frequent, and accounts for a great proportion of low forceps operations and for a still greater proportion of perineal tears.

In addition to pelvimetry the other special feature of an antepartum examination is the relation of the foetus to the birth canal. In by far the greater number of labours, the long axis of the body of the child is parallel to the long axis of the body of the mother, and the head first approaches the brim; further, the head is usually flexed. Leaving aside for a moment the normal relation of the child to the birth canal, the lowermost pole of the head, or the sacrum when the breech comes first, is described as in relation to either the anterior or posterior quadrant of the pelvis on either right or left side.

Now, since the sacrum in one instance, and the lowest pole of the flexed head in another, may be considered as extremities of the vertebral column, the relation of the back of the child to the right or left side becomes of the greatest importance; and since the condition of flexion presupposes the bulk of the head on the opposite side of the median line of the body to the back, the importance of finding the back is enhanced. Moreover, the situation of the bulk of the head is of double importance since it gives a clue to the whereabouts of the most dependent portion of the head, the two being necessarily diametrically opposed one to the other.

Long axis, back, bulk of head,—the determination of these three features is the entire secret of diagnosis, a matter of little difficulty, yet obscured by most obstetricians, thanks to an unfortunate translation of the excellent French of MM. Faraboeuf and Varnier. More time and worry have been fruitlessly wasted by students over the various definitions of "presentation," "presenting part," "position," "attitude," etc., than would have made each an expert diagnostician.

Proceed as follows:—(1). Note the relation of the long axis of the

child (uterus) to that of the mother's abdomen, and find which foetal pole is at the brim. A simple laying on of hands will be sufficient for the first, while slight practice, aided by a recollection that nineteen times out of twenty it will be the head, simplifies the second.

(2). Find the child's back. Inspection will often suffice, particularly if the child's limbs be excited into action by flicking the abdomen with the fingers or a little cold water. An excellent diagnostic method is as follows:—Steady the uterus in the median line, i.e., directly over the vertebral column, and make firm pressure with the ulnar surface of the extended hand in the median line. The uterus will then be displaced towards the side to which the back is directed. Confirmatory evidence is obtained by the palpation of foetal members when their movements cannot be perceived.

(3). Locate the bulk of the foetal head. This is important only in head presentations. Grip the head or palpate it with the outstretched hand, and note, by reference to the middle of the symphysis, on which side it bulks largest. If the bulk is on the opposite side from the back, again, nineteen times out of twenty, the head must be flexed.

(4). Note whether the most prominent part of the head lies far back in the pelvic inlet or well towards the symphysis. If it be forward the dependent portion must be back and conversely.

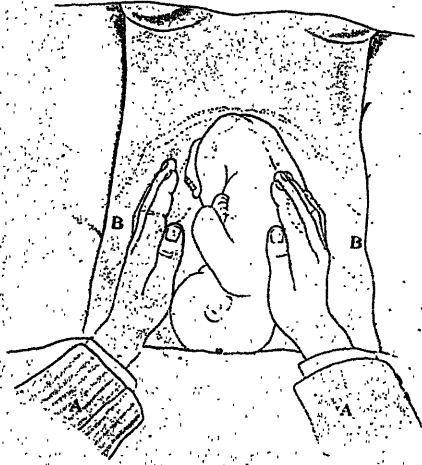
The diagnosis is expressed in terms of the relation of the lowest pole of the foetus to one or other side of the mother's pelvis in either its posterior or anterior quadrant.

In flexion the occiput "O," in extension the chin "M," and in breech the sacrum "S," is either directed to the right or left and is either anterior or posterior: occiput left anterior, O. L. A., or L. O. A., etc.

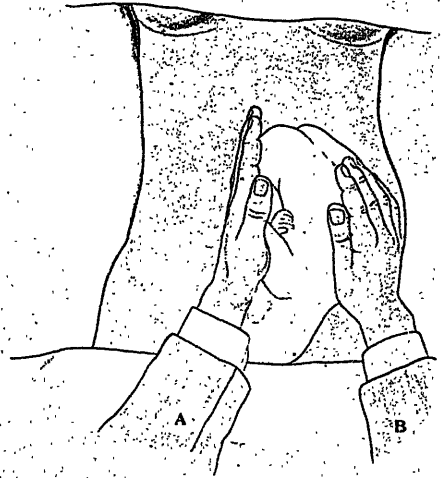
Where the child lies transversely there is no mechanism of labour, the situation is abnormal and must be treated accordingly.

The maximum intensity of the foetal heart may be taken as confirmatory evidence of any diagnosis. Remember that the heart is usually best heard over an area corresponding to the angle of the left scapula which in breech presentations lies above the level of the umbilicus. In L. O. A. and R. O. P. it is best heard over an area midway between the umbilicus and the left and right anterior superior spines respectively. In R. O. A. it is heard near the median line, and in L. O. P. with difficulty in the left flank. The auscultation of the foetal heart is not an intellectual feat.

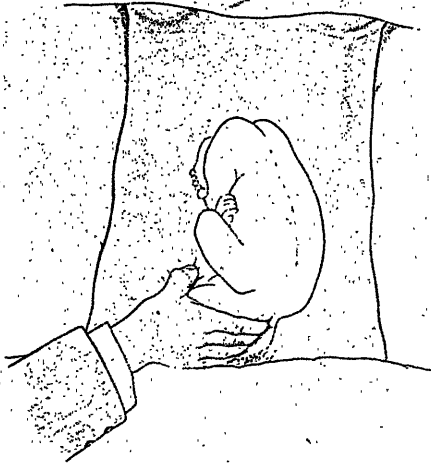
The appended diagrams are self explanatory.



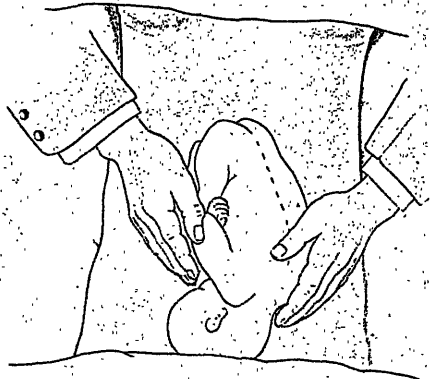
1ST MANŒUVRE.



2ND MANŒUVRE.



3RD MANŒUVRE.



4TH MANŒUVRE.





BEAUMONT AND ALEXIS ST. MARTIN.

BY

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A few hundred years ago Thomas Fuller, in "The Holy and The Profane State," said that "Learning hath gained most by those books by which the printers have lost:" and though, in touching on William Beaumont and his "Experiments and observations on the Gastric Juice and the Physiology of Digestion," published at Plattsburg, in 1833, it is not my intention to dwell upon anything of a financial nature, this thought of Fuller's expresses the idea that a great many of the books which have proved invaluable in the advancement of learning in general, and perhaps of science in particular, are not known and read as much as they deserve to be.

Especially in these days of modern text-books, are we, as students, apt to regard with horror any volume, though it be intimately connected with our work, that has the stamp of a few score years on it, forgetting that in many cases we can in this way read, in simple language, facts and observations which form the groundwork of nearly all our standard works; it is just as Chaucer tells us in the "Canterbury Tales":

"For out of the old fieldes, as men saithe,
Cometh al this new corne fro yere to yere,
And out of old bookes, in good faithe,
Cometh al this new science that men lere."

What sentiments more ennobling than those contained in William Beaumont's "Preliminary Observations?" "I consider myself but a humble inquirer after truth—a simple experimenter," yet these prefaced the description, in a most accurate manner, of a series of unique experiments which required a great deal of patience and work, embracing, as they did, observations on the human stomach, extending over a long period, and which enabled him to give what was perhaps the first real demonstration of gastric juice outside the human body, as well as its proper description.

In the winter of 1806-7, William Beaumont, then in the twenty-second year of his life, being filled with a desire to seek fame and fortune, set forth from his home in Lebanon, Conn. Among his modest belongings was a horse, as well as a cutter, and by means of these, he jingled over the western part of Massachusetts and Vermont. In the spring of 1807,

the charms of the little town of Champlain, N.Y., catching his eye, he settled there and soon the people placed him in charge of their school. This position to him, as to so many other great men, was but a stepping-stone; and he devoted his leisure hours to the study of medical works, borrowed from a doctor friend. Finding his vocation, after a few years, he went to Albany to complete his medical studies and he was so successful that, shortly after the breaking out of the war of 1812, we find Dr. William Beaumont with a commission as surgeon in the United States army.

Of the many opportunities Dr. Beaumont had for acquiring the skill in surgery, which afterwards helped to make it possible for him to save the life of the individual who was the subject of the extraordinary experiments referred to, any one at all conversant with the war of 1812 will realize, but perhaps an extract from his diary regarding the scene in the hospital after the battle of Yorktown may prove of interest:

“The surgeons waded in blood, cutting off arms and legs and trepanning heads, while the poor sufferers cry, “O, my God! Doctor, relieve me from this misery! I can not live!” ’Twas enough to touch the veriest heart of steel and move the most relentless savage. Imagine the shocking scene, where fellow-beings lie smashed and mangled—legs and arms broken and sundered—heads and bodies bruised and mutilated to disfigurement! My deepest sympathies were roused—I cut and slashed for thirty-six hours without food or sleep.”

It was some years later that Beaumont was destined, on a certain morning in June, of 1822, to be stationed at Fort Mackinac, Mich., to be called on to attend Alexis St. Martin, a robust French Canadian, eighteen years old, employed by the American Fur Company as a voyageur, when on the morning in question, he was accidentally wounded by the discharge of a musket not more than a yard away from him.

A memorial presented to the Senate and House of Representatives by Beaumont describes the wound:

“The wound was received just under the left breast, and was supposed at the time to have been mortal. A large portion of the side was blown off, the ribs fractured, and openings made into the cavities of the chest and abdomen, through which protruded portions of the lungs and stomach, much lacerated and burnt, exhibiting an altogether appalling and hopeless case. The diaphragm was lacerated, and a perforation made directly into the cavity of the stomach, through which food escaped. His life was at first wholly despaired of, but he very unexpectedly survived the immediate effects of the wound, and neces-

sarily continued a long time under the constant professional care and treatment of Dr. Beaumont."

St. Martin's life was saved, and though the stomach wound contracted, the orifice terminated by a natural boundary, and left the perforation, resembling, as Beaumont states, "in all but a sphincter, the natural anus, with a slight prolapsus." Frequent dressings and bandages were of course necessary to retain his food and drink until nature came to his aid, and a small fold or doubling of the coats of the stomach appeared, forming at the superior margin of the orifice, slightly protruding and increasing till it acted so as to completely prevent the efflux of gastric contents when the stomach was full, but was easily depressed with the finger.

At the end of two years, St. Martin, after having practically been cared for during the whole of this period by Dr. Beaumont, who even took him into his own private family in order that he might have proper care and nourishment, had perfectly recovered his natural health and strength, when Beaumont commenced his first series of gastric experiments on him.

It is not within the scope of this paper to give anything like a resumé of these experiments; a few general ideas in regard to some are only possible.

The perforation through the wall of St. Martin's stomach was about three inches to the left of the cardia, near the left superior termination of the great curvature, and of course made the extraction of gastric juice possible. Beaumont did this by placing St. Martin on his right side, depressing the valve within the aperture, and introducing a gum elastic tube, the size of a large quill, five or six inches into the stomach, and then turning him on his left side till the orifice became dependent. The fluid soon began to flow, first by drops, then in an interrupted, and then in a short continuous stream, increased by moving the tube about. The extraction of gastric juice was generally attended by that peculiar sensation at the pit of the stomach termed "sinking," which made it necessary to stop the operation.

The value of Beaumont's observations may be inferred from the following description which he gave of gastric juice, and which has entered into all text books:

"Pure gastric juice, when taken directly out of the stomach of a healthy adult, unmixed with any other fluid, save a portion of the mucus of the stomach with which it is most commonly and perhaps always accompanied, is a clear transparent fluid; inodorous; a little saltish, and very perceptibly acid. Its taste, when applied to the tongue.

is similar to this mucilaginous water slightly acidulated with muriatic acid. It is readily diffusible in water, wine or spirits; slightly effervesces with alkalis; and is an effectual solvent of the *materia alimentaria*. It possesses the property of coagulating albumin in an eminent degree; is powerfully antiseptic, checking the putrefaction of meat; and effectually restorative of healthy action, when applied to old, foetid sores and foul, ulcerating surfaces."

"Beaumont's experiments on St. Martin were made between 1825-33, with various interruptions owing to St. Martin having married and returned to Canada for a time, and he was able to correct many of the erroneous ideas regarding digestion, and, in reality, anticipated some of the most recent studies in the physiology of digestion, as contained in Professor Pawlow's (of St. Petersburg) recent work, such as the statement announced by Beaumont that "the gastric juice never appears to be accumulated in the cavity of the stomach while fasting," and again "when aliment is received the juice is given in exact proportion to its requirements for solution."

That the sense of hunger resides in the stomach, Beaumont proved by having St. Martin fast from breakfast time till 4 p.m. in the afternoon, by which time he had naturally become very hungry. He then put in at the aperture three and a half drachms of lean, boiled beef, when the sense of hunger immediately subsided. On introducing two ounces of rare, roasted beef, suspended by a string, into the stomach, regular examination showed a uniform, but very slow process of digestion, confined entirely to the surface of the meat, which illustrates the necessity of a perfect comminution of the articles of diet.

The importance of endeavouring to keep one's self in a placid state of mind, especially during the period of digestion, Dr. Beaumont clearly showed when, about four hours after St. Martin had breakfasted on fat pork, bread and potatoes, and had just had a fit of violent anger, a portion of the stomach contents was taken out, in a complete chymous state, without any entire particles of food to be seen. It was of a milky, or rather thin, gruel-like consistence, and considerably tinged with yellow bile, the presence of which was believed to be the effect of anger, as, in a healthy state of the stomach, and an equable frame of mind, this substance had seldom been found in the stomach.

On one occasion when St. Martin had breakfasted on venison steak, cranberry jelly and bread, washed down by a pint of coffee, Beaumont found that in one hour and thirty-five minutes the breakfast was all digested, the stomach empty and clean, and everything had passed through the pylorus, the rapidity of digestion depending principally on modera-

tion in quantity and the digestible properties of foods used, but Dr. Beaumont felt sure venison was the most digestible of any diet of the fibrinous kind.

From his experiments he confirmed the general opinion of medical men that vegetables are less easily disposed of by the gastric organs than animal or farinaceous substances.

In the course of his experiments, Dr. Beaumont observed that morbid changes in the condition and appearance of the interior of the stomach could not, in most cases, have been anticipated from any external symptoms, and their existence was only ascertained by actual ocular demonstration, and it may be inferred from this to what extent the stomach, perhaps the most important organ of the animal system, may become diseased without manifesting any external symptoms of such disease, or any evident signs of functional aberration. Beaumont found that these diseased appearances frequently presented themselves. They generally, but not always, succeeded to some appreciable cause. Improper indulgence in eating and drinking, was the most common precursor of these diseased conditions of the coats of the stomach. The free use of ardent spirits, wine, beer, or any intoxicating liquor, when continued for some days, invariably produced these morbid changes. Eating voraciously, or to excess; swallowing food coarsely masticated, or too fast; the introduction of solid pieces of meat, suspended by cords into the stomach; or of muslin bags of aliment, secured in the same way, almost invariably produced similar effects, if repeated a number of times in close succession.

Experiment after experiment might be mentioned to give some idea of the enormous amount of work done by Dr. Beaumont in connexion with digestion. I have only mentioned a few which struck me as particularly interesting, and other important points which Dr. Osler briefly enumerates as being clearly brought out by Beaumont were:

1. The confirmation of the observation of Prout that the important acid of the gastric juice was the muriatic or hydrochloric.

2. The recognition of the fact that the essential elements of the gastric juice and the mucus were separate secretions.

3. A more accurate study of digestion outside the body.

4. The elucidation of many minor points of great importance, e.g., the rapid disappearance of water from the stomach through the pylorus.

5. The first comprehensive and thorough study of the motions of the stomach, and lastly, the digestibility of different articles of diet in the stomach, which remains to-day one of the most important contributions ever made to practical dietetics.

It is somewhat surprising that going through life with a wound such as he had, Alexis St. Martin should in the quiet little French Canadian village of St. Thomas de Joliette, surrounded by his wife and family, reach the ripe age of 83.

As for Dr. Beaumont, after having enjoyed a large practice in St. Louis, Mo., he died in 1853, at the age of 68, from the result of an accident almost thirty years before St. Martin, and to my mind no more glorious epitaph could have been selected for this distinguished physiologist than his own words:—"A humble enquirer after truth—a simple experimenter."

INTENSE THROMBOSIS OF THE CENTRAL RETINAL VEINS WITH RECOVERY OF NORMAL VISION.

BY

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On March 6th, 1908, I was asked to see H. C. P., a man 38 years of age, who complained that he was almost blind in the right eye. The history of the trouble was as follows:—On February 20th, while looking out of the window, he suddenly became blind in the right eye. He previously never had anything wrong with either eye. He had no pain in the eyeball, and has none now, nor any other symptoms beyond the blindness.

Previous History.—Right leg was amputated at junction of middle and upper third of the thigh at the age of eight, on account of what was probably osteo-myelitis. The stump is healthy. Circulatory system is normal, except that the radial artery is somewhat thickened. Temporal arteries normal. Heart normal. Urine normal. There is great swelling of the optic disc (5 dioptries), but still one could see a deep physiological cup. There is extreme congestion and tortuosity of veins. The tortuosity is in both the plane of the retina, and at right angles to it. Where the arteries can be seen they are somewhat narrowed. There are a great number of hæmorrhages, nearly all flame-shaped, arranged in a stellate manner about the nerve as a centre. There are many other hæmorrhages occurring in an irregular manner about the peripheral part of the retina. Two patches of exudate were to be seen. Nothing special is to be seen in macular region, no pallor, nor red spot. R.V.= Fingers at 12 feet. L.V. 6/6. March 15th.—Blood showed red cells, 4,830,000. White cells, 6,200. Hæmoglobin, 100. Calmette's tuberculin test in the left eye gave negative results.

On April 5th, 1908, I found the number of hæmorrhages reduced, but that there was still great œdema of the retina.

Vision not improved. The patient was lost sight of shortly after this time.

On February 19th, 1909, I saw him again and found R. V. 6/6, L. V. 6/6. Right fundus shows no abnormality beyond one or two slate coloured spots, probably on the site of former hæmorrhages.

I wish to thank Dr. Finley for giving me an opportunity to study this case.

A CASE OF TACHYCARDIA.

BY

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The following are notes of a case that, alarming as it seemed at first, appears to be one of hysterical tachycardia. The patient was a multipara of 26 years, small, well-formed, well-nourished, whose organs at previous examinations have been found to be normal. Her complaints were that her heart "pounded fiercely and terribly fast." Eight days after her confinement I was called to see her in haste; as she lived far away, I arrived four hours later and found her pillowed up in bed, her eyes "starting," palpitation of the heart being plainly visible through the coverings. She was sweating profusely, but her respirations were not very rapid, and she had no cyanosis; her temperature was $99\frac{1}{8}^{\circ}$. I could not count the pulse, but it was at least 200, small and regular. Inspection of the thorax showed a visible impulse from the third rib downwards to four inches below the nipple, and from one inch to the right of the sternum to the posterior axillary line; percussion showed dilatation to the left to one inch beyond the nipple. On auscultation, the sounds were replaced by a tumultuous humming noise, heard alike over base and apex and in the axilla.

The patient's family history indicates that her mother belongs to an intensely neurotic family, and is herself of unstable nervous temperament. The history of the present illness indicates that eight days before onset the patient was delivered of a still-born child; subsequent to labour for two days the pulse rate was quickened, though not greatly. Twelve hours after the onset, the pulse was 120 and the heart sounds were audible. Digitalis, and morphia (gr. $\frac{1}{4}$) twice proved of no effect. Potassium bromide (grs. xx) seemed responsible for the good result. On the same afternoon, she was in a comparatively normal state, but at precisely the same time on that afternoon, the tachycardial attack recommenced. Without going to see the patient, a single dose of bromide (grs. xx) proved sufficient; during the subsequent week two slight attacks supervened.

The cause inducing the first attack was a severe fright; and it appears that at the age of 15, the patient suffered from a somewhat similar attack.

NOTES ON HUMAN TRYPANOSOMIASIS.

BY

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I.—*Observations on the Course of the Disease.*

This note is concerned with the history of five cases of trypanosomiasis in Europeans. Two of these cases have been reported already;¹ three of them are now mentioned for the first time. They are published now in order that they may assist in determining the constancy with which the symptoms associated with human trypanosomiasis occur, and in order that the usual nature of the course and of the length of the disease may be ascertained.

The symptoms reported by Dutton² in the first recorded case of human trypanosomiasis have recurred with wonderful constancy in all the subsequent cases. Weakness, loss of energy, easily induced fatigue, breathlessness, wasting, irregular periodic fever, rapid pulse, erythemata and other vasomotor phenomena, and enlargement of the lymphatic glands, have almost always been present. In addition, other signs, such as affections of the eyes, hyperæsthesia, tremors and other nervous symptoms have occasionally been observed. A change in character, sometimes almost amounting to aberration, has been observed in several cases. Pathological sleep is an unusual symptom in Europeans, as it is in Africans; but it has been seen in several instances.

African natives almost always have malaria and they are infected by filaria, intestinal worms and other parasites; Europeans are usually free from such infections. For this reason, differential blood counts made in cases of trypanosomiasis in Africans are not accurate; only blood counts made in Europe on Europeans can be relied upon. From such counts, it has been ascertained that an increase of the mononuclear cells is a constant feature of Human trypanosomiasis.

Three of the cases reported were treated by thorough dosing with *liquor arsenicalis*. The trypanosomes disappeared from their blood, and the patients were well two, two and three years respectively, after the commencement of their disease. Another case, who was treated by atoxyl, had parasites in his blood almost continually from June, 1907, until February, 1910. At the present time, treatment has been stopped, his temperature has been normal and the parasites have been absent from his blood for four months. Another case, who became infected in 1907, was energetically treated at once by atoxyl and mercury; the parasites

immediately disappeared permanently from his blood and his temperature became normal. He is in good health at present.

The result of the treatment of these five cases, when considered in conjunction with the history of other cases of trypanosomiasis in Europeans, which have been apparently cured, make it almost certain that recovery may occur if the patient be energetically treated, early in this infection, by some appropriate trypanocide and if, at the same time, every care be taken to support general health.

This conclusion is a most satisfactory one, since the invariably fatal results of the first cases of trypanosomiasis, in both Europeans and Africans, made it appear as though treatment were hopeless and the disease invariably fatal.

II.—*Auto-agglutination of the Red Cells in Human Trypanosomiasis.*

Kanthack, Durham & Blandford³ recognized that the red blood cells of experimental animals, which were heavily infected with trypanosomes, frequently coalesced in irregular masses instead of forming rouleaux. The same phenomena occurs in cases of human trypanosomiasis;⁴ but it was also recognized that such auto-agglutination of the red cells might occur in cases from which trypanosomes were absent, and that trypanosomes might exist in a patient without the presence of this symptom. In order to determine the importance which might be attached to the presence of this symptom, the blood of 1,406 persons inhabiting the Congo Free State was examined. It was found that while auto-agglutination was present in 395 of these persons, trypanosomes were only found in 183 of them; the parasites were also found in 124 persons from whose blood auto-agglutination was absent. From these figures, it is very evident that trypanosomes may occur without accompanying auto-agglutination, and that while many cases in whom auto-agglutination is present may be suspected of trypanosomiasis, still, auto-agglutination may occur without that disease. Twenty-six cases of human trypanosomiasis were constantly observed for periods varying from three weeks to four months in order to determine if auto-agglutination were constantly present. From the records of these cases, it may be concluded that auto-agglutination is almost constantly present in cases of trypanosomiasis of either sex, of any age, and in all stages of the disease. The presence of auto-agglutination, or the degree in which it is present, do not appear to depend directly upon the presence or the number of trypanosomes in the peripheral blood of the patient. Nevertheless, it was noted that on five or six occasions auto-agglutination was absent from patients, in whom it had been constantly present, immediately after the absence of trypanosomes from the blood during a period of several days.

It is not possible to determine from our records whether auto-agglutination is constantly associated with any qualitative or quantitative changes in the blood, and no suggestion is offered concerning the nature of the changes which lead to its manifestation. Auto-agglutination was noted in cases of relapsing fever, of "cachexia," of syphilis, and of beriberi. From these observations, it is concluded that auto-agglutination of the red cells frequently occurs in trypanosomiasis, but that it may occur in other diseases and that trypanosomiasis may exist without its appearance.

- 1 Dutton, Todd & Christy. Two cases of trypanosomiasis in Europeans. Memoir XIII of the Liverpool School of Tropical Medicine.
- 2 Dutton, 1902. Thompson Yates Laboratories Reports, May 18.
- 3 Kanthack, Durham & Blandford, Proceedings Royal Society, 1898, November 19th., Vol. LXIV, No. 404.
- 4 Dutton & Todd. Gland puncture in trypanosomiasis. Memoir XVI of the Liverpool School of Tropical Medicine.

NEURASTHENIC CONDITIONS REFERABLE TO THE NOSE AND THROAT.

BY

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In this paper it will be my endeavour to discuss briefly the neurasthenic conditions referable to the nose and throat, and at the same time to consider the possibility that many cases of neurasthenia may owe their origin to, or be aggravated by, associated disease or abnormality of these regions. Though catarrhal and other symptoms of the nose, and throat are commonly complained of by those suffering from neurasthenia, it is a matter of surprise how little attention is given these manifestations in the literature of this affection. In many instances no reference to them is made, or, if so, their association is looked upon as of trivial importance or a mere coincidence. On the other hand, one would hesitate in agreeing entirely with North, who according to Packard, considers neurasthenia as of reflex origin from nasal disease, and says that he has never met with a case of neurasthenia in which there was not present some catarrhal trouble.

While we are all familiar with the patients who consult us complaining of headache, a tight feeling across the bridge of the nose, subjective sensation of bad odour, dropping in the throat, a lump in the throat, etc., and upon examination can find nothing to account for these com-

plaints, may there not be sufficient disturbance to cause symptoms in one case which would be unnoticed in another, or are they simply functional in character? Because a patient is known to be neurotic, one is perhaps apt to regard his complaints too lightly, and overlook some apparently trivial condition which may be a true source of discomfort to a naturally nervous organism.

As the term is frequently misapplied it is well to be clear in our minds as to what constitutes neurasthenia, and not confound it with allied disorders such as hysteria, neuroses, hypochondria, or even insanity. Neurasthenia, as the name implies, is a condition of deficiency or exhaustion of nerve force or debility of the nervous centres (Gould). It may be primary or secondary. That the primary form, though rare, does occur is the general, but not unanimous, opinion. The secondary, or acquired form, which is much the more common, is the one with which we are mainly concerned. In this there is usually a discoverable cause, though symptoms of neurasthenia may for a time mask a more serious organic lesion, such as cardiac, or malignant disease, syphilis, etc. The prognosis of the secondary form is of necessity much more favourable than in the primary, as in the former the cause may in many instances be removed be it of a physical, mental, or moral nature.

It thus behooves us as laryngologists, rhinologists, otologists, or ophthalmologists, to search diligently for such cause, and if we are honestly convinced that by suitable treatment we can improve the patient's condition we should proceed with that object in view and not regard the treatment of every case of neurasthenia as futile.

Granted, then, that our diagnosis of neurasthenia is correct, we must next ask ourselves, are the nasal, pharyngeal, or laryngeal symptoms the result of the neurasthenia and consequently functional, or are they really due to organic trouble and aggravated or even causing the neurasthenia?

Even though the symptoms seem to be clearly functional, great care must be exercised and all evidence of organic disease be excluded before arriving at a conclusion, and thus avoid such mistakes as for instance, regarding headache, or subjective bad odour as functional while the patient is really suffering from sinus disease, a mistake which on more than one occasion has been admitted; or looking upon some perversion of sensation in the throat as functional when it is really symptomatic of some grave central lesion.

As to the importance of disease of the nose and throat as factors in the etiology of neurasthenia, opinion is divided, some considering the slightest departure from the normal as being sufficient to cause

neurasthenia, and consequently demanding operative or other treatment, while on the other hand, there are those who consider even a marked nasal obstruction as trivial and not associated in any way with the neurasthenia, regarding operative or other interference as unnecessary.

In this connexion it may not be out of place to consider what bearing adenoid growths and nasal obstruction may have, if uninterfered with, on the predisposition to, if not the actual cause of neurasthenia, coming on in adolescence or early maturity. When one considers the constitutional disturbances, even grave in some cases, met with in children suffering from nasal obstruction and consequent mouth breathing, one can easily conceive of the nervous system suffering along with the rest of the organism, though not of necessity being alone involved.

In 1887, Guye, of Amsterdam, first described the condition to which he gave the name of aprosexia, or difficulty in fixing the attention, associated with nasal obstruction, the cause of which he at first attributed to obstruction of the lymphatic circulation between the brain and the nose, an opinion he later modified, as this aprosexia was found to occur in cases suffering from atrophic rhinitis where there was no obstruction apparent.

It has also been attributed to deficient aeration of the blood and the theory that it is merely a form of neurasthenia has numerous advocates. Be the cause what it may, the condition has become generally recognized and we are all, I think, familiar with the rapid improvement, both mental and physical, which so frequently follows the removal of nasal obstruction in children and adults, the symptoms often disappearing in an astonishing manner. It would not seem to require a great effort of the imagination to picture to one's self a child suffering from adenoids,—dull, unable to fix the attention, often irritable, and frequently weak physically, if unrelieved; developing into—if not already—a neurasthenic of a more or less pronounced type, especially if constitutionally predisposed.

But is such the case? It undoubtedly is in many of such instances, but the effect of mouth breathing in children is so varied, some being much less disturbed than others, that statistics do not show the percentage of neurasthenics that might reasonably be expected from what would appear to be a powerful etiological factor. Instead of becoming neurasthenic, many children suffering from untreated adenoids develop into adults of a dull mentality, weak physically, or victims of some constitutional disease.

In his investigations as to the effect of adenoids in children, Chapiro¹ found the relative number of red blood corpuscles diminished in those

with adenoids as compared with normal children, while the proportion of hæmoglobin was below normal. The number of leucocytes was markedly increased. The relative number of neutrophiles was also increased, though the number of eosinophiles did not exceed the normal. After a prolonged obliteration of the nose in young dogs he found on autopsy emphysema, at the same time there was a marked increase of erythrocytes and leucocytes. After complete plugging of the nose in full grown dogs there was a decreased frequency of the respiratory movements, though their amplitude was increased; the pressure in the trachea being also increased, as was the arterial pressure throughout, as well as that of the peripheral veins. As opposed to this the pressure in the right ventricle and main veins was diminished. Plugging of one side of the nose had no effect on the respiration or circulation. He considers all the symptoms described owe their explanation to insufficient access of air to the lungs.

L. Einis² published his observations on 450 cases treated by him in which adenoids were present. In nine of these there were reflex symptoms, in his opinion due to the presence of the adenoids, and invariably in those predisposed by nervous asthenia, either of the nature of hysteria or neurasthenia. He does not state how many of his 450 cases were neurasthenic or hysterical.

Royet³ considers that there is an important category of cases of neurasthenia which are dependent on certain lesions of the naso-pharynx, and that the majority of the important symptoms of neurasthenia are rationally explained by the effect of these lesions, and is of the opinion that if a lesion of the naso-pharynx can produce reactions so important and varied as those of neurasthenia, it must have an influence on many organs of the economy.

He attributes to, and lays great stress on, the anatomical considerations of the naso-pharynx in the causation of neurasthenia in those suffering from naso-pharyngeal diseases. Among these, the fossa of Rosenmüller he regards as of great importance, not only as concerns the Eustachian tube and ear affections, but from the fact that there is an important vasculo-nervous group behind and in the immediate neighbourhood of the bottom of the fossa, consisting of the carotid and internal jugular, superior ganglion of the sympathetic, the pneumo-gastric, spinal accessory, glosso-pharyngeal and hypo-glossal nerves. Behind, and adjacent to these organs, is the latero-pharyngeal ganglion, and further distant and on this account less vulnerable, are the parotid and facial nerve.

The depth of the fossa, he remarks as being very variable, due to the

shape of the skull, arrests of development, etc. Such defects, he thinks, may not only cause a permanent stagnation of secretion but predispose to acute inflammatory attacks following exposure to humid cold, fatigue, etc. This, in his opinion, explains the frequency of production or the accentuation of neurasthenic symptoms following acute diseases of the upper respiratory tract, in la grippe in particular.

Zarniko⁴ mentions among other symptoms of nasal obstruction intellectual defects, disturbances of sleep and nutrition, neurasthenia, mental and bodily fatigue, slovenliness and loss of energy, all of which as a rule promptly disappear after nasal respiration is re-established.

If in enumerating the neurasthenic conditions referable to the nose and throat I have in one or two instances included hysterical manifestations and reflex neuroses, it is because they are so closely allied to those of neurasthenia and not uncommonly treated of as such. These symptoms may be divided into three groups: *A.* Those referable to the nose and naso-pharynx, or head; *B.* Those referable to the pharynx; *C.* Those referable to the larynx.

A. Those referable to the nose and naso-pharynx or head: 1. Headaches: usually situated in the occipital or frontal region, or both, not uncommon in a truly functional condition but more so where there is associated rhino-pharyngitis or nasal obstruction.

2. Pain: or feeling of tightness across the bridge of the nose, commonly complained of.

3. Rhinorrhœa, and post-nasal secretions: Hay fever, asthma, nervous cough, etc.

4. Mental dulness or asthenia, loss of memory.

5. Epistaxis and marked congestion of turbinates, often seen in neurasthenic women at menstrual periods.

6. Neuroses of olfaction: (*a*) Parosmia, or hallucinations of smell, as a rule unpleasant; though usually due to pathological changes in the olfactory centre of the brain may occur in hysteria or neurasthenia: (*b*) Hyper-osmia, or over-sensitiveness to olfactory stimuli.

B. Neurasthenic conditions referable to the pharynx:

(*A*). Lump in the throat: This may be purely functional ("globus hystericus"), or due to anæsthetic area, the result of a central nervous lesion as progressive bulbar paralysis, or following diphtheria. This area owing to its anæsthetic character feeling to the rest of the throat as a foreign body. Feeling as if a fish bone were lodged in the throat, or as if there was a scratch or other form of irritation, with symptoms of dysphagia. With an enlarged lingual tonsil, the feeling as if a foreign body were present is usually complained of, taking the form of a prick-

ing sensation as if a splinter had lodged in the fauces. Or the patient may complain of the feeling as if a lump, hair, or other foreign body had lodged in the throat.

(B), Dryness or soreness of the throat: commonly complained of and may in some cases be due to mouth breathing.

C. Neurasthenic conditions referable to the larynx:

(A). Aphonia; (B). Nervous cough; (C). Laryngeal apoplexy—rare, neurasthenia a rather constant factor; (D). Bilateral abductor paralysis: Among other causes neurasthenia has been mentioned.

The treatment of those cases in which the cause is apparent is usually satisfactory and naturally consists in removing this if possible, and if necessary instituting treatment with the object of improving the patient's general condition and placing him under good hygienic and cheerful influences. Unfortunately in those in which there is no discoverable cause the outlook is much less hopeful, operative treatment with the prospect held out to the patient of relief of his symptoms being only mentioned to be condemned. But even in these much good may often be accomplished by reassuring and telling him that there is nothing seriously the matter and taking steps that the neurasthenia from which he is suffering shall have proper treatment in the hands of those best qualified to deal with the condition.

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BANANA FLOUR AND PLANTAIN MEAL AS A FOOD FOR CHILDREN SUFFERING FROM DIARRHŒA.

BY

A. E. VIPOND, M.D.,

Senior Physician, Out-Door Department, Children's Memorial Hospital, Montreal, and to the Children's Department, Montreal Dispensary.

While travelling through the West Indies, during the Winter of 1908, I thought I would try and find some kind of an astringent food for infants suffering from diarrhœa.

Having decided to make some banana flour and plantain meal, and to give them a trial, I must say that I have not been disappointed in the results obtained. We all know how difficult it is to feed infants and children who suffer from diarrhœa. When a mother consults us about her infant who suffers from this trouble, our first question is: "Upon

what do you feed the child?" If it is a breast-fed infant, we need not have much anxiety, we stop it nursing for a few hours, give it some barley water, rice water, a dose of oil, calomel, etc., diet the mother, and, as a rule, the child is quite well in a short time.

Should the infant be fed upon milk or a patent food, etc., we tell the mother to stop it immediately; this is all very well, but what do we give in exchange, for the child's staff of life? We give barley water, rice water, albumen water, etc., in other words, we give practically plain water which will not make up for the loss. The intake is cut off or decreased to a minimum, while the output is enormously increased. As a result, the blood pressure is lowered to such an extent, that the heart muscle gives up work. At the same time the blood is concentrated and toxins do their deadly work. Now this can be prevented if we give the little sufferer sufficient nourishing food to make up for the loss. In banana flour and plantain meal, I do claim that we have a nourishing and valuable food and one that is easily digested. I do not think that it is an ideal infant food, as the starch percentage is high and the fat percentage is low. However, it will tide over a critical period and that is what we desire.

The following analysis by Dr. J. S. Donald, official analyst to the Dominion Government, will show its food values:—

Tannin	1.29	%
Carbohydrates	73.76	%
Dextrose	7.14	%
Proteids	3.06	%
Fats52	%
Ash .. { Phosphoric Acid .. 10.50 % } ..	4.95	%
{ Potash	37.34	%
Fibre55	%
Moisture	10.02	%

The dextrose and starch vary according to the method used in preparing the flour. It has remarkable astringent qualities, as has also the plantain meal, a nice white flour, more palatable, but more difficult to obtain and more expensive.

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THE ANNUAL EPIDEMIC OF TYPHOID FEVER.

Without the gift of prophecy, one may at the time of writing (early in July) foretell a recurrence of the epidemics that last year caused such a loss of life. One of the large general hospitals has now opened up its typhoid ward to accommodate the dozen cases that are already admitted to its beds. This is an early start, and considering that September, October and November are the months when we expect the disease to be prevalent, we are not unduly pessimistic when we say that there is great likelihood that a smart epidemic will follow so brisk a beginning. What are we going to do about it? The answer doubtless is, "Reopen the Emergency Hospital!" This measure will likely be necessary, as on account of building operations, the Montreal General Hospital will probably be unable to care for more than a very few cases. But the re-opening of the Emergency Hospital can be at the best but a palliative measure to make more bearable a terrible state of affairs. One of the great London medical journals, dealing with Montreal's typhoid fever of last winter estimated the number of cases at three thousand, and it must be admitted that the grounds upon which this calculation was based were fair ones. Looked at from any standpoint, what a reputation for a modern city to have, and worse than that, what a reputation to have deserved! What have we done to prevent the deaths from typhoid fever in the coming September and October of scores of people who are now in apparent health? We have put some chemical into the water to purify it. The present writer does not know or remember to have heard of any

efficient method of doing this successfully on a large scale, and believes that such a procedure tends to allay public anxiety without accomplishing the end for which it was instituted. We have talked a good deal about a filtration plant: without knowing for certain that this would reduce the morbidity, it is unquestionably one thing which ought to be done; it is the closing of one port of entry, and it is the duty nearest to our hand. If this be vigorously undertaken, it will yet require much time. In the meantime, the public should be warned that they are sitting in danger, and we make no apology for endeavouring to frighten people, if by frightening is meant attempting to show them how precarious is their situation. We are perfectly aware that the case is not absolutely clear against the St. Lawrence water, and proof of its guilt in the matter is probably not possible, but every analyst admits how well-founded are our suspicions of it, and when all is said and done, if not the source of our present trouble, it can become a danger at any time. Let city water be boiled; let milk inspectors do their utmost to find out the existence of cases of typhoid fever near the sources of milk supply; let plans for filtering the city water supply be prosecuted at once; let the daily papers be active in the matter of warning, as they have been before, and let everyone who is in danger (and we all are) bethink himself of it.

THE HURRY CALL.

It seems that in Toronto the question has arisen as to whether the medical man should be allowed to speed his automobile on the streets, or whether he should be bound down by the same regulations that affect his fellowman who has no greater excuse for a "hurry-run" than that he is late for the train that is to carry him to the bedside of an expiring relative. The Deputy Chief of Police makes a statement in the morning papers to the effect that no medical man should let himself be enticed into trouble through thinking that the police have orders to look with a blank stare, when he goes by at a speed that exceeds the limit. Further, he very sensibly says that it is not the place of the police but of the magistrate to discriminate between individuals who either are or act as if they were above the law. Hurry calls do exist, but they do not occur as often as the public think they do, and no one but a medical man fully appreciates how few lives actually depend upon those two minutes that are saved by reason of the speed of the motor or other conveyance.

This brings us to the one practical form that this question takes in Montreal. For years a patient public has had to put up with ambu-

lances going at break-neck pace, with gongs that ring furiously, whose very sound is an excitant to nervous prostration, and with some danger to life and limb. What is the reason for this public inconvenience? The public imagine it is to save life, and so thinking, benevolently submit to chances of being knocked down, run over or otherwise damaged; but nineteen times out of every twenty there is no question of life at stake, and too often, the hurry, the rush, the furious gong, all mean nothing worse than a crushed thumb. The writer knows very well that, exceptionally, the hurry is of use, and knows, too, of one case in which a life was probably lost only because the ambulance was stopped at the swing-bridge on Wellington Street; but he knows equally well that too often the furious driving of ambulances is an index of rivalry between house-doctors, not to say stablemen, each on account of his particular establishment, be it hospital or hostelry.

The truth is that the catch-as-catch-can method that prevails in Montreal, by which the ambulance first on the ground has the best claim on the case, is sadly out of date; without being prepared to say what is the best method that could be devised, we can at east point out how uneconomic a method is that by which six men, three vehicles and six horses can be called upon to expend time and energy, and perhaps endanger the lives of others because of, let us say, a sprained ankle. The first move that could be made might be a subdivision of the city into districts, so that all accidents in a certain district might go to a certain hospital, the districts being apportioned with reference to the hospital that is nearest. This would affect only emergency cases, for ordinary cases of illness would still be amenable to the procedure now in vogue. At any ordinary cost, the "speeding" ambulance should be checked; it is useless to urge that the ambulance "speeds" in the cause of mercy and humanity; it is but a few years since an old gentleman was killed by a speeding ambulance, and it takes a great deal of mercy and humanity to make up for a human life.

KOCH.

In medicine as in art there are many whom we may term little masters, very few great masters; many men whose names must be remembered in the history of our subject in connexion with some individual notable advance, very few who in themselves either represent, or through their work have inaugurated, an epoch. One of these few great masters was the great Prussian bacteriologist, Robert Koch. However much we may have found to criticize in his attitude towards his fellow workers, and in his ethical attitude in regard to his work, there can be no hesita-

tion in ascribing him a foremost place among the benefactors of his kind. Inevitably we make the comparison—as all have done this last score of years—with the other great master in bacteriology, his racial rival. The position he took towards Pasteur demanded the comparison. No one who has come into contact with the two men can, we would think, have any doubt as to which was the nobler personality. This, however, does not detract from the greatness of Koch's accomplishment for medicine and humanity. To him, preeminently, we owe the development of those methods which have made bacteriology a science that can be pursued, if he so wills, by any practitioner, by the keen brewer, or expert dairy-man. If Pasteur inaugurated pathogenic bacteriology and immunology, Koch it was who elevated these into practical sciences. The two together wrought a complete change in medicine and medical thought. And above all must his name remain associated with the discovery of the tubercle bacillus and the realization of the true nature of tuberculosis in all its manifold forms. It is a quibble to urge that others before him had seen the tubercle bacillus. So had others, before Lister, noted the antiseptic action of carbolic acid and corrosive sublimate. It was Lister's patient years of study that evolved antiseptic surgery and introduced a new era in surgery; it was Koch's masterpiece of research, unexampled in the annals of medical science, that revealed the bacillus, the methods of detection of the same, the mode of growth, the reproduction of the disease in the various domestic animals by inoculation of pure cultures. So complete was the demonstration that the civilized world could but wonder and accept, and comprehending slowly the full significance of the work, apply its lessons to the prevention of the disease. For Koch has made it possible that before the end of this century tuberculosis, the greatest scourge of the temperate zone, shall be as rare as leprosy now is. Compared with this his further discovery of the spirillum is as a star of the fourth magnitude, although that has already resulted in the protection against cholera and its consequent banishment from every civilized country.

These surely are accomplishments sufficient for any one mortal; nor is it for us to weigh against them his imperfect success in the further task he set himself to accomplish, namely the cure of tuberculosis by bacterio-therapy. It was the writer's good fortune to be attending a lecture by Roux at the Institut Pasteur, one afternoon in the winter of 1890-91, when the door opened and, with paretic gait, Pasteur advanced slowly into the room holding a little phial in his hand. The whole class of medical men and bacteriologists from many lands rose as he entered. "Gentlemen," said he, "you all know the news from Berlin recently

announced. I thought it would interest you to see the first specimen of tuberculine which has come to France, which M. Koch, with a courtesy that I deeply appreciate has sent to me. I need not tell you that M. Koch and I have not seen alike in all things; that makes me all the more sensible of his courtesy. Most fervently do I hope that this remedy of M. Koch will be of untold benefit to humanity." It was a graceful and memorable little scene. It is not Koch's fault that the hopes expressed by Pasteur, and felt throughout the world, have not wholly materialized. Rather, it is a tribute to his powers that although the foremost workers in many lands, following his lead, have for now close upon twenty years endeavoured to solve the problem, his tuberculin in one or other modification remains the basis of all the most promising methods of tuberculous bacterio-therapy.

We Anglo-Saxons, despite, or perhaps in consequence of Thomas Carlyle, would see our great men heroes, and prefer them to be heroes of the Sunday-school type at that. But this is muddle-headed. The old Talmudic point of view is both juster and more humane: that he who has performed a notable service to his fellowmen, whatever his frailties, is assured of heaven, because Jehovah is wise and cannot afford to lose him in Sheol. Perchance Koch was not a hero, assuredly he is an immortal.

THE ST. GEORGE TUBERCULOSIS CLASS.

The first annual report of the St. George Tuberculosis Class is in circulation this week, and we make its appearance our excuse for giving the workers concerned our hearty congratulations upon the work with which it deals. Dr. C. P. Howard is the director of the class, and his enthusiastic care is responsible for much of the good that has been done. Miss Rothwell, the visitor of the Class, has also performed excellent service. The class system, now well launched in Montreal, needs no commendation in these columns; it is, perhaps, the best adaptation to the treatment of tuberculosis among the working, but not the indigent, classes that has yet been devised, and there is no movement which marks progress more than this. The St. George Class reports twelve cases in some detail, in which the results must go far in encouraging other sufferers to undertake the same system; best of all, it permits people of the class mentioned to have a chance of understanding what can be done.

THE MEDICO-CHIRURGICAL SOCIETY.

The officers elected for the ensuing year are as follows: President, Dr. C. F. Martin; Vice-President, Dr. J. M. Elder; Treasurer, Dr. R.

P. Campbell; Secretary, Dr. Hanford McKee, with Dr. J. Alex. Hutchison as Member of Council.

It is with pleasure that we refer to the work of the Society for the past year. Dr. W. Grant Stewart, the retiring president, was so efficient an office-holder, that we may here make mention of his services. No officer of the Society has ever made more personal effort for its success; everyone who has had to deal with the Society, can bear testimony to the constant and untiring efforts he made to ensure the success of every meeting, by personal communication with members, by taking care that a good paper should have worthy discussion, and by repeated attention to habitual absentees. This could only be done by the sacrifice of much time from a large and insistent practice, and it is pleasant to be able to record that his unselfish work was rewarded by a splendid year in every way. Dr. Stewart would be the last to claim his personal share in the credit of this, and we do not detract from the work of his associated officers. To them all it must be a matter of sincere pleasure that the Society responded to their work, and we take this opportunity of putting into words what every attendant upon the Society's meetings knows.

Reviews and Notices of Books.

MEDICAL EDUCATION IN THE UNITED STATES AND CANADA. THE CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING. *Bulletin No. IV.* By ABRAHAM FLEXNER. 846 pages.

The portion of this Bulletin which deals with medical education in Canada is extremely interesting. Without comment we transcribe the parts which lend themselves readily to summary treatment:

CANADA.

ALPHABETICALLY ARRANGED BY PROVINCES.

Population, 6,945,228. Number of physicians, 6,736. Ratio, 1:1,030. Number of medical schools, 8.

MANITOBA.

WINNIPEG: Population, 150,000.

(1) MANITOBA MEDICAL COLLEGE. Organized 1883. The medical department of the University of Manitoba, the connexion being in process of becoming organic.

Entrance requirement: The University Matriculation Examination or its actual equivalent. The medical course covers five years.

Attendance: 115.

Teaching staff: 41, of whom 22 are professors, 19 of other grade.

Resources available for maintenance: Fees, amounting to \$14,000.

Laboratory facilities: Instruction in chemistry, bacteriology, histology, and pathology is competently given by the University of Manitoba. Other branches are carried on by the medical faculty. The equipment is adequate to routine instruction, new, and steadily increasing. There is a beautifully kept collection of several hundred wet specimens. Appearances indicate a conscientious and intelligent employment of such resources as the school has had.

Clinical facilities: The excellent Winnipeg General Hospital of 400 beds adjoins the school. The school faculty is practically the staff of the free wards. The relation between school and hospital is admirable. Students work freely in wards, clinical laboratory, operating rooms, obstetrical ward, etc.

There is a good dispensary.

Date of visit: May, 1909.

NOVA SCOTIA.

HALIFAX (NOVA SCOTIA): *Population*, 45,000 (estimated).

(2) HALIFAX MEDICAL COLLEGE. Organized in 1861. An independent school with a peculiar relationship to Dalhousie University, which provides satisfactory instruction in chemistry, physics, and biology, during part of the first two years of the five-year course. In respect to all else the medical school is an independent institution, though its students are practically all examined for their degree by Dalhousie University. The university thus furnishes part of the first two years' teaching and is the final examining body; with the intervening years it has nothing to do.

Entrance requirement: On a par with that of Dalhousie University.

Attendance: 63, 90 per cent. from Nova Scotia.

Teaching staff: 33, of whom 16 are professors. There are no full-time instructors. (This does not include the instructors in the scientific branches furnished by Dalhousie University.)

Resources available for maintenance: An annual appropriation of \$1,200 from the provincial government and fees amounting to about \$5,000. Three-fourths of the fees are distributed among the professors; one-fourth provides, with the government grant, for all other expense. A bequest yielding \$200 per annum supports the college library.

Laboratory facilities: This disposition of funds is reflected in the condition of the medical college: it possesses an ordinary, ill smelling dissecting-room and a single utterly wretched laboratory for pathology, bacteriology, and histology. A microscope is provided for each student. Though this same "laboratory" serves for the provincial board of health, no animals are used. There is no museum worthy the name,

and no laboratory work in physiology or pharmacology. The laboratory sciences have been starved that small dividends might be paid to generally prosperous practitioners.

Clinical facilities: Clinical instruction is provided at the Victoria General Hospital, a government institution of some 200 beds, open to the medical school. About 70 per cent. of the cases are surgical. The staff appointments are made by the government for its own reasons; the medical college is forced to confer professorships on these appointees. Ward classes are conducted; individual cases are assigned, and the student's notes become part of the hospital records. Instruction in clinical microscopy is very limited.

Obstetrical opportunities barely suffice. Autopsies are performed in the presence of students, who report on them. The college has no dispensary, but students are required to attend the city dispensary,—an institution within which the medical school has no authority. The attendance is fair.

It has been stated above that except during part of the first two years Dalhousie University has no teaching responsibility for or connexion with Halifax Medical College. On the other hand, students of Halifax Medical College are examined by the medical faculty of Dalhousie University and obtain the Dalhousie degree in medicine, won by students whose opportunities have been provided by Halifax Medical College? The connexion is, from the standpoint of Dalhousie University, highly objectionable.

Date of visit: October, 1909.

ONTARIO.

KINGSTON: *Population, 20,000.*

(3) **MEDICAL DEPARTMENT OF QUEEN'S UNIVERSITY.** Organized 1854.

The relation of the medical department to the university is anomalous, marking a period of transition that is likely soon to result in complete integration.

Entrance requirement: Heretofore somewhat below that of the arts department of the university, though students must comply with the requirements of the province in which they expect to practise. The medical course covers five years.

Attendance: 208, 71 per cent. from Ontario.

Teaching staff: 38, 16 being professors.

Resources available for maintenance: Income in fees, \$19,978. A fixed percentage of fees is annually expended on buildings, equipment, and maintenance. The remainder belongs to and is disbursed by the medical faculty.

Laboratory facilities: The laboratory building is new and the equipment is adequate to intelligent routine work. At present, physics, chemistry, and physiology are taught in the university, in return for which the university receives a part of the fees of the students instructed. Full-time professors in anatomy and pathology are provided by the medical school. A museum is in process of formation. There is a small collection of books and periodicals in the faculty room, open to students.

Clinical facilities: The clinical facilities are limited. The school relies mainly on the adjoining Kingston General Hospital, in which its faculty practically constitutes the staff. The average number of beds available is 80, but they are well used. In addition to ward work, students are required to work up individual cases in correct form, including the clinical laboratory aspects. There is a ward for infectious diseases. Obstetrical cases are too few. Post-mortems are secured mainly at the Rockwood Insane Asylum. Two supplementary hospitals provide additional illustrative clinical material. The opportunities for out-patient work are slight.

Date of visit: October, 1909.

LONDON: Population, 41,500.

(4) WESTERN UNIVERSITY MEDICAL DEPARTMENT. Established 1881. Practically an independent school.

Entrance requirement: Nominal. The student, for his own protection, is expected to fulfil the requirements of the place in which he intends to practise. The medical course covers four years.

Attendance: 104.

Teaching staff: 20, of whom 8 are professors, 12 of other grade.

Resources available for maintenance: Fees, amounting to \$11,590 (estimated).

Laboratory facilities: These consist of a single room called the laboratory of pathology, bacteriology, and histology, whose equipment consists of microscopes and some unlabelled specimens,—no microtome, cut sections, incubator, or sterilizer being visible,—a wretched chemical laboratory, and an ordinary dissecting-room. There is no outfit for physiology, pharmacology, or clinical microscopy, and no museum deserving the name. There are a few hundred books, locked in cases to which the janitor carries the key.

Clinical facilities: These are entirely inadequate. They are confined almost wholly to a small number of beds in the municipal hospital.

The school has no dispensary.

Date of visit: October, 1909.

TORONTO.

(5) UNIVERSITY OF TORONTO FACULTY OF MEDICINE. Established 1887. An organic department of the university.

Entrance requirement: The Junior Matriculation Examination, strictly enforced. The course covers five years.

Attendance: 592.

Teaching staff: 68, of whom 27 are professors, 41 of other grade. Ten professors with fifteen assistants give their entire time to teaching and research.

Resources for maintenance: The department is supported out of the general funds of the university, its cost being considerably in excess of fees received. The latter amount to \$64,500.

Laboratory facilities: The laboratories are in point of construction and equipment among the best on the continent. Increasing attention has been devoted to the cultivation of research. There are both general and departmental libraries, an excellent museum, and all necessary teaching accessories.

Clinical facilities: The school has recently perfected a very intimate relationship with the new Toronto General Hospital, by which its faculty obtains complete control of the clinical advantages of some 500 beds. Students have the access to all wards, clinical laboratory, dispensary, etc. Other large local hospitals—general and special—are also available.

Date of visit: March, 1909.

QUEBEC.

MONTREAL.

(6) MCGILL UNIVERSITY MEDICAL FACULTY. Established 1824. An organic department of the university.

Entrance requirement: The University School Leaving Examination, strictly enforced. The medical course covers five years.

Attendance: 328.

Teaching staff: 99, of whom 19 are professors, 80 of other grade. Ten instructors devote their entire time to teaching.

Resources available for maintenance: The department has separate endowments aggregating \$350,000 and is assisted out of the general university funds. Its fees amount to \$43,750; its budget \$78,000.

Laboratory facilities: The laboratories having been recently injured by fire, the school is now waiting the completion of its new buildings, for which ample funds have been secured. Meanwhile its temporary quarters, well equipped for both teaching and research in all depart-

ments, show what energy and intelligence can accomplish in the face of disaster. The anatomical and pathological museums are among the most famous on the continent. The school possesses an excellent library and all necessary teaching accessories.

Clinical facilities: These are excellent. The school enjoys a most favourable relation to two large hospitals, of about 500 beds, besides several other institutions. Students work freely in all the wards and clinical laboratory.

The dispensary service is large and admirable.

Date of visit: March, 1909.

(7) LAVAL UNIVERSITY MEDICAL DEPARTMENT. Organized 1878. The university connexion is not intimate.

Entrance requirement: Indefinite, depending on the prospective location of the student. The medical course covers five years.

Attendance: 217.

Teaching staff: 8.

Resources available for maintenance: Fees, most of which are distributed among the teachers.

Laboratory facilities: Chemistry is given by the university. Anatomy is limited to dissecting. A single laboratory with meagre equipment is assigned to pathology, bacteriology, and histology. There is a library and a small collection of specimens, not all labelled.

Clinical facilities: The school has access to two hospitals, containing together 250 beds. The dispensary has a fair attendance.

Date of visit: March, 1909.

QUEBEC: Population, 70,000.

(8) LAVAL UNIVERSITY MEDICAL DEPARTMENT. Organized 1848. An organic part of Laval University.

Entrance requirement: Indefinite, depending on the student's prospective location. As most graduates locate in the province—French being the language of instruction—they must comply with the provincial requirement. The medical course covers five years.

Attendance: 92.

Teaching staff: 22.

Resources available for maintenance: Fees and an appropriation by the university.

Laboratory facilities: Instruction in chemistry and physics is provided by the university; in the medical building, recent, though not extensive, laboratory provision is made for anatomy, histology, bacteriology, and pathology. There is no experimental physiology or phar-

macology. A library for students and a museum have been started lately. The buildings are admirably kept.

Clinical facilities: Clinical instruction in medicine, surgery, and pediatrics is given at the Charity Hospital (Hotel Dieu), to the free wards of which the faculty serves as staff. The amount of material is limited in quantity; the staff rotates monthly. The hospital contains a clinical laboratory, in which instruction is given in connexion with ward work. The fifth year, now required, and a proposed reorganization of staff and teaching arrangements promise to improve the instruction. Obstetrical opportunity is abundant.

The dispensary has a sufficient attendance.

Date of visit: October, 1909.

General Considerations.

In the matter of medical schools, Canada reproduces the United States on a greatly reduced scale. Western University (London) is as bad as anything to be found on this side the line; Laval and Halifax Medical College are feeble; Winnipeg and Kingston represent a distinct effort toward higher ideals. McGill and Toronto are excellent. The eight schools of the Dominion thus belong to three different types, the best adding a fifth year to their advantages of superior equipment and instruction.

At this moment the needs of the Dominion could be met by the four better English schools and the Laval department at Quebec. Toronto has practically reached the limits of efficiency in point of size; McGill and Manitoba are capable of considerable expansion. The future of Kingston is at least doubtful. It could certainly maintain a two-year school; for the Kingston General Hospital would afford pathological and clinical material amply sufficient up to that point. But the clinical years require much more than the town now supplies. Its location—half way between Montreal and Toronto, on an inconvenient branch-line—greatly aggravates the difficulties due to the smallness of the community. The rapid development of the North-west Territory will undoubtedly hasten the growth of the Winnipeg school; other institutions will in time be established nearer the Pacific coast as the country grows in population.

The legal standard in the Dominion has not thus far been high; but it has practically been elevated a year by the general movement to prolong the course to five years. Meanwhile, the high quality of instruction offered by McGill and Toronto to students who enter on less than a four-year high school education proves that our trouble in the United States

has been at bottom not less one of low ideals than of low standards. Indeed, where ideals are low, there are no standards; and where ideals are high, standard, even though low, is at any rate so definite that it furnishes a sure starting-point towards a clearly apprehended goal. The low standard school in the United States has had no such starting-point and no such goal.

DUODENAL ULCER. By B. G. A. MOYNIHAN, Leeds. Illustrated. W. B. Saunders & Co., Philadelphia and London.

In this monograph of 400 pages, Moynihan has given a very complete account of a subject which is of great interest to both the surgeon and the general practitioner. After a short, introductory, historical chapter, the author refers to duodenal ulcer as a complication of extensive burns of the skin—Curling's ulcer. He points out that the credit of drawing attention to this rather rare condition properly belongs to James Long, of Liverpool, who reported such cases in 1810, before either Curling or Dupuytren reported their cases.

Uremic ulcer of the duodenum (Freitz ulcer) is next dealt with. These ulcers, which sometimes complicate fatal cases of Bright's disease, are not so common in the stomach or duodenum as they are lower down the intestinal tube; nevertheless, the author is able to cite notes of 27 such cases. They are usually of a hæmorrhagic character, and possibly analagous to the sub-cutaneous hæmorrhages occurring in these cases with marked dyscrasia.

Tuberculous ulcer comes next, and the difficulty of exactly placing the etiological factor in these cases is frankly admitted. They, too, are much more rare here than they are further down the bowel. The author has operated upon two undoubted cases, and examples of 34 other cases are recorded, most of them found post mortem.

Duodenal ulcer, associated with melæna neonatorum is next discussed, and the relationship between these two conditions is marked out, and illustrative cases are cited.

A word here may be said about the excerpts from the case reports which are scattered through the volume to emphasize the points made by the author. They are models of what such things should be: neither so full as to be tiresome nor so meagre as to be useless.

The very important question of the chronic duodenal ulcer, and the differential diagnosis between it and other abdominal conditions of an inflammatory character, is next fully dealt with, and the clearness with which the subject is presented is worthy the world-wide reputation of the author.

"Hæmorrhage," he reminds us, "is not a symptom, but a late complication. Its onset is not to be awaited to confirm a doubtful diagnosis, but its appearance should be prevented by a timely recognition of the significance of the early symptoms * * * Hæmorrhage from a duodenal ulcer is of far more serious import than bleeding from a gastric ulcer. In the latter, death very rarely occurs; in the former, it is more frequent than is generally supposed."

As regards treatment, the author insists that this is purely surgical, once a diagnosis is made. In the great majority of cases, gastro-enterostomy gives the best results, but the ulcer should either be incised, if small, or infolded, if large. This latter procedure is insisted upon, inasmuch as it prevents recurrence, and at the same time produces duodenal stenosis, which is an essential factor in preserving the patency of the gastro-enterostomy. The very excellent plates, which illustrate this part of the text, enable one to follow perfectly the different steps of the operative procedures recommended.

One notices that the author here rather discourages the use of the "stitch on the mucosa," which he so highly eulogizes in his article on the surgery of the stomach in Burghard's System of Operative Surgery, (Vol. II, p. 337.)

Perforation of the ulcer is next dealt with in a perfectly written chapter—perhaps the most interesting in the whole book, to the practical surgeon. The danger of mistaking this condition for thoracic inflammations, and *vice versa*, is very properly dwelt upon.

The pathology of the chronic duodenal ulcer is fully and carefully gone into, and the last 110 pages (exclusive of a good index) consists of an appendix "containing a detailed statement of all cases (186) operated upon to the end of 1908, with an analysis and summary." For this we are indebted to Mr. Moyuahan's colleague at the Leed's Infirmary, Mr. H. Collinson. This appendix is a most valuable part of the book, as it puts at the disposal of the reader, in a concise form, examples of almost every conceivable variety of this disease.

The letter-press, illustrations, and general appearance of the book are quite in keeping with what one now expects from the publishers, and altogether one most heartily recommends the work to every medical practitioner.

J. M. E.

INSANITY IN EVERY-DAY PRACTICE. By E. G. YOUNGER, M.D., M.R.C.P.
Second edition. Baillière, Tindall and Cox, London, 1910.

THE MEDICAL EPITOME SERIES: Diseases of the Skin. By ALFRED
SCHALCK, M.D. Second edition. Lea and Febiger, Philadelphia.

PRESCRIPTION WRITING AND FORMULARY. By JOHN M. SWAN, M.D. Containing 1,043 prescriptions. The W. B. Saunders Company, Philadelphia and London. Canadian agents, the J. F. Hartz Co., Toronto, 1910.

LIGHT THERAPEUTICS. By J. H. KELLOG, M.D. The Good Health Publishing Company, Battle Creek, Mich.

THE INFLUENCE OF STRONG, PREVALENT, RAIN-BEARING WINDS ON THE PREVALENCE OF PHTHISIS. By WILLIAM GORDON, M.A., M.D., F.R.C.P. With maps. H. G. Lewis, London, 1910.

INDEX OF SYMPTOMS. By R. W. LEFTWICH, M.D. Fourth edition. William Wood and Company, New York, 1910.

PROGRESSIVE MEDICINE. A Masterly Digest. Edited by HOBART AMORY HARE, M.D., assisted by LEIGHTON F. APPLEMAN, M.D., June 1st, 1910. Lea and Febiger, Philadelphia and New York. Six dollars per annum.

The contents of No. 2 Vol. XII, or Whole Number 46, that is the June issue, of Progressive Medicine, are as follows: Hernia, by William B. Coley; Surgery of the abdomen, by Edward Milton Foote; Gynæcology, by John G. Clark; Diseases of the blood, etc., by Alfred Stengel, and Ophthalmology, by Edward Jackson. The volume with index contains 363 pages. We mention this publication from year to year with increasing praise.

A TEXT BOOK ON THE PRACTICE OF GYNÆCOLOGY FOR PRACTITIONERS AND STUDENTS. By WILLIAM EASTERLY ASHTON, M.D., LL.D., Fellow of the American Gynæcological Society; Professor of Gynæcology in the Medico-Chirurgical College, and Gynæcologist to the Medico-Chirurgical College of Philadelphia, etc., etc., with ten hundred and fifty-eight new line drawings illustrating the text. Fourth Edition, revised and enlarged.

When a book has reached a fourth edition in a little over four years, there is no need to say anything about its popularity, or that it has merits which commend it to an exceptionally large number of students, and here we do not limit the word student to the undergraduate.

The call for a fourth edition in one year from the date of issue of the third did not, however, satisfy the author that his book was perfect or up to date. A considerable amount of revision has been done and new matter added. The subjects thus treated anew are, constipation, indoor exercises in relation to abdominal and pelvic displacements, the treat-

ment of erysipelas of the vulva, the operative management of pelvic suppuration, operation in ectopic gestation, the treatment of cystitis, tuberculosis of the genital organs, abdominal and pelvic operations, peritonitis and its operative treatment, and movable kidney and its treatment.

In the treatment of erysipelas of the vulva, the author approves of the local fomentation of the parts with a saturated solution of magnesium sulphate as recommended by Dr. Henry Tucker, of the Philadelphia General Hospital. In the operative treatment of pelvic suppuration, the author is in accord with most operators in contending for a more extended employment of vaginal section, while in the cataclysmic type of ectopic gestation he declares himself in favour of immediate operation with simultaneous intra-venous injection of normal salt solution. Our readers will remember that the question of immediate or deferred operation has been much discussed in recent times.

Dr. Ashton gives adhesion to those who favour the earlier getting up of patients after abdominal section. The selection of patients for this detail of after-treatment will, however, always be important. The neuræsthetic woman and the woman drained and blanched by profuse hæmorrhages had better be kept rather long in bed.

Readers of the previous editions of Dr. Ashton's book will remember that one of its most notable features is the minute description of every operation, big and small, in gynecology, with illustrations of all the instruments and appliances needed for the doing of them.

EMERGENCIES OF GENERAL PRACTICE. By SARGENT & RUSSELL (Percy Sargent, M.B., B.C., F.R.C.S., Surgeon to Out-Patients St. Thomas' Hospital; surgeon to the National Hospital for the Paralyzed and Epileptic, Queen Square; and Alfred E. Russell, M.D., B.S., F.R.C.P., Physician to Out-Patients St. Thomas' Hospital) London: Oxford Medical Publications; Toronto: D. T. McAinsh & Co. 364 pages, illustrated, price \$4.50.

This is a thoroughly adequate book, carrying out the design of the authors, which is to provide a ready means of assistance to the practitioner—it does not aim to give all the methods that can be used to meet each emergency, but to provide at least one good method which their own experience has taught them may be efficient. It aims, too, to indicate those cases in which the relief of the patient takes precedence of a painstaking diagnosis. It is everywhere brief, nowhere verbose, and throughout sensible; one can imagine its assistance in a given case proving its worth abundantly to the practitioner. The last chapter, which can be instantly referred to by reason of its position in the book, deals

with poisons and antidotes. From the standpoint of practitioners on this continent, we think the paragraph on appendicitis should constitute as emergency conditions, not only the occurrence of peritonitis and local abscess, but the existence of the disease itself with a view to its earliest recognition preventing the occurrence of either of these serious complications. The attitude of the authors upon the question of immediate operation in appendicitis is indicated on page 225, as applying only to these conditions. In all good faith we may say that any attempt to suggest that some cases of acute appendicitis do not from the onset demand operation will not assist the contention, and will constitute a criticism against the book in the minds of many practitioners on this continent. Another point which is of especial interest to American practitioners arises in connexion with typhoid fever. It would be well, we think, to insert a sentence upon the extreme importance of sudden abdominal pain in typhoid fever, because it is not so necessary to instruct the physician whose suspicion of perforation is aroused, as to caution him whose suspicions are not aroused sufficiently easily.

TRANSACTIONS OF THE AMERICAN UROLOGICAL ASSOCIATION. Vol. III,
1909.

Nothing could better illustrate the surprising progress which genito-urinary surgery has made on this continent than the report of the last, or more properly, the eighth meeting of this Association. The present volume shows a distinct advance on its two predecessors, not only in the number of its pages, but in the interest and general style of its thirty-six papers. What we recently said of the former reports applies equally here. Among the most important subjects discussed we find:—The usefulness of operations on the seminal canal—operations carried out either on account of persistent infection (Fuller, Belfield) or of sterility (Martin, Quinby): the importance of the prostate as a lurking place for the gonococcus (Sachs, Wolburst): various new instruments in genito-urinary surgery among which we note Gomig's new urethroscope and median bar excisor, also his operating cystoscope: treatment of gonorrhoea by means of vaccines (Swinburn, Hartwell): conditions causing dilatation of the renal pelvis and the means of diagnosing the same (Brunerman, Braasch, Keys): the functional activity of the kidney, (Schapira.)

From the practical standpoint American urology has long been able to hold up its head; it is from the pathological, bacteriological, and chemical—in short, the scientific point of view that we have lagged behind. It is, therefore, the more gratifying to mark the general improvement in this respect which occurs in all types of papers. If

so much has been accomplished in the few short years since the Association began, we can confidently look forward to the greater possibilities of the future.

R. P. C.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By PROF. DR. CARL VON NOORDEN, Professor of the First Medical Clinic, Vienna. Part VIII. INANITION AND FATTENING CURES. Authorized American Edition. Edited and translated under the supervision of Alfred C. Croftan, M.D., Chicago, Ill. New York: E. B. Treat & Company, 1910. Price \$1.50.

The lectures given in this book were delivered, in 1908, to a post-graduate class of Vienna physicians. The first half of the book is devoted to the consideration of inanition and undernutrition; the problem of loss of weight is studied and much interesting material put forward regarding the way in which the different sorts of tissue take their respective parts in bearing the burden of innutrition. The basis of all the calculations is the calorie, and the work is made as practical as possible by the addition of a chapter (viii) upon the calculation of the caloric value of foods, and a table containing the calculated calories in many different common articles of food. The problem of undernutrition, and also of fattening, to be met scientifically, must be based upon the "maintenance-diet" for such individual. A point upon which Prof. von Noorden insists is that a fattening cure when undertaken should aim at the education of the patient to persist in the diet that has been found useful, especially in the matter of the ingestion of fats; and that the cure of neurasthenia and tuberculosis may be attained not by overfeeding so much as by overfeeding with the addition of judicious activity.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By PROF. DR. CARL VON NOORDEN, Professor of the First Medical Clinic, Vienna. Part IX. TECHNIQUE OF REDUCTION CURES AND GOUT. Authorized American Edition. Edited and transcribed under the supervision of Alfred C. Croftan, M.D., Chicago, Ill. New York: E. B. Treat & Company, 1910. Price \$1.50.

The first half of this volume deals in a practical, if somewhat elaborate manner with the methods in vogue for the reduction of obesity. The author insists upon the recognition of causation in obesity, whether it arises from overeating, from inactivity, or whether there be perversion of internal secretion in the case, for example, of the thyroid gland.

A most practical point dealt with by the writer, is that the reduction cure itself is not so important as the education in the necessary modifications in the patient's habits. The less "original" the method the better, that is, the ultimate success will be greatest if the patient can go on subsequently with a diet not vastly different from that which his mode of life ordinarily suggests. The importance of knowing the exact maintenance-diet is once more insisted upon as the necessary starting point.

The second half, dealing with gout and nephrolithiasis urica, deals with its subject in a painstaking way. Here the great necessity is that the physician shall know the purin-percentage of the food administered; the measuring-glass and the scales must be the first requirements. Even for the physician who has not made use of these, there is much clear exposition and good information. The book is uniform in its make-up with the previous eight volumes.

PRACTICAL DIETETICS. By W. GILMAN THOMPSON, M.D., Professor of Medicine in the Cornell University Medical College in New York City, and Visiting Physician to the Presbyterian and Bellevue Hospitals. 4th Edition, illustrated, enlarged and completely rewritten, 928 pages, price \$6.00. New York: Appleton & Co.

Dr. Gilman Thompson's book upon practical dietetics has gone through three editions since it was first published in 1895, and this, the fourth edition, is carefully revised with a view to increasing its admitted excellence. It is a compact volume of 900 or more pages, an increase of 75 pages over the last edition, and it contains an immense amount of material which is readily available because so well indexed.

The author's standpoint is a very excellent one for the man who undertakes such a task: "I distinctly disclaim the advocacy of any special dietetic system as a cure-all, as well as the specific influence of any one food in the general treatment of disease." This is a sensible basis on which to build the superstructure of a work on dietetics.

Without in any way attempting to even outline the scope of the book, it may be said that the entire subject is here, in a form very useful to the practitioner, the foods, beverages, their preparation, their cooking, and the special forms applicable to specific diseases, are dealt with in all necessary fulness, and with a strong underlying stratum of common sense. Questions that are debatable are sure to find conservative, but not indecisive answer, and this, we think, is the kind of recommendation that appeals to physicians in general. We congratulate Dr. Gilman Thompson on having brought his work to so good a fulfilment, and cheerfully recommend the fourth edition of "Practical Dietetics."

CONGENITAL DISLOCATION OF THE HIP. By J. JACKSON CLARK, F.R.C.S. London. Baillière, Tindall & Cox, 1910; pp. 92.

This is a good description of the Lorenz method of reduction of the dislocation with the addition of some practical points in the after treatment by the author. He adds a series of 40 cases with results. We would have expected him to mention the Hoffa method of reduction; and it is agreed now that myorrhesis at the time of reduction is only occasionally essential.

LES APPAREILS PLÂTRÉS. Par DOCTEUR JEAN PRIVAT. Paris, A. Maloine; Toulouse, Edouard Privat, 1910; pp 296

This book consists of an illustrated and exhaustive description of the uses of the plaster of Paris bandage. The plates are very clear and descriptive and give ingenious and valuable suggestions by the writer who has had much experience in its uses. There is no mention made of the use of "scratchers" under corset or spica. Caution must be used in following his advice of correcting deformity by means of pressure through windows in the plaster cast.

W G. T.

THE OPTIC NERVE AND THE ACCESSORY SINUSES OF THE NOSE: A CONTRIBUTION TO THE STUDY OF CANALICULAR NEURITIS AND ATROPHY OF THE OPTIC NERVE OF NASAL ORIGIN. By PROFESSOR A. ONODI, of the University of Budapest, Member of the Hungarian Academy of Sciences; authorized translation by J. Lückhoff, M.D., Edin., Ch. B., of Cape Town. 101 pages. Fifty illustrations. London: Baillière, Tindall & Cox.

Rhinology owes much to Professor Onodi for his anatomical studies of the accessory sinuses of the nose. His atlas is well known, and is a standard work.

In 1906 he published his book on the relations between the optic nerve and the accessory sinuses. But not until the present year has it appeared in an authorized English translation. As explained in the short introduction, the English text is really more than a translation of the German, since it contains matter not found in the latter; moreover the number of illustrations is nearly twice as large.

The present monograph falls into two parts, topographical anatomy and clinical considerations.

In the first part, the author presents the results of his exhaustive study of preparations of the nose and sinuses, in so far as it concerns the sphenoid sinuses and posterior ethmoid cells. He finds wide variations in the relation of the two optic nerves to these cavities; in fact, he enumerates

thirty-eight varieties, dividing these into twelve main groups. He describes each of the thirty-eight with elaborate detail, and provides a generous number of illustrations.

These are reproductions of photographs, and show the parts in their natural size. In most of the dissections the soft parts have been retained to show the optic nerve or nerves and the mucous membranes *in situ*. To only one typographical error do we call attention, viz., Fig. 10. on page 13; here the numbers 2, 5, 6 and 7 are made to point to structures other than those assigned to them below. The illustrations themselves are far better than we are accustomed to see, when we consider them not as diagrams but as photographs.

The author leaves himself open to criticism by his frequent references to his own atlas. We do not forget our tribute to its authority, but cannot see his right to assume that his readers are all fortunate enough to be possessors of it or to have ready access to it.

The second part of the book treats of clinical considerations, and the author gives resumés of his own cases and of those reported by others. Complications of accessory sinus disease are many; and with those affecting the optic nerve are included also those of the orbit in general, and of neighbouring parts including meninges and brain. For our better understanding of the same, the author follows with an account of the anastomoses between the veins of the nose, of the accessory sinuses, of the orbit, and the large venous sinuses.

We can select for special mention a few of the author's more striking conclusions; that the majority of visual disturbances caused by accessory sinus disease have been unilateral; that the optic nerve may be in closer relation to the posterior ethmoid cells than to the sphenoid sinus, so that ethmoiditis as well as sphenoiditis may be a source of visual disturbance; that the sphenoid sinus or posterior ethmoid cell of one side may be in close relation to the optic nerve of the other side, and that, consequently, unilateral disturbance of vision may be due to trouble in the accessory sinuses of the same or the opposite side.

The author cites a comforting list of cases where visual disturbances have been improved or cured by treatment of affected sinus, cases of muscular pareses, retrobulbar neuritis, choked disc, central scotoma and other conditions.

The author is to be congratulated upon this result of his many years of investigation. He is fortunate also in having so good a translator.

The work will appeal to more than rhinologists, dealing as it does with matters of profound importance to the clinician, the ophthalmologist, the neurologist and the brain surgeon.

H. S. M.

Medical News.

THE MONTREAL GENERAL HOSPITAL DENTAL CLINIC.

The report of the dental clinic shows that there have been, between January 26th and June 30th, 1910, 705 new patients; 63 anæsthetics have been administered, and 919 extractions performed. Details of other work are as follows:—Treatments 23; prophylaxis 19; fillings, amalgam, 139; cement, 22; gold 41. porcelain 1; crowns, gold 7; porcelain 12; Richmond 7; bridges 9; dentures, full, 45; partial 19; treatment of compound fracture of maxilla 1.

PEDIATRICS IN MEDICAL COLLEGES.

The importance of pediatrics as a study in our medical schools, and recognition of the surgical diseases of children as a department of study, was among the admirable features of the report on curriculum presented at the meeting of the Association of American Medical Colleges held in Baltimore in March. The report placed the minimum number of hours to be devoted to pediatrics at 150, which is an increase of 50 per cent. over the present requirement of the Association, and yet is a very modest share of the 4,000 hours of the clinical years (the third and fourth years) of the college course. Dr. H. D. Arnold, of Boston, was chairman of the sub-committee on curriculum for the clinical years, and Dr. S. W. Kelley, of Cleveland, member representing pediatrics. The report goes on to say: "The allowance for pediatrics is intended to include instruction in the exanthemata. In many other ways medicine and pediatrics overlap. Useless repetition can only be avoided by a proper understanding between the teachers of these two subjects, and a certain elasticity should be allowed a school for the purpose of assigning time to one subject or to the other according to where the borderland subjects can best be taught. In the same way pediatrics and surgery touch and overlap. In one subject or the other the surgery peculiar to children should receive attention."

AMERICAN PUBLIC HEALTH ASSOCIATION TO MEET IN MILWAUKEE.

The American Public Health Association will hold its 38th annual meeting in Milwaukee, Wisconsin, September 5th to 9th next. Representatives from many of the national organizations working in the interest of the public health have been invited to be present and to discuss methods for the correlation of the work of such organizations, and

for co-operation with a view to increasing efficiency and economy. Sanitary engineering will occupy a conspicuous place on the programme.

This Association is the oldest national sanitary organization in the United States. Its membership extends over the United States, the Dominion of Canada, Mexico, and Cuba. Information concerning it can be obtained by addressing Dr. Wm. C. Woodward, Secretary, Washington, D.C.

Retrospect of Current Literature.

MEDICINE.

UNDER THE CHARGE OF DRS. FINLEY, LAFLEUR, HAMILTON, AND HOWARD.

ANDREW MACPHAIL. "Medicine in Canada." *Brit. Med. Jour.*, May 7, 1910.

The demand for reciprocity in medical degrees between Canada and the other parts of the Empire has not arisen out of a dearth of qualified practitioners in Canada. There are in the various provinces seven medical schools—namely, those in connexion with the University of Toronto, McGill and Laval at Montreal, Queen's at Kingston, Dalhousie at Halifax, the Western University at London, and the University of Manitoba in Winnipeg.

At the close of the session of 1909 there were in attendance at these seven schools 1,821 students, and 321 physicians graduated from them. There were in Toronto 674 students and 91 graduates; in McGill, 332 students and 72 graduates; in Queen's, 257 students and 40 graduates; in Laval, 214 students and 43 graduates; in the Western, 104 students and 25 graduates; in Dalhousie, 121 students and 8 graduates; and in Manitoba, 119 students and 33 graduates. Four of these schools—Toronto, McGill, Manitoba, and Laval—require a course of study extending over a period of five years before a candidate can proceed to a degree; Queen's gives a fifth year which is optional, and none demands less than four years.

Upon the quality of the instruction which may be obtained in Canada, there is also some evidence. The Trustees of the Carnegie Foundation for the Advancement of Teaching and a Committee of the American Medical Association, as the result of a personal investigation conducted in 1909, reported that at least two Canadian schools were entitled to rank in the first class—that is, with Harvard and Johns Hopkins in the United States. These are the schools of McGill and Toronto.

From this it will appear that the fullest measure of reciprocity would do nothing more than admit practitioners to a field which is already well

occupied, in which the native must have a certain advantage on account of local knowledge and intimate association. There are many towns, however, especially in the West, which have sprung into existence within the past few years, others which have doubled in population within the past ten years, and all will more than double in the next five if the present rate of increase is maintained. These are the places in which a well-trained man—that is, one who is competent to diagnose and treat all diseases, and is qualified to perform all ordinary operations in every department of surgery—may surely hope to succeed.

Up to the present moment the attempt to obtain a full measure of reciprocity between Canada and England, or even between the nine provinces themselves, has failed, although it has been persisted in for the last ten years. This is due to the fact that under the British North America Act of 1867, which governs the Confederation of Canada, all matters pertaining to education—elementary, scholastic, and professional—lie within the authority of the various provinces; and Quebec, which is French and Catholic and in possession of a system of education peculiarly adapted to those conditions, has guarded this right with jealous care.

To all requests for reciprocity the General Medical Council of Great Britain made the obvious reply that the provinces of Canada should first agree among themselves in establishing one standard of entrance to the study of medicine and one standard of final qualification. To this Quebec would not agree. That would be to surrender the inalienable right to the control of education.

To meet this difficulty, the Medical Acts Order of 1906 was passed by the Privy Council, under which each province of Canada was constituted a separate State for the purposes of negotiation. Nova Scotia and Prince Edward Island immediately applied. They granted and received a measure of reciprocity under which their qualifications were registrable in Great Britain, and, therefore, in each other; and practitioners registered in England were free to practise in those provinces. Quebec also applied for and offered reciprocity. This was mutually agreed to after provision had been made for adequate preliminary education, and to prevent a graduate who had for cause been refused the Quebec licence from registering in England, and so evading the local regulations. Only three persons from Quebec and about a dozen from Nova Scotia have availed themselves of the privilege; but I cannot find that any licensees from England have signified a desire to be enrolled upon the registers of these provinces.

The attempt to secure one register for all Canada has not been abandoned, as it is felt to be an anomaly that each province should have its

own system, and that well-qualified men should not be free to move from place to place as they desire. In 1902 the Canada Medical Act was introduced in the Dominion Parliament by Dr. T. G. Roddick, Dean of the Medical Faculty of McGill University and member for the St. Antoine Division of Montreal. It aimed at a "one-portal" system for entrance to the medical profession in Canada, but failed to pass on account of the opposition of Quebec.

During the present session an amendment was sought to the effect that, when five or more provinces agreed upon terms of the Act, a plan of registration for those provinces could be established. Quebec objected on the ground that she was being coerced by a threat of isolation; but eventually Quebec was satisfied, mainly by the provisions that the matter of preliminary education shall be left in the hands of the provinces, and that the Dominion Council shall relegate to assessors the supervision of the primary examinations, as they are now held in the various universities. In the original Act it was provided that a properly qualified person who had been engaged for six years in the practice of medicine in any one of the provinces should be entitled to registration without examination. The amendment extends this period to ten years, and allows to the Medical Council of any province the privilege of exacting an examination in final subjects, if it sees fit. The scheme of representation on the Dominion Medical Council, originally based on census returns, will now give two representatives to each of the provinces, and, on account of their greater size, one additional to Ontario and Quebec. The universities, as originally proposed, shall each have one representative, and the Governor-General-in-Council shall appoint three members, each of whom shall reside in a different province. In addition there shall be three members elected by such practitioners in Canada as by the laws of the province wherein they practise are now recognized as forming a particular and distinct school of the practice of medicine, and as such are by the same laws entitled to practise in the province. This clause apparently is intended to meet the views of persons who are known as homeopaths.

Everything was in readiness for the passing of these amendments, which would have consolidated the profession in Canada, when the Council of British Columbia demanded delay, and protested that it was unwilling to proceed before the proposals had been submitted to the entire body of the profession in that province. As the time for presenting bills had already nearly expired, there was no alternative but to postpone the introduction of the amended Act until another year.

This action of British Columbia is not hard to understand. For years the West was the strongest advocate of a single Canadian register, in

opposition to Quebec and, in a less degree, to Ontario. But now the West is becoming the predominant partner, and is disposed to scrutinize closely any arrangement under which the number of practitioners west of Lake Superior will be increased, whether they come from Eastern Canada or from across the seas.

For ten years Dr. Roddick has been indefatigable in the labour of reconciling local interests, and he has not yet abandoned the task. The matter will be brought before representatives of all the Provincial Councils at the meeting of the Canadian Medical Association in Toronto on June 1st, and if the objections of British Columbia can be removed his great work may then be said to be accomplished.
