

Western Canada Medical Journal

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VOL. II.

NOVEMBER, 1908

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Western Canada Medical Journal

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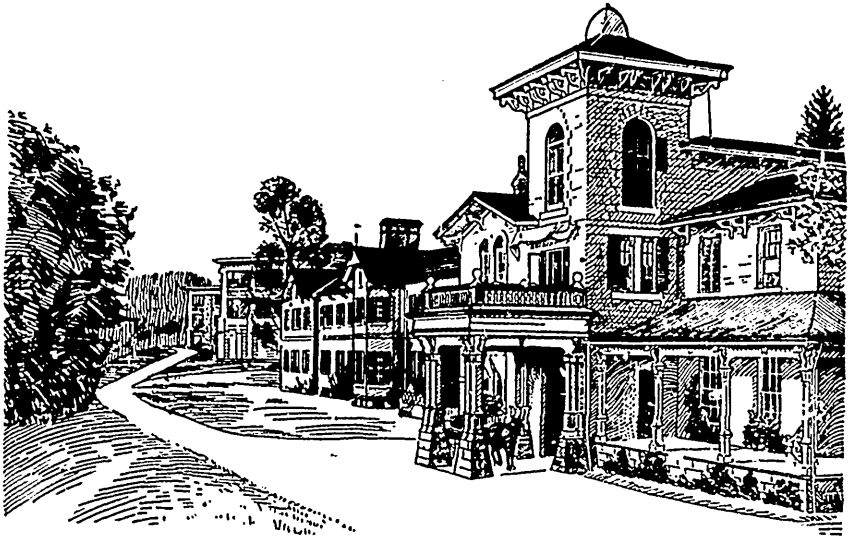
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WESTERN CANADA MEDICAL JOURNAL

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ORIGINAL COMMUNICATIONS.

*BIER'S HYPERAEMIA

BY

J. E. LEHMANN, M.D., M.R.C.S. (Eng.)

Surgeon to the Winnipeg General Hospital.

WINNIPEG, MAN.:

Mr. Chairman and Gentlemen:—

Before I commence the subject of my paper I wish to convey to you the best greetings of the W.C.S. and say that I was instructed by the president to express his appreciation at being asked to send delegates to the Alberta Medical Society meetings. To this I wish to add my own pleasure at being chosen one of these delegates.

In bringing my subject, Bier's Hyperaemia, to your notice, allow me to say that I do not think my subject is an unsuitable one in spite of the fact that the medical profession has of late been overwhelmed by publisher, editor and orator with a profusion of articles and papers on this topic.

The subject is so important from a practical standpoint, so interesting and absorbing from a theoretical and biological outlook and so pregnant with subject for thought that I feel amply justified in bringing it before you.

All of us here present have been taught and thoroughly believed that congestion, inflammation and hyperaemia form

*Read before the Alberta Medical Association.

manifestations of disease which were harmful in themselves and in fact often the essence of disease. Consequently all our efforts had to be directed towards combating this condition. So universally accepted and so apparently well founded has been this dictum that few indeed were the men bold enough to question its standing or even to investigate its truth.

Prof. Bier, one of the boldest and most independent of thinkers in our profession, as is proven by his introduction of Lumbar anaesthesia and a host of other important innovations, was led to doubt the injurious effects of inflammation and congestion and in fact suspect a certain element of curative power in it. He was led to this belief by the comparative infrequency of Pulmonary Tuberculosis in cases of heart disease which cause a pulmonary stasis. The same observation was made in spinal curvature and even in tuberculous caries of spine causing much deformity and consequent interference with circulation. At first his work was ignored, then ridiculed, afterwards vigorously attacked and finally accepted by most of the best surgical thinkers. Now it is heralded as one of the most, if not the most important innovation in the medical world which this generation has seen.

This changed attitude of the profession towards this subject was largely brought about by the many supporters the new idea found at the International Medical Congress held at Lisbon. Many of the best surgeons corroborated the astounding results which treatment along these lines produced. Since then the flood of literature this subject has brought forth has been prodigious. The great bulk of it has been written by ardent supporters of the method. Few, indeed, have been the dissenting voices. The comparatively few failures have mostly been in cases where the methods of Bier were not adhered to.

With your permission I will mention a few theoretical facts and draw some conclusions from them. I think I am safe in asserting that all functions of an organism are performed in the interests of that organism or its species. None are prejudicial. In health these functions are acting under

normal conditions and environment and consequently act in a normal or usual manner.

The body temperature is usually kept at a point under which the intricate chemical and biological changes which are constantly going on are best performed.

Natural immunities develop. The most mysterious condition of growth takes place without a mistake. Waste and repair are balanced. In short the innumerable activities of life are carried on along certain definite lines.

In disease the conditions under which the individual is living are changed, and consequently the life functions must change in order to accommodate themselves to the new condition of affairs. A foreign body may have entered the trachea. the cough set up is a changed mode of respiration, a mode which is best calculated to expel the offending body. In other words, it is the normal way of breathing with a foreign body in the trachea. The same may be said of the tears produced by a foreign body in the eye. Of photophobia caused by a corneal ulcer. Of the pain resulting from a fractured limb causing that limb to be kept quiet and thus aid repair. Of the rigid abdominal muscles in inflammation of the underlying organs. Is adhesive peritonitis not a most efficient way of walling off and localizing a focus of infection?

Who could devise a more effectual way of closing a perforation than is adopted by nature in sending the omentum to the danger spot and gluing itself there? I have been struck time and again by the apparent intelligence of the omentum in finding the place where it is wanted.

Antitoxines are produced when required by the presence of toxins and only that kind which is required. Nature does not use gunshot methods.

How quickly is granulation tissue produced to act as a temporary barrier to infection till the regular barrier, the epidermic, is re-established.

How speedily and completely is collateral circulation set up if a principal blood channel is blocked.

Examples like these could be multiplied indefinitely. Those given will suffice to remind us that what we call disease is nothing but physiological adaptation to unusual

condition. While health is physiological adaptation to unusual condition. If the adaptability of the individual is not sufficient to meet the existing conditions then the individual must die.

The inflammation is a life manifestation of the organism in which it takes place. If we admit, as we have to admit, that the functions of life are wonderfully efficient in preserving the individual under normal as well as abnormal conditions, is it not peculiar that inflammation should be the only function which has a deleterious effect on the individual producing it. Is it reasonable to think that a condition so often produced in every life as it is should be the only suicidal process of which we know while all others are so evidently and efficiently directed to the preservation of the individual? Is it not probable that a species which shows suicidal tendencies in its vital functions would soon be extinct in this continued strife for existence and survival only of the fittest. Do not the remains of extinct species prove this. Is it not probable that a process so universally found in all higher forms of life and so often exhibited in the existence of each individual, as is inflammation, must be in a high degree for the best interests of the individual. Is it not probable that inflammation is nature's way of dealing with bacterial invasion. By a process of reasoning I think we are forced to admit this.

Now let us see if practical methods do not force us to the same conclusion. If we accept medical literature, and we have nothing more reliable to guide us onward, we learn that practical experience amply supports the conclusions arrived at.

Long lists of cases and histories are published by the best men in surgery reporting cases of large joints acutely septic, filled with pus and producing all the systemic poisoning that one is accustomed to see under such conditions, completely recover in two weeks with perfect function of the joint.

Large carbuncles frequently heal in ten days.

The much-dreaded Y-shaped plegmon of the tendon sheaths of the hand lose their sinister aspect and recover with intact tendons and perfect function in a remarkably short time.

Reports like these could be multiplied indefinitely. They are not the exception, but the rule. They are not published by a few enthusiasts but by many of the leading surgeons of Europe and America. True, there are a few dissenting voices, chief among them Lexer, but they are few indeed. In nearly every instance where no good results were obtained, the technique was clearly at fault and certainly not that of Prof. Bier.

As far as my personal experience goes, in the wards of St. Boniface Hospital and in the Winnipeg General, as well as in my private practice, I can thoroughly support the good results achieved. I have, time and again, seen a temperature of 104 or 105 drop to normal and remain there, within 24 hours of the production of hyperaemia. Often have I seen severe pain, with an associated septic condition of the extremities, disappear, not to return, almost as promptly as if a hypo. of morphia had been administered.

I have seen tubercular joints recover with a promptness which it has not been my good fortune to see under other modes of treatment. I have seen many sloughing septic conditions take on an improved appearance from the day they were subjected to hyperaemic treatment. In short, I have seen so many excellent results and not a single injurious symptom follow the introduction of hyperaemia according to Bier, that I must confess myself, up to the present at all events, an ardent supporter of this form of treatment.

I could report to you a fair number of histories of my own, but I think for a paper like this, case reports are tiresome and unconvincing. They reflect but the views of the man who writes them, and do not appeal to the busy, practical man. But enough of generalities; let us get to the practical side.

Bier, in his publications, describes three varieties of hyperaemia—active and passive, or, in other words, arterial and venous, and a combination of the two or a mixed form. The venous and mixed varieties are the most important from a surgical standpoint and will be taken up first. They are the forms which are most efficient in the treatment of conditions brought about by bacterial invasion. Active hyper-

aemia, on the other hand, in a general way is used where absorption is to be stimulated as well as in certain non-infectious diseases.

Venous hyperaemia is most effectually produced by retarding the venous return, the mixed by a method of suction, and the active, on the other hand, by heat, more particularly by hot air. A host of other procedures will also produce it; for instance, blisters, counter irritants, massage, poultices, electricity, etc. It follows the removal of an Esmarch's bandage and, strange as it may seem at first sight, the ice bag.

The passive form is most effectually produced by applying a constricting band well above the seat of infection, sufficiently tight to materially interfere with venous return, but on no account tight enough to interfere with arterial flow. In other words, the pulse on the peripheral side of the constriction must not be materially reduced in volume. The limb must take on a deep purple color. This color shows that venous return is markedly impeded. The band must not produce pain, either at the site of application, or peripherally to it, and, lastly, the limb must remain warm. The constriction is kept up for 18, 20 or even 22 hours out of 24. By this time, if the band has been correctly applied, a very marked oedema and swelling is produced. As soon as the constriction is removed, the limb is elevated so as to get gravity to aid in the reduction of the swelling. After two to six hours of elevation, as the case may be, the band is re-applied, although there still remains a considerable oedema.

In order to avoid skin necrosis under the band, its position is changed every six to eight hours. Some patients like to have a thin fabric between skin and band. It does no harm.

These directions may seem easy to carry out, but believe me, they are not. To get the band just right requires an infinite amount of care and supervision and experimenting. This difficulty explains the vast majority of the poor results which some surgeons get. If it is applied too tightly, arterial flow as well as venous return is decreased, and an anaemia instead of a hyperaemia results—the very opposite condition to what we desire. If, on the other hand, it is too slack, no

result at all is produced. A good plan is to be largely guided by the patient. If the ordinary person complains of pain, he actually feels it, and if he does, one thing is certain, and that is that the constriction is not properly applied. If, on the other hand, no hyperaemia or swelling is produced, the band is too slack. I may say, the beginner usually has it too tight. Experience alone will teach the exact tension required to produce results. With close attention this is soon learned.

The internes always apply it for me in the hospitals, and I must say they soon exhibit considerable skill in the application. Just as soon as they have mastered the difficulties, the good results appear and all the trouble vanishes. Each band is under absolute supervision of one interne and he alone is responsible; no one else is allowed to touch it. If anything goes wrong, the nurse must notify him and he must come to change it. The results the different internes get vary considerably. Perhaps the personal equation is greater here than in most of their other work. Collectively, the results are continually improving in the same ratio as our (I mean my own, as well as the internes') skill is increasing.

I use the method in every sort of infection. If pus is present, I incise sufficiently freely to allow the pus to escape easily. I do not drain. The dressings must be very loosely applied so as not to interfere with the induced swelling. I avoid bandages as much as possible and prefer to pin a towel around the dressings to keep them in place.

Exactly the same treatment is used for infected joints. If pus is suspected in the joint cavity, the diagnosis is made definite by the aspirating needle. If pus is found, the joint is incised, but only sufficiently to allow the pus to escape. Then the band is applied as usual. The joint is not immobilized, but, on the contrary, passive movements are commenced almost at once. This is possible because the excessive painfulness of the joint is very speedily relieved by the hyperaemia. Here again I must remind you that the speedy disappearance of pain is a proof of the correct application just as much as the continuance of the pain is a proof of a faulty technique. Perfect joints are now as much the rule as they were previously the exception.

The constriction is best produced by a very light Es-march bandage. I usually employ a perforated one. In the application, I cover about three-quarters of the previous tour with each succeeding one, so that any one point on the skin has four plies of the constricting bandage covering it. In this way, a good even pressure is desired, a thick handkerchief may be placed under the bandage. A tourniquet it not desirable, the pressure is too much concentrated.

Unfortunately for the method, the hip-joint affection is not amenable to this treatment, and shoulder joints only to a limited extent, the constricting band not finding sufficient space for its proper application.

For infection of the trunk as well as for sinuses and furuncles, etc., of the extremities, suction apparatus are used. They give almost equally good results. I have here a few types which Stevens & Sons, of Winnipeg, were kind enough to lend me for the purpose of this paper. I may say in passing, they carry a very complete stock of all the varieties and shapes. The method of application is very simple, and does not require nearly the same exactness, or more correctly speaking, expertness of the constriction method. A shape is chosen which will adapt itself accurately and easily to the part and has an aperture large enough to reach well beyond the area of inflammation. The part is well cleansed, and if pus is present, the skin is covered with sterile vaseline before incising. Then the sterile cup is applied with enough suction to keep it firmly in place. After five minutes, it is removed for one to three minutes, and re-applied as before. The sitting continues for forty-five minutes to sixty minutes. At the end of this time there should be a well marked oedema. One sitting a day is sufficient; after two or three days, every other day, and so on till the condition is cured. No drains are used.

This is a somewhat different apparatus. It may be used in infections of the hand, instead of the band. It has another use, and that is to limber up, etc., joints of the fingers and wrist. The hand is inserted, the sleeve tightly bandaged around the arm and suction applied gently at first to have the anaesthetic effect of the hyperaemia as well as the in-

creased mobility which it produces, then more vigorously so as to forcibly drive the hand against the bottom and thus gently but firmly break down adhesions. Very little pain, if any, is felt. Without this apparatus an anaesthetic would be required. My personal experience with this apparatus is limited, but a great number of recorded cases seem to show that the results are good. Somewhat different applications of the same principle are largely used in orthopaedic work with apparently excellent results.

For tubercular joints, the constriction method is applied somewhat differently. Here the constriction band is much tighter, but left on for only about an hour. The object is to produce a very dark purple cyanosis, with here and there a red spot. A small amount of oedema is aimed at. The limb must not become cold under the constriction. No fixation is used. All the active movements the patient desires are allowed him. Indeed, passive movements are commenced almost from the first. Great gentleness is demanded to begin with. If sinuses are present, the suction apparatus is applied as well as the band.

Sluggish, granulating wounds regain their normal healing power in a remarkable manner after being subjected to hyperaemia, either passive or mixed. I have noticed this in a considerable number of cases. Especially apparent is this in slow healing of an appendicular abscess.

Gonorrhoeal rheumatism usually yields very readily to this form of treatment. The exquisitely painful joints one so often sees become painless as quickly as if morphia had been given. In these cases the application of the band is even more difficult than in ordinary septic cases because the whole limb is so tender. There often is a condition resembling a neuritis. Mastitis yields readily to the influence of hyperaemia. If pus, produced by suction, is present, only small incisions are necessary. I have seen splendid results in old sinuses left from an acute septic condition. We all have had our trouble with them, but suction has materially reduced mine. Old appendicular sinuses which had existed for several years have readily healed under this treatment in several cases that have come under my observation.

Suction hyperaemia has been very much lauded by several aurists for treatment of otitis media, both the purulent and catarrhal variety. Personally, I cannot speak from experience; all my cases have come under the head of general surgery.

There is an important point I wish to mention here. Not infrequently an abscess may develop in the part subjected to hyperaemia just the same as there could easily be a collection of pus with other treatment. The important point is that the oedema and swelling is apt to obscure the symptoms and cause them to be overlooked. A safe plan is to keep this possibility in mind. If pain should re-appear after it has been absent for some time, this always suggests a new pocket of pus developing and one should look for it. It has not particular significance but is treated just as are membranes.

Hyperaemia has been applied for a great number of other conditions. I think those mentioned will be sufficient to indicate its extensive field of usefulness. A great advantage is the almost entire absence of apparatus (I am speaking of the passive form) which so favorably distinguishes it from so many other forms of treatment. It is alike useful and easy of application in the largest hospital and the smallest shack of the homesteader.

I am aware that the method has not by any means reached its final status. Some of the claims made for it at present may have to be modified. Many changes may be made before it has found its level, but of one thing I am satisfied, and that is, the principle upon which it is based is sound. It teaches us once more that in the treatment of disease we must follow Nature's ways, only helping her onward in her own path, never attempting to divert her to new ones which we, in our small wisdom, deem shorter or more efficient.

My paper has exceeded the length which I had intended. I will not touch upon many points, notably active hyperaemia, which I have no doubt will be fully dealt with in the discussions. I know the paper is incomplete and fragmentary. Many points of importance have not been touched, and many others but lightly mentioned. In a paper dealing with so extensive a subject, it could not be otherwise. My object has been to grasp a few salient points in the hope that they might be of interest to you. If I have been successful in this, my aim has been accomplished.

TYPHOID FEVER

BY

D. G. REVELL, B.A., M.B.

Provincial Bacteriologist.

EDMONTON, ALTA.

We all wish to be wealthy, and Emerson tells us that "the first wealth is health." Few people live up to this principle, however, but are governed more by considerations of possession of dollars than of "a sound mind in a sound body." Just a word then on the side of the cost of typhoid is of interest, and the following figures are notable, because they are exact. In Pittsburg, in the year ending June 30th, 1907, a series of cases was studied to ascertain the money-cost. In the 150 families, containing 1,000 individuals, there were 194 cases, including 87 wage-earners, who lost 964 weeks worth \$11,000 in wages; wage-earning attendants lost 182 weeks worth \$1,000 in wages. 53 of the cases were treated in hospital, costing \$2,700 in hospital bills. \$8,200 was paid for doctors, nurses and medicine, for the cases treated at home. There were 11 deaths, a mortality of 5.7%. Six funerals cost \$1,000.

The total cost of the 194 cases was \$24,400 made up of \$12,500 loss of wages and \$11,900 for hospitals, doctors, nurses, medicines and funeral bills. These figures give an average cost of \$125 per case, or of \$2,200 per death.

I am not sure that the \$11,900 for doctors, nurses, medicine and hospital bills should be reckoned as loss, yet economically it is loss. Besides, no account is here taken of the value of the lives lost nor of the money-value of the impairment of health and shortening of life of those who recovered. I think the actual money-cost of typhoid per death from it in Alberta may be fairly correctly estimated at over \$2,000. Last year 88 deaths were reported from typhoid in this Province; 91 were caused by all other contagious diseases. Assuming a mortality of 8% for typhoid, this gives 1,100 cases

^oRead before the Alberta Medical Association.

in the year, which at \$125 cost for each makes \$137,500 expenses. Reckoning the value of each life lost at \$5,000, this disease caused a total loss of \$577,500 in Alberta in 1907.

I shall here discuss some points regarding the etiology, diagnosis, epidemiology and prophylaxis, especially from the standpoint of the public hygienist.

Etiology. This, in a general way, as in case of any infectious and contagious disease, involves three requisites, viz.:

1. The germ which causes the disease.
2. The channel or route of infection from patient to new victim.
3. Susceptibility of the new host.

In other words we may say that to produce a crop of typhoid, there are necessary: 1. The seed. 2. The sower. 3. The soil. A great deal of interest attaches to the sower (or typhoid routes).

The essential cause of typhoid fever is the bacillus typhosus. Nothing else will produce typhoid fever. This germ is a minute plant, about three times as long as it is thick. So small is it that from 6,000 to 12,000 placed end to end would only make one inch in length. Much is known about this organism, but a great deal remains to be learned about it both within the human body and outside it. One thing we do know is that its habitat (or place of natural existence) is within the human body, and that every case of typhoid comes more or less directly from a pre-existing case. No other animal is subject to the disease and the germ does not thrive ordinarily outside the human body. "Getting infected human faeces in the mouth" is the not very elegant yet explicit way of stating nearly the whole truth about typhoid infection.

The better we understand the habits and properties of the causative agent of any disease, the more intelligently can we deal with it, and thus be the more successful in overcoming it. Let us, therefore, next consider some facts as to the habitat and conditions affecting the typhoid bacillus.

Viability. How long do typhoid germs survive under various circumstances? I shall take up in turn the most important places where the germs occur.

- I. Longevity of Typhoid in Water.

In a general way the following figures are true:

30% of the typhoid germs survive one week in ordinary water.

10% survive two weeks.

3% survive three weeks.

1% survive four to five weeks.

In other words, about $\frac{2}{3}$ of the survivors die each successive week, or $\frac{1}{3}$ survive. It is not known how long the few remaining ones may live. Typhoid will not survive in sewage polluted water as long as in pure water, because there are so many hostile organisms in the former. Hence water infected by urine remains infected much longer than when the infection is from bowel-discharges, as the latter contain other kinds of bacteria while typhoid urine usually contains a pure culture.

The resistant few, which remain after a month, are the great menace to public water supplies. We do not know whether they are more infective (that is, more able to get past the natural defensive powers of the body (or not, but it is likely they do. How important this resistant 1% (which may survive six weeks in water) really is, readily appears from figures. A single typhoid stool may contain 1,000,000,000 (one billion) germs, 1% of which is 10,000,000 (ten million). These are selected germs and just how long they will survive, nobody knows.

Natural removal of typhoid from water depends on several agencies: 1. As only 1% survive six weeks in water, time is a great factor in the purification of polluted water. 2. Sedimentation, (or settling) carries a great many to the bottom wherever the water is still enough to allow this. 3. The natural water bacteria are strong competitors of the typhoid bacteria, and their antagonistic effect on the latter is an important factor in the removal of these by natural agencies. 4. Protozoans and water plants also aid materially in removing them. The natural purification of water is, therefore, a matter of time much more than of distance. The vital question is not, "How far has this water come from sources of possible infection?" but "How long has it been in coming?" With the fuller, more recent knowledge of water bacteriology,

the old dictum that "Running water purifies itself," has been revised and corrected to read "Standing water purifies itself!"

It may also be added that the appearance of the water is improved much more quickly than the real condition is. The apparent purification is always very much greater than the real, and good-looking water may really be extremely dangerous.

II. In Milk the typhoid bacillus finds one of its most efficient agencies by which it may reach a number of people and produce an epidemic, or at least an outbreak (the occurrence of a limited number of cases together).

The typhoid bacteria multiply rapidly in sweet milk at room temperature (58 to 70 degrees). Cold, of course, checks or prevents the growth.

The dangerous character of milk as a typhoid-spreader depends on three circumstances, viz.: first, its great liability to exposure to infection; second, its being a most excellent culture medium or food in which the germs can rapidly grow and multiply; and third, its being used raw for food or drink. It is most liable to infection in three ways:

1. From water used either to dilute the milk (which I believe is rare outside of large cities) or to rinse out the milk cans or other milk utensils after they are washed.

2. From dirty hands of a dairy-employee who is a "typhoid-carrier" or is convalescent from a mild attack, or is a so-called "walking case."

3. By flies, which are so prone to "seek their solace and find their fate" in the milk or cream pitcher, seeding the contents with various kinds of bacteria, including quite possibly those of typhoid.

Of these three ways in which milk becomes infected, the second is by far the most prolific and dangerous. When it occurs, the health of all who use the milk from that dairy is endangered.

III. Ice is not a very great menace as a typhoid-container. In the first place, the bacteria of all kinds, as well as suspended solids and even parts of the dissolved solids in the water, are excluded during the freezing of the water. They are literally "frozen out." As the water solidifies into ice-

crystals, the impurities are not enclosed in the ice but are left in the unfrozen water. Ice formed in the ordinary way contains usually only 1% as many bacteria as does the underlying water. This removal of bacteria from water by freezing equals purification by the best sand filtration.

In the second place, typhoid bacteria do not survive a low temperature long, but die out rapidly at the freezing point. Only 10% survive one day in ice and only 1% survive two weeks. Stored ice is remarkably free from bacteria of all kinds.

The danger of ice being a source of typhoid, however, lies in the faulty method of handling it by which it is usually, yes, always, more or less contaminated by dirty boots, dirty wagons, dirty clothes and hands, dirty sidewalks, etc. If the butcher handled his meats as the iceman does his ice, we would not use them. Of course, the ice is continually melting and so being washed off by its own water, and it is seldom put into food or drink. Yet people often handle ice and then handle food ready for the table. On the other hand, meat is very seldom eaten without being cooked and thus being sterilized at least over its whole surface.

IV. In Oysters typhoid lives two or three weeks, or longer than they are usually kept before use. The oyster may become infested during the fattening to which it is sometimes subjected by being placed in fresh water. This is usually done at river-mouths in water which is very liable to be sewage-polluted. The germs may be in the oyster's intestine and thus may not be killed by cooking. Other shell-fish are also liable to be carrying agents. Belfast city has furnished a classical example of a "vicious circle" in typhoid fever. The country people near the city would gather and use the clams on the shore of the river or lough into which the city sewage passes. When they had eaten the clams and got typhoid they would then carry the typhoid back to the city people in milk and on vegetables, and the city water supply would be contaminated by the country people living on the drainage area from which the supply was drawn. Probably also some of the city people went out to the country and got their typhoid there.

In general, typhoid fever is a rural, rather than an urban disease, and many of the autumn cases are among returned vacationists just back from the country. It is a curious fact that people who are away from home and drink water which is in regular and constant use, are much more apt to be infected or be ill than are the regular users of the water. These latter seem to acquire a "tolerance" or immunity towards the germs in the water they use daily. Everybody is familiar with the frequency with which strangers in a place are attacked by diarrhoea, almost always rightly laid to "drinking the water."

V. **In Flies.** Germs of various and many kinds occur on the feet and in the intestines of flies. These germs are thus apt to be deposited on any exposed food or object by the fly's feet or in the "fly specks." The typhoid germ will live twenty-three days in the fly's intestine.

It is a familiar and disgusting but true story how the flies answer the call to dinner and joyfully hasten to it from their occupation with what remained over from former meals by human beings. Undoubtedly flies play a very large part in spreading typhoid locally in the neighborhood where any case is not properly cared for. In some places where privies are not properly constructed and where flies are allowed uncontrolled opportunities to breed and to ply their trade, they may actually be the main cause of the spread of typhoid, producing what is known as a "fly epidemic" of typhoid. This was once the case in Winnipeg city, where, however, the former unsanitary conditions have been greatly diminished by the highly commendable work of the present efficient medical health officer.

The household fly reaches maturity in ten days from the time the egg is laid. A female fly lays from 100 to 120 eggs. Assuming that one half of each brood of flies are females and that there is opportunity for their eggs to hatch (manure piles, garbage, etc.) every female will produce 120 (first generation) in ten days, 7,200 (2nd generation) in 20 days, 432,000 (3rd generation) in 30 days, and 25,920,000 (4th generation) in 40 days; a total of over twenty-six millions in 40 days from one fly! How very important it is

then for every householder, and especially every stable-keeper, to clean up and keep his premises clean!

VI. **In Soil.** Typhoid bacilli will live two months in moist soil, but do not multiply there. The germs can be washed eighteen inches through fine, closely packed earth. Organic matter or sewage in the soil seems to have little if any influence on the typhoid germs. The soil, dried to form dust, may retain living typhoid germs twenty-five days. Sunlight and freezing have very little effect on typhoid in soil; 122 hours of direct sunlight during 21 days did not kill all the germs.

In many instances it has been proved that typhoid discharges thrown upon the surface of the ground or buried shallow in winter and exposed to freezing and sunlight for months have finally been transferred in spring to water used for domestic purposes and have produced wide-spread epidemics.

VII. "Typhoid-carriers" are persons who continue to harbor and give off typhoid germs after convalescence from the disease is completed and they have returned to regular occupations. The infection in these cases usually remains in the gall-bladder, and gall-stone frequently has typhoid germs for a nucleus. Two recent such cases are of special interest. "Typhoid Mary," discovered in New York, is a cook (or was), who, in the course of six years' service in seven different families infected twenty-six people, with fatal results in one case, yet, she was all the while in good health herself. A more recent instance is that of a woman who infected several boarders 51 years after she had typhoid. Persons associated with typhoid patients may become infected with the typhoid germs and continue to harbor them for years without developing the disease themselves. In this respect the typhoid germ is analogous to that of diphtheria, which may occur in the throats of well people without causing symptoms, yet-readily infecting other people.

Such cases are especially dangerous when they exist among cooks, bakers or dairy-workers, and their occurrence impresses us with the great importance of the "defensive barriers" against typhoid.

The bile is a favorite culture medium for typhoid germs but not to most other kinds. This peculiar property is of use in some methods of isolating typhoid germs. On the other hand, the intestinal canal seems to be very often an unfavorable place for typhoid bacilli. Careful examination at autopsy of fatal cases has, in some instances, shown teeming typhoid germs in the bile, numerous ones in the duodenum, few in the jejunum and none in the ileum and colon. Hence typhoid-carriers may not be typhoid distributors all the time but only occasionally. A milk diet favors the multiplication of the bacilli in the intestine. Commonly the typhoid bacillus rapidly diminishes in number after the stool is passed, but there are a resistant few which may persist a long time. There are no spores but the bacilli resemble endo-spores in their properties of resistance.

Diagnosis of typhoid fever means determining the presence of the typhoid germ as the cause of the patient's symptoms. The data for the diagnosis are the clinical and the laboratory findings. Clinical data: As the clinical signs and symptoms of the disease are only too familiar to you all, I shall merely mention, in order to emphasize, two or three points. The variability of the symptoms makes diagnosis by clinical methods often extremely difficult and it may often be made only at autopsy; I may add, usually not then except in good, teaching hospitals. No sign or symptom is constantly present. Fever may be slight or irregular. Typhoid fever should be considered as a possibility in every doubtful condition with fever. Even the most careful study of the case may fail to make a diagnosis. Relapse and the occurrence of other cases are very suggestive. A common error in diagnosis is to recognize only cases with the classical picture, thus missing the mild and atypical cases which then do not receive proper treatment and are a most fruitful cause of the spread of this disease. I believe we should err on the safe side in making the diagnosis, and, at least tentatively, should favor typhoid in order that the simple method of disinfection may be instituted to safe-guard the public.

Laboratory Data. These include, for practical purposes:

1. Ehrlich's diazo reaction in the urine, and, 2. the Widal

reaction. The first has not much value as it occurs in so many other conditions.

The Widal Reaction. 'Under the influence of toxins formed by the bacillus typhosus there is formed somewhere in the body a substance known as agglutinin which accumulates in the blood plasma and has a peculiar, definite and specific effect on typhoid bacilli in that it causes these, when suspended in liquid, to gather together in clumps. This can be observed not only under the microscope where the individual bacilli are visible, but also in the test-tube where this clumping causes a flocculent precipitate to appear, which is readily evident to the unaided eye. This is a simple and easy test to make as it may be carried out with dead bacilli suspended in water. I believe this test for the Widal reaction should be made by the practitioner in every suspicious case of continued fever just as regularly as he tests for sugar in the urine in diagnosing diabetes mellitus.

The value of the Widal test is great when it is positive and previous typhoid can be excluded or when the absence of the reaction by previous test of the blood is later followed by the occurrence of the reaction. In over 95% of such positives this test means current typhoid fever. It appears usually about the seventh day and may develop as late as the end of convalescence. It persists a variable time ranging from weeks to years.

Epidemiology of Typhoid. By this is meant the study of the source and channels of infection in epidemics. Every case of typhoid should be most carefully studied by a trained man to locate the source and route of infection. When a man suffers or dies with arsenic poison we do not rest content with making the diagnosis. We try to discover when, how and by whom the arsenic got into the man's stomach. If there is typhoid in a man's blood, we must learn when, how and by whose fault it got there. The law does not yet allow us to go so far here as in the arsenic poisoning and punish the "typhoid-poisoner." Yet how much greater a menace is the typhoid-poisoner, who often finds his victims amongst his or her closest friends.

In order to economize space I have condensed into tabular form, the main facts regarding the epidemiology and the prophylaxis of typhoid fever.

Routes of Typhoid Infection and Measures to Guard Them.

In well organized communities, where typhoid is properly dealt with, there are two sets of barriers which the typhoid germ has to pass to get from patient to new victim.

Source of Typhoid Germs	Infected Discharges	Primarily or Directly Infected Objects	Secondarily or Indirectly Infected Objects	Usual Carriers to the Mouth	Destination of the Germ
Typhoid patient	Faeces	Water.....	{ Drink, Fingers, Milk, Food Utensils, Oysters, Vegetables.	Drink	Mouth of new victim.
or	Urine	Patient's skin.....	Hands and Clothing.	Food	
"Typhoid-Carrier."	Saliva	Clothing—Bed clothing, Patient's body clothing	{ Laundry articles and hands.	Fingers	
		Wings of Patient, Nurse, Attendants, Visitors.....	{ Mouth and Food.		The spread of Typhoid has been wittily put in four words: "faeces, fingers, flies and food."
		Flies.....	Food and Milk.		
		Vegetables.....	Other "Rafts" Books, Cards, Anything handled.		
		Utensils used in the sick room.			
Guards: (Sickroom Hygiene.)	Trained nurse, or properly instructed home nurse and attendants.	Guards: (Household Hygiene.) Household cleanliness. Protecting all foods. Disinfection of premises.	Guards: (Personal Hygiene.) Personal cleanliness. Cleanly habits. Clean hands at meals. Good health, good food and fresh air. Pat nothing into your mouth or to your lips, except cooked food or drink. Avoid public drinking cups. Avoid excess of any kind or anything		
	Cleanliness and free use of disinfectants.				
	Exclusion of visitors				

I. Enclosing Barriers; surrounding the patient (the stronghold or fortress of the enemy).

These constitute the offensive tactics in the warfare on typhoid being directed to the destruction of the enemy lodged in known places. The aim is to prevent the escape of even a single enemy into the open. These barriers are threefold as regards the persons responsible for their effective maintenance.

Stronghold Typhoid patient or "Typhoid-Carrier"	Responsible Person		
	Physician and Nurse First Line of Guards	Householder Second Line of Guards	Public Health Authorities Third Line of Guards
Exits Urine Faeces Sputum (Mouth and Nostrils) Discharges)	Isolation of Patient. Disinfection of 1—Urine before voiding (by urotropin) & after being voided. 2 Faeces. 3—Oral and nasal discharges. Kissing rigorously prohibited. 4 — Hands: Nurse's, doctor's, visitor's, patient's. Clothing, washwater, food, remnant, utensils used in sick room. Report case promptly to Board of Health.	General cleanliness, Cocking all food and drink. War on flies (Sick room Privy Manure) Food protected in (Kitchen Dining room Pantry) Disinfection of premises.	Supervise disinfection, disposal of urine, etc. Furnishing aids to diagnosis; Widal test. Urine examined for diazo reaction. Instruction to sick families. . . . Epidemiology to ascertain cause and channels of infection in every case. Sewage disposal. Prevention of pollution of water. Public Health Legislation.
	N.B.—If these measures were efficiently maintained no infection would pass beyond the sick-room and no second case would occur except by "typhoid-carrier."		

2. Excluding Barriers or Defensive Tactics, having reference to the well people and directed to the prevention of the admittance of any of the enemy along the recognized routes of infection.

First, or Outer Set of Defenses—Duty of Public Authorities.	Second, or Middle Set of Defenses—Duty of the Household.	Third, or Inner Set of Defenses—Duty of the Individual.
Watchword: "Sanitation" (Public Hygiene).	Watchword: "Cleanliness" (Household Hygiene).	Watchword: "Defend the mouth!" (Personal Hygiene.)
General Sanitation.	Kitchen Cleanliness.	Personal cleanliness.
Regulation of Privies.	Protection of Food from flies or soiled hands.	Good health.
Disposal of Night-soil, Garbage and Manure—which all breed flies.	Pure Water—Public supply safest. Private well if used must be rightly placed and protected.	Avoidance of excess of work, exercise, food or anything that lowers resistance powers.
Pure Water Supply. Supervise Public Supply	Selection of safe supply of milk, oysters, raw fruit and vegetables	Selection of food and drink.
Inspection of Dairies and Milk Distribution, Garden-truck, Shell-fish and Ice—Source, Storage, Distribution, etc	Screens for windows and doors.	Care in travelling and in visiting sick.
Education of Public Regarding Typhoid.	Protected privy pail, (or pit.)	Anti-typhoid vaccination. This is a preventive measure against typhoid which is made use of only where large numbers are liable to exposure, as in military camps.
Legislation.	Protection and removal of manure.	
	Clean yard.	
	Boiling the water to drink.	
	Sterilization of milk.	
	Hospital care for typhoid cases to avoid "contact."	

The typhoid germ in its travels from patient to victim has to pass through two narrow gateways, viz.: 1. The exits from the patient's body in urine, stools and sputum; and 2. the portal of entry into the new victim's body, namely, the mouth. Intelligent and efficient offensive and defensive measures directed to either of these two places would protect an individual in the midst of innumerable cases.

"Contact" infection is the most frequent way in which typhoid spreads in a household where one member after an-

other comes down with it. Lack of space prevents my giving a description of the various ways in which typhoid spreads by contact, but under this term are included all ways by which other members of the same household or visitors may be infected without the intervention of water, milk, flies, oysters, etc. Probably the majority of second cases of typhoid fever in Alberta are due to contact infection. People do not know how "catching" typhoid really is and consequently do not take precautions against being exposed to infection in this way. There is always a "first case" in any outbreak and in every instance an effort should be made by the medical attendant and the health authorities to discover this case as well as the subsequent ways in which the spreading occurs. Too commonly the well (or the water) is blamed and a chemical and bacterial examination thought of as the only solution to the mystery. For very good reasons the most accurate analysis of the water may be negative even when it was the source of the infection. Water is usually infected only temporarily and all trace of this may disappear before the typhoid develops and is diagnosed. But the question raised should be "Where did the infection come from and how?" not merely, "Is the water to blame?" The latter question may come up in the course of finding an answer to the former and larger one which should always be asked first.

Disinfection. This is killing the germs. There are four ways of doing so and each has its special advantages. 1. Fire or burning; this is a good plan for remnants of the patient's food, for old bedding, old handkerchief or cloths used as such; also for toilet-paper and the bowel-discharges mixed with saw-dust. 2. Dry Heat; a temperature of 300 degrees F. in one hour kills all germs situated on the surface of objects but does not kill those in the interior of articles or bundles. This method is suitable only for articles that are dry and that are not injured by heat, such as metal, glass, earthenware, etc. It is little used outside of bacteriological laboratories, but might be used anywhere, by utilizing the kitchen oven and placing a piece of dry cotton batting beside the object to be sterilized. When the cotton is slightly browned the sterilization is complete. 3. Hot water and

steam; boiling water or live steam in a few minutes will sterilize forks, spoons, plates, food-remnants, linen, underwear, handkerchiefs, bedclothing etc., used by the patient.

4. **Chemical Disinfectants;** for water-closets, chamber vessels, cesspools and generally out of doors, fresh slaked lime (especially in the country), and chloride of lime are the most suitable; one part slaked lime to eight parts water makes a good mixture, known as "milk of lime." Old lime and air-slaked lime may be used for absorbing liquids but are useless for disinfecting purposes as they are simply so much chalk. Carbolic acid and bichloride of mercury are both excellent to use in the sick-room, especially about the patient's body and to wash hands. The bichloride is very poisonous and being colorless and non-odorous it should have potassium permanganate or ordinary laundry bluing added to it to mark it. As it destroys metals it may be used only in earthen, glass or granite-ware vessels.

How important it is to have public sentiment informed and aroused on typhoid fever, is evident from a moment's consideration of the position occupied by smallpox. What a great deal of attention a case of smallpox at once arouses! This is largely because everybody knows that smallpox is extremely contagious—very "catching"—and there is no mystery about it. Yet smallpox at the present day is seldom a serious thing. In 1907 there were sixty cases of smallpox reported in Alberta, with no deaths. In vaccination we have an absolute protective measure against attack by smallpox. Extreme and rigid quarantine measures are enforced against it, often at considerable public and private expense. Since education is much more necessary for typhoid fever, medical men must shape public sentiment to a right attitude towards it, as well as towards all diseases that are infectious and contagious, including tuberculosis, children's diseases and venereal diseases. An enlightened public sentiment will demand the most efficient provisions for combatting these diseases, every one of which is preventable and therefore should be prevented and ultimately eliminated from our best communities—"best" in the proper sense of the word; and indeed the position occupied by these diseases is a very fair test of

the degree of real civilization attained by a people.

It has been said that for every case of typhoid some one ought to be hanged. The recent recognition of a large duty which the medical profession owes the public has changed this to read: "For every case of typhoid some one should be educated!" The explanation of the spread of typhoid fever is expressed in two words, ignorance and neglect. These are reasons but not excuses in these days when knowledge can be so readily disseminated. It is now known that typhoid is a preventable disease but not curable—the popular man who "breaks up typhoid" (usually to swell his bills) to the contrary notwithstanding. And an ounce of prevention in a preventable disease is worth tons of cure if the disease is incurable. I would prefer having the cook wash her hands to being treated by Osler for typhoid.

Space does not allow me to go into details as to the ways in which the education of the general public in regard to disease may be carried on, and I may only enumerate the readiest and most available means for this purpose. These are: health reports, bulletins and circulars; conventions of health officers, boards of health, and others engaged or interested in public health work; statute laws and regulations relating to public health, which should be carefully studied, as their purpose is entirely benevolent; newspaper and magazine articles; systematic instruction in schools; public lectures by health officers and others; addresses before Canadian clubs, Y.M.C.A.'s, church and other organizations; books dealing clearly and in a popular way with disease and hygiene; published proceedings of medical societies; and finally the family physician, who comes closest to the people and whose instruction can be most opportune and highly authoritative.

CLINICAL MEMORANDA

Anuria.

Case I. P. D., aged 2, January 6th. Two brothers had Diphtheria complicated by Scarlitina and two of his sisters Diphtheria. P. D. was therefore immunized January 6th 1000 units Antitoxin (B. & W.)

Patient gave no evidence of being ill until January 17th, when anuria began.

January 19th, was called to see patient and found oedema very marked on scalp and face. Examination disclosed same condition of abdominal walls and extremities. Enquiry elicited the statement that it had existed for some time and the parents had been alarmed more by the anasarca than by the anuria.

Pulse 84, temperature 98.8. Pain in abdomen. Appetite diminished but craves milk and water.

Hot air bath, hot pack tr. Strophanth M. II.

Nephrotomy was advised but parents would not consent. Catheter was passed to exclude possibility of retention of any urine secreted and for examination. Only five drops obtained and this was quite clear.

No change until 22nd, when consent was given for nephrotomy but great delay occurred and operation was not begun until 5 p. m., when he was failing rapidly. Pulse 110-120, temperature 97.8, slight oedema of lungs. Incision through skin was absolutely bloodless. Kidneys round, very firm. Size of small lemon. Hilus reduced to a mere dimple. Incision from pole to pole through capsule. Incursion also on side. Very little hemorrhage from kidney, operation lasted about 15 minutes. Salines repeated, but patient gradually became worse.

10 p.m. Slight Eclampsia Muscle of right arm and face permanently contracted. Chloral Hydrate Grs. III & Veratrim Viride M. II.

12 p. m. Coma supervened and terminated case early on 23rd.

There is no reason for publishing such a case, unless it be as a warning against delay or unless it may be regarded as a case of Nephritis caused by antitoxin. Had salines and hot baths been employed for 24 hours, and Nephrotomy in 30 hours, recovery should have been certain, but treatment was not begun nor nephrotomy permitted (until there was very little hope of success.

Case II. C. L. R., menses 22. June 17th. Patient's brother had diphtheria and when patient was examined, no evidence of illness was found and throat, nose, pulse, etc., were normal. Immunized 1000 units and antitoxin (B. & W.) Patient played as usual, appetite good, but she was slightly restless at night. No change till June 22nd, when temperature was 101, pulse 118—1000 units of antitoxin given.

June 24th. Pulse 150, temperature 101. Appetite slightly diminished. 1000 units antitoxin.

June 25th. Pulse 130, temperature 101. Apathetic.

June 26th. Well as usual.

June 27th. Urine slightly diminished, no Albumen.

June 28th. Urine scanty, 4 oz. in the evening, 1|10% Albumen, hot pack all night until perspiration was very profuse and pulse almost imperceptible from profuse diaphoresis. Salines per ano every half to one hour. Milk and water only food.

June 29th. Passed 3½ oz. 56 grains urea, no Albumen. 10 a. m., pulse 118, oedema of face, milk now interdicted and patient now restricted to sugar and water with a little organe juice to reduce as much as possible ingestion of nitrogen. Hot packs and bath combined and urotropin, gr. I t. i. d. given as an antiseptic for kidneys. It has been claimed by many that urotropin will prevent nephritis developing in cases of scarlitina and it should therefore be in diphtheretic cases. Rochelle Salts given freely and effectively.

June 30th. Pulse 84, flutterings—tension very low. Urinated at 10 a. m., no albumen. Tested by salicyl Sulphuric acid. No oedema, bowels have been moved frequently.

Dejection contained very little foecal matter, but much water. No sample large enough to note specific gravity with large urinometer. 6 p. m., voided 6 oz. urine, but unfortunately was not preserved for examination. Recovery rapid, after the 30th. At no time did the throat or nose indicate diphtheria, but the mother believed there was laryngitis and stated that the infant spat up, what she regarded as membrane, a small piece, 2 m.m. square, but it was perhaps mucus. Cultures negative, although taken with great care.

Dr. Reavley

Rosthern, Sask.

DR. MILROY'S PRESIDENTIAL ADDRESS TO THE
WINNIPEG CLINICAL SOCIETY

Gentlemen:—

The duty imposed upon me of delivering the presidential address on the occasion of the annual meeting of the Winnipeg Clinical Society is a pleasant and agreeable one, as indicating a very gratifying degree of confidence reposed in me by the small band of medical men, who conceived the idea of its formation. I desire to thank you for the honor bestowed on me in making me the presiding officer of your Society, and furthermore to thank you for the co-operation and assistance which I have received from you, not only as a body but as individuals. A few words, therefore, from the man you have honored by this distinction is but part of a time honored courtesy, and expression of appreciation of the honor thus bestowed.

When this Society was organized it was decided that it be a distinctly Clinical Society. A few remarks, therefore, upon the Clinical history of the past will be in order.

More than 60 years ago Samuel Mondon in his quaint work the "Scientific Treasury" wrote as follows: "The term "Clinical" was applied by Ancient Historians to one who received baptism on his death bed. Clinical means anything appertaining to a bed, thus a Clinical lecture is a discourse from notes taken at the bed-side by a physician, with a view of practical instruction in the healing art. Thus he proceeds—"Clinical medicine is the practice of medicine on patients in hospitals or in beds." The term "Clinical" in our day has a wider significance. It is not only applied to the practice of medicine in hospitals or in beds, but it signifies the examination of patients in our offices, in their homes, in dispensaries, or wherever they may present themselves for the investigation of abnormal conditions with a view to successful treatment.

As this is the first anniversary, permit me to retrospect the first year of our existence. Previous to the organization,

and when the suggestion was under discussion, I had some mis-givings and doubts as to our ability to organize and successfully maintain a purely Clinical Society. Many of you may ask, "why these doubts? Why should I assume the role of a pessimist?" My answer is that during my 24 years of residence in this Province as a medical practitioner, I have witnessed the successful organization of several medical societies, but only one successfully kept alive, I refer to our sister Society, "The Winnipeg Medico-Chirurgical." In view of these facts you will understand my doubts regarding our future and ultimate success. These mis-givings are dead—All doubts have vanished—Fortune has favored us and to-day we are a strong, active, virile organization, whose influence is felt in the medical life of this Province and I think in the medical life of Western Canada.

Without being boastful, permit me for a moment to dwell on some of the causes which have contributed to our success. This society is composed to a large extent of young men who are enthusiastic and full of the energy of youth—men who are imbued with the scientific spirit, men who are thirsting for medical knowledge and eager to use the knowledge thus acquired, for the benefit of their fellow-beings. In attributing all these qualities to the members of the Clinical Society, I may appear fulsome and eulogistic, but I am convinced that the absence of such qualities accounts for the non-success of Medical Societies above spoken of, and their presence is the force which animates and stimulates this Society.

The enthusiasm which characterized the Clinical Society is apparent in the constant and regular attendance of its members and the animated discussions which occur at our fortnightly meetings. Enthusiasm is our mainspring, and as Emerson has well put it, "Every great and commanding movement in the annals of the world is the triumph of enthusiasm." Therefore we advance onward. Our work during the past year has not been in vain. The results have been material and I hope lasting.

A few short months ago I had the privilege, as the presiding officer of this Society, of suggesting and urging the formation of the Western Canada Medical Association.

Through the enthusiasm and energy of our members, who unanimously approved of the project, the subject of the formation of this Association has been brought to the attention of the profession of the Western Provinces and favorably received by their Societies. Already it has borne fruit, and to-day in this Province we have the Manitoba Medical Association, the result of your enthusiastic work in co-operation with the zeal and wisdom of our sister Society. It is thus that we have laid deep and fast our Clinical Society and the foundation of enthusiasm, unity and co-operation. May the structure reared on this foundation be the home of all influence which will be exerted for the welfare of the medical profession and for the good of humanity.

A wise Philosopher of the past has said "the greatest loss of time is delay and expectations which depend upon the future." The Manitoba Medical Association was formed as a means to an end—that end, The Western Canada Medical Association. Do not delay, emulate your success of the past year, exert your influence towards the union and co-operation of the profession in the West. Before another annual meeting we will witness the formation of the Western Canada Medical Association. I have designedly not touched on technical subjects, although the field is broad and inviting. I might compare the Clinical methods of 25 years ago with those of to-day.....

I might dilate on the progress of medicine in recent years. I might further dilate on the strength and weakness of our profession, but for fear that my address might become wearisome, and bearing closely in mind the advice of the great American humorist John Billings when speaking about speeches and speech-making in general, "If a man cannot strike, ile-in fifteen minutes he has either a bad gimlet or is boring in the wrong place."

I shall, therefore, conclude in the words of Lord Clarendon, "Friendship hath the skill and observation of the best physician, the diligence and viligance of the best nurse, and the tenderness and patience of the best mother"

Thus may our friendship and fraternity ever continue.

PROCEEDINGS OF THE WINNIPEG
CLINICAL SOCIETY

The Winnipeg Clinical Society met Tuesday, October 16th, with the President, Dr. Milroy, in the Chair. The minutes of the previous meeting were read by the Secretary, Dr. Munroe, and adopted.

Dr. D. S. Mackay reported a case of strangulated hernia, but history is as follows:—On the morning of July 8th, Dr. Jonkers was called to see an infant twenty days old who had a large lump in the right inguinal region. On arriving there he found the child suffering from a strangulated hernia (inguinal). The child was in a state of partial collapse. He tried to replace the bowel by taxis and in so doing he used chloroform. This not being successful, he asked my opinion and told me that the child's parents were willing for it to go to a hospital. We had the infant admitted along with its mother to St. Boniface Hospital at 11 a.m. At noon I operated and found that a large loop of the bowel had become strangulated. The strangulated organ was greatly distended, very black, and was coated in places with an lymphatic exudate. The bowels very thin, almost like tissue paper. It was with some difficulty I was able to introduce a director. After doing so and relieving the strangulation, hot cloths wrung out with a saline solution were applied. The color of the bowel improved and it was then replaced. The rectus and conjoin tendon was sutured to Poupart's Ligament. The wound was then closed. Time of operation, 14 minutes. The child recovered quickly and was put to the breast four hours after. From that on the recovery was uninterrupted. Points in the case to be noted—The early age of the infant and the absence of any visible cause.

Symptoms present in this case were wanting. There was no vomiting, and the condition had not existed long enough to produce constipation. The only positive symptom being the state of collapse. Another point to be noted would be the danger of employing taxis.

Dr. Korke cited a case of a child with congenital hernia on which the surgeons objected to operate, claiming it impossible to keep the wound from becoming septic through the urine. This case was not strangulated.

Dr. Mackay—In children, if, after operating, you close the peritoneal sac without leaving a dimple, the canal will take care of itself, but in adults it is the canal which needs strengthening. He recommended the rubber pneumatic truss on children. He didn't think the sepsis from urine so great as many thought, provided the operation was quickly performed, a small dressing applied, and absorbent gauze used, and then a layer of oiled silk or gutta percha tissue with an opening over the penis, applied, and the napkins changed promptly. He thought sepsis was due generally to the operator.

Dr. W. D. Gauthier mentioned a case of appendectomy performed on a child 30 days old, in Montreal, which was cited as being the youngest on record.

Dr. Sharpe—I have had great success in using adhesive. Take a fifty-cent piece, make a pad of absorbent cotton on one side, and stick that to the Zedo adhesive, make a cross-shape, get the umbilicus in well, and put the cross on. This will remain on two or three weeks, even when child is bathed or put right into the water, and when it frees itself by age, change direction of the cross and you never have an irritated surface.

Dr. Jones asked Dr. Mackay if he had any objection to using collodion dressing in such a case, and Dr. Mackay replied that he had. The use of collodion or celluloid or silverfoil or other foil dressings caused a sodden condition of the surrounding tissues through not allowing the skin to functuate in the usual way. Sterile gauze gave better results.

In support of Dr. Mackay, Dr. Kenny recited a case where a child of five had been dressed with silver foil, after operation, and the temperature went to 104 in a couple of days, and on removing the foil, a pure culture of streptococcus was obtained from the wound.

Dr. Jones said that Barker, of University College, used to do several abdominal operations without suturing the skin, simply applying collodion dressing with gauze, and it seemed satisfactory.

Dr. Dorman recommended leaving hernia, with the exception of strangulation, until the child is old enough to control passing its urine, and they often get well with palliative treatment. In support, he cited a case of a child of 4½ years who recovered without operation.

Dr. Mackay said he thought a large percentage of congenital cases of hernia in children made good recoveries under palliative treatment.

Dr. Hughes showed a case of specific urethritis with a few complications, (a) a skin rash which was not noticeable; (b) inflammation of Cowper's glands; (c) large abscess in the perineum extending to the ischial tuberosity; (d) abscess of the prostate on the left side. When he first saw the patient on Saturday he had a large brawny mass, a high temperature and showed every sign of general poisoning. The prostate was one bag of pus, the posterior urethra was in bad condition because of the amount of blood that came away with the urine. The history given was that on first feeling bad the patient had treated himself with an injection and had taken another recommended by a friend. The injection was used within the first 24 hours. He came to Dr. Hughes' notice 12 or 14 days afterwards. Dr. Hughes diagnosed the case as acute posterior urethritis with folliculitis—an abscess formed on Cowper's gland also became involved. Where the prostate is involved one often gets arthritic symptoms. The most common rashes are the erythema, he had seen three pustular cases in Winnipeg. Should suppose the pustular cases were due to metastasis as gonococcus had been found in the pus.

Dr. Dorman—Erythema, due to copaiba is very prevalent in cases of sailors, who take large doses of this drug which they obtain on shore.

Dr. Hughes—I scarcely ever give copaiba, or sandalwood. I don't think the injections have any effect in producing posterior urethritis. In at least 40% of cases, the posterior urethra is affected. Up to the present, the gonococcus serum is used for the complications, but I would be inclined to try it right at the beginning.

Dr. Dorman—My experience is that I can get a man well just as soon without an injection of any kind.

Dr. Hughes—I have come to the opinion that it doesn't make much difference whether you start with injections, or without, but I think you finally have, after three weeks or so, to use them. It is best to treat them as an ordinary case of inflammation, ensure rest of the parts, and make everything as easy as you can in every way.

Dr. Richardson had a commercial traveller with gonorrhoeal infection and rash resembling urticarial rash. He had been treating the gonorrhoea himself and wished only treatment for the rash. He had been using injections, but had taken no internal remedies. This rash was not due to any drug, as he had been using a very injection

of 3 gr. per manginate to a pint of water. He came to me later with bloody stools and diarrhoea but this was apparently due only to an indiscretion in diet.

Dr. Moody—My experience is very variable. Individual susceptibility to gonorrhoea is of a very great importance.

Dr. Young favored the prohibition of tobacco during attacks of gonorrhoea, but Dr. Kenny did not think it had deteriorious effects.

Dr. Young, in support of abstinence from tobacco, said that in one or two cases, the first return of the discharge was after using tobacco, and as there was no other indiscretion, it gave him grounds for his remarks, as well as the dictum of Prof. Peters.

Dr. Munroe had seen acute gonorrhoea treated by placing the patient in bed, milk diet, no medicine until acute discharge abated, which it does in the course of two or three weeks, and then an astringent injection was used. Good results were obtained.

Dr. Mackay considered abortive methods a failure though in many cases they reported success in aborting the disease. He had tried it in four or five cases here, and found that all cases with pus were aborted, but where there was pus, no abortion could be secured.

Dr. Hunter had noticed a case of a Galician in St. Boniface Hospital who had a temperature of 102 or 103 and had one knee very much swollen, also the ankle. Patient was sweating considerably. He gave him 20 grains of soda salicylate every two hours for two days with no effect. Gonorrhoeal infection was then considered, and his reason for suspecting it was that it didn't yield to the soda salicylate. History proved this diagnosis correct. The whole thigh from the knee to the hip got about twice the size of the other, without pus, developing a brawny sort of infiltration. Patient is still in hospital with practically stiff knee joint.

Dr. Galloway said that sometimes in operating, where the trouble is in the joint, pure culture of Neisser's Bacillus was obtained.

Dr. Dorman gave history of patient coming to him with whitish discharge after urinating, and this was found to be a phosphates.

Dr. Hart had a case of urethritis with several joint infections and used serum up to $\frac{1}{2}$ c.c. but without gratifying results. In this case the urethritis had almost disappeared except after the injections when it would be worse for a day or two.

Dr. Hunter said he thought the profession should let the young fellows with whom they come in contact know a little more than they do, as to the far-reaching results of gonorrhoea, in view of the cases of utter misery and invalidism which are daily seen in married women as a result of this disease.

Dr. Hughes—I believe all cases of gonorrhoea or syphilis should be notified. I mentioned the fact that I thought they should add those on the list, and the Chairman of the Census Section of the American Public Health said if that was added to the list we should have no public health laws at all, that the State wouldn't stand for it. So that shows the feeling of the profession.

Dr. Hunter gave a demonstration with the aid of stomach contents obtained one hour after a test breakfast given a patient suffering from hyperacidity, showing how to test for the acid quantitatively and qualitatively.

Dr. Galloway presented two Tarso Scaphoid bones he had removed for inveterate Flat Foot.

The Winnieog Clinical Society, October 20th, President, Dr. Milroy, in the Chair. The minutes of the previous meeting were read and adopted.

Nomination of officers for the ensuing year was then held.

Dr. Hughes presented a case of a woman, 64 years, who had suffered from warty condition of skin situated over the external angular process resembling ringworm 12 years ago. Lately a small wart appeared in the centre—itchy at first, not now. He diagnosed it as Rodent Ulcer and suggested X-ray treatment. Dr. Nichols thought it should be excised.

Dr. Bond, in speaking of the X-ray treatment, said there is a difference in the length of time required to treat such cases. The X-ray treatment seems very satisfactory. In the large majority cases are cured permanently. In about two out of ten cases one authority reports that only improvements and not cure is the result, while another authority gives cases of fifteen and twelve years' standing as being cured. The cases involving the mucous cutaneous tissues are more difficult to treat.

Dr. Hughes suggested that it might be considered a case of Keratosis Senilis especially in the absence of destruction that one would expect a syphilitic. The one, if it is placed under X-ray, will develop into a running sore, while the other would be cured.

Dr. Bond—The pearly grains I refer to are those all around about the edge. There is some ulceration in this case, and it can be seen under the glass.

Treatment is generally made two or three times a week, according to the condition, and from thirty to eighty sittings. My experience is that forty or fifty treatments cure the majority of cases. There is one method, of producing a severe burn and letting the patient run along and the condition will likely improve, but it is more usual to treat more lightly and more often. If the bone is involved, it is much more difficult to treat a Rodent Ulcer, although cases of this kind have been cured.

Dr. Hughes' diagnosis was Rodent Ulcer.

Dr. Hughes presented another case, a man, 52 years. Last June, while on a homestead, he had attack of pain on right side, starting at the bladder and working upwards, accompanied by vomiting and loss of consciousness. This lasted all night, and under the effect of opium it passed away. When his doctor saw him, he said he had had appendicitis, eight years previous the patient had had a similar attack which was then pronounced appendicitis. During these attacks he has vomiting and had frequency of micturition passing blood. Suffers from continuous ache in the right side which he says is like a sliver in the finger, after the examination he says he ached a good deal. From palpation I think it is evident he has a stone. Dr. Clark attended him four years ago, in typhoid. Following the last attack he has had loss of memory and difficulty of walking at night. At times he sees double, he loses words and forgets names and if anyone watches him, he cannot write. He feels the tips of his fingers dull and when he wants to button his clothes he has to see the buttons before he can accomplish it.

Dr. Hunter—The knee jerks seem to be entirely gone, but the Achilles jerks are present, the plantar reflex, what little there was, was normal, the flexor responds. There is a faint response to light, and to accommodation, the fundus being normal. In walking he seems to be a little unsteady, and at night without the usual assistance he is inclined to stumble, so there seems to be some ataxia. He has a sluggish pupil, but there was no anaesthesia that one is apt to get around the mammary region. Absence of lightning pains. History of bladder pains and of being rather slow in passing water. Absence of knee jerks is a considerable point in favor of tabes, but considering other factors, the diagnosis of tabes was not considered

safe. Had one been able to demonstrate anaesthetic areas especially in the mammary region, evidences of Tactile anaesthesia or delayed anaesthesia in regard to pain. It evidently cannot be peripheral neuritis. As to the abdominal pain, microscopic examination of the water should be made. I don't remember seeing a case of bladder crisis, but I saw a case of laryngeal crisis, and during an attack so severe that the house surgeon did tracheotomy, but without relieving the condition.

Dr. Nichols—I couldn't see any other disease that would fit, except tabes.

Dr. Rorke noted the sensation in the ends of the fingers being delayed and blunt, but couldn't find anything wrong with the sensations in the chest. Blood in the urine would rather shut off the gastric crisis.

Dr. Hughes—In my opinion it is a case of Locomotor Ataxia. The attacks were Renal Colic, though Dr. Bond failed to demonstrate a stone by his Skiagram, of course the question of a Renal Crisis has to be considered, but in my opinion it is not upheld.

Dr. Munroe showed case, male, 26 years, former health good, till two years ago when patient had severe attack of inflammatory rheumatism. In bed five weeks. Since has felt feeling around the heart, especially on exertion, palpitation and disturbance. Not incapacitated from work not entailing exertion. Well marked mitral murmur, of a peculiar character with high pitch and intensity.

Dr. Gardner—The heart is displaced outwards and to the left. The peculiar character of the murmur is a high pitch, ringing sound, which is transitory in character, occurring about the end of systole.

Dr. Manchester though the murmurs were mitral and faint, but did not get the peculiar murmurs, while Dr. Nichols said he heard the peculiar sound referred to by Dr. Munroe, and it seemed to be at the end of systole. He thought the lesion was mitral and regurgitant.

Dr. Mackay presented a cardiac case and asked Dr. Rorke to elicit the history. Patient 47, had several attacks of inflammatory rheumatism the first, 19 years ago, affected the heart, when patient was kept in bed for six months, three months of which a pillow was not allowed. The upper valve was affected, and for two years after, the slightest exertion would cause collapse, and patient was frequently laid up during those two years. Carried brandy continuously, to which he was often forced to resort. The second attack was not so severe as the first, but affected the heart and also the joints, but the third attack did not affect the joints. Other members of the family are all healthy. Patient attributed it to getting into a damp bed in winter, while occupied as commercial traveller. His limbs, from knee down, would get purple during an attack. Pulse was remarkably slow, 38, or as low as 32 when patient was in bed, and very rarely reaches 50.

At present, the heart is considerably enlarged, and is down one inch, down to about the sixth intercostal space, a little outside the nipple line. No diastolic murmur could be found, and slight thrill, to the left of sternum. He thought it a case of aortic stenosis. The heart is not so enlarged, nor the apex hardly as variable and is heaving the left side to the chest to the extent you would expect in any degree of aortic insufficiency. Owing to the enlargement of the heart one can say it is not an accidental murmur. A second sound could be heard, which seems the closure or re-action of the aortic valve to the blood pressure. Cannot say whether slowness of heart's action is due to involvement of heart muscle or not; he doesn't seem to have any anginoid pains which would explain that.

Dr. Hunter—As I think the pulse comes up, I can't agree with Dr. Rorke that the pulse is characteristic of stenosis. In well marked stenosis the pulse reaches its height slowly and comes down slowly, there is not a great deal of difference in the extreme height and extreme fall. In this case the pulse comes up quickly. No matter how marked a systolic murmur one can get over the aortic cartilage, if we do not get a retarded pulse, I think one must take the pulse as proof of the condition, and not the murmur, and I think it is rather a *celer pulsus* than a *tardus*.

The heart is enlarged considerably downwards and outwards and a well marked systolic thrill on the right side of the sternum, a rough systolic murmur extending up to the neck, as well as a considerable diastolic murmur. In the pure stenosis murmur there should be no marked enlargement of the heart, because it gives a considerable hypertrophy of the heart, which couldn't be made out clinically. On the other hand, where there is a dilatation, one gets dilatation accompanied by hypertrophy. It follows rheumatism, gives a better prognosis.

I never saw a case in which there was so slow a pulse in this condition. I have only seen one case of pure stenosis of the aorta that was diagnosed by a competent physician, Haveron, of Brompton, once showed a case. The pulse was small, about 60, regular, the heart was not so much enlarged and there wasn't such an area of pulsation here, and the second sound at the aortic cartilage was well marked. If we had so much enlargement of the heart from a pure stenosis condition, I think the man would be in a much worse condition. I tried to make out a venous pulsation. In many cases where the heart seems to be beating slowly it is beating slowly because the venous sinuses are beating at a different rate so on every second or third pulsation the pulsation from the auricle reaches the ventricle. This is due to some interference with the bundle of His. The pulse we have shows a modified Corrigan pulse, rather than a stenosis. In mild conditions of stenosis, considerable regurgitation is obtained, so that going on probabilities, this would have to be, on the other theory, a very marked case of aortic stenosis in order to give no regurgitation, but neither pulse nor Sphygmographic tracing bears that out. No condition of the mitral valve could be made out.

As to the history given, if one assumed that in the first attack there was considerable amount of regurgitation and not so much stenosis, one could conceive that the second attack may easily have caused a sufficient amount of stenosis to be of considerable advantage to the heart in diminishing the amount of regurgitation. From that long history after the first attack there may easily be myocardial changes and that may give an explanation of the very slow pulse.

Dr. Rorke said, as to the prognosis, if he lives a careful life it is good till some myocardial changes and if he has myocardial changes and loses his compensation, he will not live a very happy life after that.

Dr. Milroy—There has been a lot of myocarditis with myocardial change which could account for the slow pulse. I think the compensation didn't take place until he had the second attack of rheumatism, and the rest perhaps assisted and facilitated in the compensation, the heart becoming hypertrophied at that time. I think one of the effects of the stenosis of the aortic valve is radiocardial.

Dr. Nichols showed a specimen of ectopic pregnancy. The woman skipped two or three days of her menstrual period, complained of spasms in the lower part of her body, but there was no depression or shock. She had a bloody discharge. Her mother said

she had a shreddy discharge, but I didn't see any. I took her to the hospital and found the tube had ruptured and this ovum lay exposed. I found some blood clots and fished these out. The amnion is unruptured, but the tube is ruptured. I ligated around there and left the ovary in place. Dr. Nichols then opened the specimen, and the foetus was found inside. Patient said she felt a little faint, but there wasn't much hemorrhage. There was perhaps half a cup of blood in the abdomen. From the history, gestation had likely progressed two months.

MANITOBA MEDICAL ASSOCIATION

On Thursday morning, October 8th, a clinical session was held at the Manitoba Medical College. The Chairman, Dr. Todd, called the meeting to order, and asked Dr. Halpenny to show a case of Septic Peritonitis with Pyonephrosis in Pregnancy. The woman, about 6½ months pregnant—experienced pain in abdomen—temperature 102; next day 103 and pulse more rapid. 24-hour specimen of urine showed about one-sixth of total quantity to be pus. After six days in hospital on her back, pus cleared up, temperature normal for two days. Five days later, temperature rose to 101, and abortion came on in course of 24 hours. After abortion was completed, pus healed up even more quickly than the first occasion.

Dr. Harvey Smith, presented two cases, one of tonsillar mycosis in a boy of 6, and another of nasal deformity rectified by operation.

Dr. Galloway presented a case of a boy suffering from a separation of the lower epiphysis of the femur and a radiograph demonstrating the same.

Dr. Galloway also presented a case of congenital club foot and several Hip Disease cases.

Dr. D. S. MacKay presented a case of Hydatidiform mole with multiple lutein cyst of the ovaries.

Mrs. H., age 38, Galician. I first saw the patient on Jan. 27th on consultation with Dr. Jonkers.

Personal History. Married five years. Has two children living, none dead. Easy labours. Recovery complete and rapid in each case. No miscarriages. No discharge and has always enjoyed good health up till the present illness.

Menstrual History. The patient first menstruated at the age of fifteen, regular. Twenty-eight days interval, four days duration. Very little pain or discomfort. Last child born nineteen months ago. Weaned at the 11th month. Both children strong and healthy. Family history negative.

Present Illness. Last menstruated in early part of October, shortly before Christmas. Thought that she was pregnant. On the 23rd of December while out walking, she slipped, falling on her buttox, almost immediately there was a severe hemorrhage from the uterus. She succeeded in reaching her home, not being very far away at the time of the accident, she went to bed. The hemorrhage lessened, but the abdominal pain which came on at the time of the accident persisted and she became very weak and nauseated. This condition persisted for about three weeks, when the pain entirely left her and the hemorrhage ceased, but her general condition did not improve and she felt that she was becoming weaker and suffered considerably from palpitation.

On January 26th hemorrhage came on again accompanied by severe pain in the abdomen, particularly in the left upper quadrant, became very weak and nauseated. On the following morning Dr. Jonkers was called in. At 4 p.m. that day I saw the patient on consultation with him. The condition I found was as follows:—

Patient a poorly nourished woman. Eyes sunken. Skin dry and very yellow. Anxious expression. Temperature 99.4. Pulse 126. Resp. 28. On examining the abdomen I found a rounded mass in the Hypogastrum extending to the level of the umbilicus. Tender and of a boggy nature. Mass was moveable, and occupied the middle line.

Per Vaginum. External Genitalia normal. Vagina normal. Cervix somewhat enlarged and soft. Small tare to the left. Thick walnut discharge. Cervix drawn up and lying behind the symphysis and slightly to the right. The abdominal mass was found to be in direct connection with the cervix and was taken to be the uterus.

In the Pouch of Douglas there was a large tender and boggy mass about the size of a clenched fist and not moveable. On pressing down the abdominal mass into the pelvis, the pain in the right superior quadrant was increased.

Nothing further could be done as the examination caused the patient a great deal of pain.

Circulation System. Pulse 126. Small, wirey and intermittent. **Heart.** Systolic murmur at apex. Peripheral circulation fairly good.

Respiratory System. Negative.

Lymphatic System. Normal. No evidence of any glandular enlargement.

Nervous System. Negative.

Diagnosis. My diagnosis was in doubt, but I thought it might be a case of Ectopic Gestation. My bases for thinking so were:—

1. Ammenorrhoea.
2. Hemorrhage about ninth week.
3. Enlargement of the uterus.
4. Mass in Post. Cul de Sac.
5. Nature of discharge.

Advised that the patient be sent into Hospital and kept under observation.

She was admitted into St. Boniface Hospital at 10 a.m., July 28th. I saw her again with Dr. Jonkers on the following morning. Her condition at that time was about the same except that the uterus had enlarged so that the upper border was midway between the umbilicus and Xyphoid cartilage.

There was no doubt in my mind that it was not a case of Ectopic Gestation and I inclined to the idea that I was dealing with a malignant growth inside the uterus.

On January 30th the uterus had enlarged so that its upper border reached the Xyphoid Cartilage. Dr. Lehmann examined her and gave as his opinion that it was likely a case of Hydatid Mole. As to the mass in the Post Cul-de-Sac it was not likely a part of the uterus or an impacted rectum.

Her condition becoming worse, I advised operating, e. g. by emptying the uterus and if the mass in the pelvis was separate from the uterus, going in from above and removing it.

On the following day, January 31st, I operated. First dilated the Cervix and on examining with the finger, I found a thick mass somewhat resembling placental tissue. As far as my finger could reach, the mass appeared to be the same.

I then introduced a spoon currette, clearing away tissue as mentioned, also old blood clot. When the uterus was about half emptied, I found the material was that of a Hydatid Mole. The whole mass was then cleared out as quickly as possible, but after the uterus was emptied, the mass in the post. cul-de-sac was still there, so I decided to go in from above and clear it out. After again carefully washing up, I made an incision in the middle line. Upon opening into the abdominal cavity a large amount of dark stained serous fluid escaped. I then explored the cavity with my hand and found the mass in the post. cul-de-sac to be a large cyst of the right ovary firmly bound down by adhesions. Sweeping my hand around to the left side and over the fundus, I came upon the left broad ligament. Following it

upwards, I found a similar condition of the left ovary, it being attached by adhesions to the structure in the region of the spleen.

The adhesions were easily broken down and both cysts freed. As the condition of the patient was fairly good and having a feeling that the condition might be malignant, I did a Pan hysterectomy and closed up without drainage.

The condition I had to deal with was one of Hydatidiform Mole, complicated with multiple Lutin Cysts of the Ovaries.

The symptoms were vague as they generally are in these cases, there being no vomiting, no Setosangunim discharge resembling red-currant jelly, nor expulsion of cysts from the uterus.

The only positive symptom being the Abdominal distention and rapid growth of mass.

After Treatment. The patient did fairly well until after the 5th day when she developed a pain in the right chest. Temperature went up to 104, pulse 120.0, respiration to 36. On examination of the chest, I found an area of consolidation in the right lower lobe. On the 13th day the pulse and respiration dropped and she went on to good recovery. The wound healed by primary intention and was not dressed until the 10th day.

Dr. Gordon Bell presented a variety of specimens of cysts.

Dr. Richardson presented a case of hydrocephalus with Spina Bifida, the child having lived two days. The first part of labor lasted 15 hours and the second two hours.

On Thursday afternoon a business meeting was held at the Royal Alexandra Hotel, Dr. Rogers called the meeting to order, and Dr. Harvey Smith in the Chair, and Dr. Kenny Secretary pro tem.

Dr. Kenny, on being asked what steps had been taken, said, that: "Several months ago the Clinical Society passed a resolution to the effect that the Western Canada Medical Association be formed. They then approached the Medical and Chirurgical Society. Both Societies agreed the formation of the Western Canada Medical Association. A general committee was then appointed for this purpose and hence the gathering as a result of the work of this committee. A committee had been formed to draw up a constitution and by-laws in order that a second meeting might not be necessary this year. Dr. Kenny then moved that the medical men of the Province of Manitoba assembled proceed to the formation of the Manitoba Medical Association.

This motion was seconded by Dr. McArthur, and carried.

The clauses of the constitution as prepared by the committee were then taken up one by one, and adopted, with amendments.

The election of officers was then held, Dr. J. R. Jones was unanimously elected President of the Association. In his remarks acknowledging the honor which had been bestowed upon him, he said: "The number of men we have who have come in from outside points, and the magnificent meeting we had this morning at the Manitoba Medical College, are assurances of the future success of our Association."

Dr. Macdonald, of Brandon, was then elected as first Vice-President and Dr. G. McRae, of Neepawa, as second Vice-President.

Dr. Harvey Smith, in nominating Dr. Kenny for the position of Honorary Secretary, said that he thought it was due to the hard work that Dr. Kenny had performed, that the present success of this Association was due. Dr. Halnenny was also nominated for the same position, and upon a vote being taken, Dr. Halnenny was elected, Dr. Kenny receiving the office of Honorary Treasurer.

The members of the executive are as follows:—Winnipeg District, Dr. Ross, of Selkirk; Western District, Dr. Harrington; Southern District, Dr. Speechly, of Pilot Mound; Eastern District, Dr. Keele, of Portage la Prairie, and Dr. Hicks, of Griswold.

Dr. Macdonald extended a hearty invitation to the Association to meet at Brandon next year, the date being left to the executive. Dr. Matheson seconded Dr. Macdonald's motion, which was unanimously accepted.

At the conclusion of the morning session, a photograph was taken of the members present.

In the evening a banquet was held, the country physicians being the guests of the Winnipeg doctors.

The attendance was very gratifying, there being 93 in attendance at the morning session, 109 at the afternoon session, and 108 at the banquet.

GENERAL MEDICAL NEWS

VITAL STATISTICS

Winnipeg, October—Births, 361—males, 193; females, 168.

Deaths, 160—males, 114; females, 46. Marriages, 189.

Disease	Cases	Deaths
Typhoid	114	7
Scarlet Fever	14	
Diphtheria	15	1
Measles	2	
Tuberculosis	4	
Mumps	1	
Scabies	2	
Erysipelas	2	
Whooping Cough	1	
Chickenpox	7	
Smallpox	1	
	<hr/>	<hr/>
	163	8

Edmonton—Deaths, 32; Marriages, 29; Births, 40.

Vancouver—Births, 127; Marriages, 39; Deaths, 75.

MEDICAL NEWS

Minneapolis had Medical Inspection of Schools paid for by the city. This year the city refused to pay and so did the Board of Education, consequently there is now no medical inspection. The result of which is already so apparent that there is a strong local agitation to re-establish it.

Medical inspection of schools is conducted as a National Movement in France, England, Belgium, Sweden, Switzerland, Bulgaria, Japan and the Argentine Republic. In Germany and the United States it is compulsory in many cities.

The "Montreal Medical Journal" refers to the death of a man, who, having been found lying unconscious in a field and apparently dying of tuberculosis, was taken to the city hospital but refused admission, the rules forbidding the reception of persons suffering from tuberculosis. He was then taken

to the jail (!!!) He finally was placed in the Grace Dart Home where he died. The Journal comments on the strange fact that a government that can vote \$18,000 for an Olympic team in England cannot find more than \$5,000 per annum to give to the national organization for the prevention of Tuberculosis. That such could happen at the present day—a man dying of tuberculosis taken to jail—refused admission to a hospital is a great reflection on the much vaunted Charity, Christianity and Civilization of the present day.

Paris has now an equipped up-to-date Government school for training hospital nurses. In the past the duty of female nurses was performed by nuns. Such a thing as a professional hospital nurse was till recently unknown in France. This institution is meeting with the greatest success.

Dr. Tory (President) with a highly efficient staff has begun work with about forty students in the University of Alberta. This is a very good start considering Toronto opened with 26.

In the Province of Quebec examiners appointed by the Provincial Medical Council co-operate with examiners appointed by the universities and take joint control of the examinations. Thus they have one test only for degree and license made in the presence of the two sets of examiners. The Medical Graduate of Laval and McGill can register now in Great Britain and Ireland.

It is proposed to form a National Board of Health for Canada—a central Board to which all Provincial Boards would report.

The Colorado State organization has just issued a Colorado Souvenir Book for the International Congress on Tuberculosis with climatic maps and tables of statistical information based on the reports of the National Weather Bureau which makes it a permanently valuable work. Any who desire a copy can get it by sending 25 cents for postage, etc., to the Exhibition Committee of the Colorado State Organization, 823 Fourteenth St., Denver, Colo.

Acting on the instructions of the Hon. Dr. Young, Dr. Fagan, Provincial Health Officer, has made arrangements with the Dominion authorities in respect to the treatment of immigrants arriving in B. C. in regard to precautionary measures from plague stricken ports and to the handling of such as have been allowed to land, but fall ill within two days after their arrival. As a result of the conferences with Dr. Monkizambert and the Hon. Sidney Fisher and the Hon. Frank Oliver, it has been decided to establish fumigation stations at Vancouver and Victoria for immigrants. All boats arriving from infected ports will be fumigated with the exception of regular passenger steamers. These will be fumigated every month. Prince Rupert is also to have a quarantine station. Regulations are to be put in force that all Hindus suffering from consumption, who have not been two years in the country, will be deported at the expense of the Dominion. This regulation includes immigrants of all nationalities and those suffering from other diseases including lunacy. Any immigrant of less than two years who has become a public charge may be deported.

Another new regulation. Any immigrant of less than two years residence who has been in hospital and unable to pay, will be paid for by the Dominion Government at the rate of \$1.00 a day. All hospitals are to send in their bills to the Dominion Government and application is to be made for services already rendered.

Doctors in Saskatchewan are being notified that the Department of Agriculture will supply vaccine as well as pay for the vaccination of any unable to pay.

Out of the 32 candidates for registration in B. C. only 17 passed. The following were the successful:—J. Arbuckle, F. J. Buller, H. L. Burris, C. A. Eggert, H. B. Gourlay, F. W. Brydone-Jack, A. H. U. Kennedy, W. H. Lang, B. B. Marr, I. N. Mathers, A. Proudfoot, C. W. Prowd, G. E. Richards, G. E. Seldon, A. H. Wallace, W. C. Whittaker, C. S. Williams.

The Tranquille Sanatorium at B.C. will have its new buildings erected in a few weeks. It is expected that the work

will be completed by the end of May. The cost will be about \$100,000, and there will be main building 300 feet long by 65 feet deep with two wings and two storeys high. A separate building for administrative purposes and a residence for Dr. Irving. It is proposed to use the old ranch to house free patients. This is also being enlarged. Since the opening in November last there have been 65 patients—8 permanently cured; 2 died; 8 greatly improved; 27 still in hospital. The manager of the ranch has made the products of the farm meet all the requirements of the hospital and beside that has sold fruit valued at \$2,000, as well as other products.

In nearly every Medical College in Canada there is a marked decrease in the number of students entering for the first year.

The following were elected officers of the Winnipeg Clinical Society for the ensuing year:—W. R. Nicholls, M.D., F.R.C.S. (Eng.), President; Charles Hunter, M.D., M.R.C.P. (Lond.), Vice-President; J. G. Munroe, M.D., Secretary; J. E. Lehmann, M.D., M.R.C.S. (Eng.), Treasurer; Executive:—R. W. Kenny, M.D., J. H. Bond, M.D. (Edin.), R. Rorke, M.D., M.R.C.S. (Eng.)

The following were elected officers of the Winnipeg Medical and Chirurgical Society:—W. J. McLean, M.D., M.R.C.S., President; J. O. Todd, M.D., Vice-President; C. H. Vroocman, M.D., Secretary-Treasurer. Executive:—Dr. Harvey Smith, Dr. Hunter, Dr. Galloway, Dr. Halpenny.

At the meeting of the International Congress on Tuberculosis held recently at Washington, Dr. Newsholme, Principal Medical Officer of the Local Government Board in England, stated that it was the intention of the Board to issue an order requiring the notification of phthisis by Poor Law Medical Officers in case of all patients seen in that capacity. It is understood that this will apply whether the patients are in workhouses or infirmaries or at home.

The 16th International Medical Conference will be held at Budapest, Hungary, 29th August to 4th September 1909. The Western men on the Canadian Committee are Dr.

Tunstall, Vancouver; Dr. O. M. Jones, Victoria; Dr. H. Halpenny, Winnipeg. The Secretary of the Committee is Dr. Aikins, 50 College Street, Toronto, with whom any member of the profession who wishes to attend should communicate.

The regents of the University of Utah have decreed that no teacher, student or employee infected with tuberculosis will be admitted hereafter to the buildings of the University.

There is to be published shortly a daily newspaper called the "Christian Science Monitor." It will sell at 2 cents.

The opinion has been expressed that the medical degrees of the various universities should confer on the holder the right to practice in the Province in which he has been educated. 60% of the graduates of the University of Toronto failed to pass at the annual examination of the Medical Council in 1908.

PERSONALS

Dr. George of Red Deer has been ill with influenza.

Dr. King of Cranbrook, B.C., has moved to Vancouver.

Dr. Brett of the Sanitarium, Banff, has commenced erecting a new hospital. The new building will be 40 feet by 90 feet and three stories high and up-to-date in every respect.

Dr. Gillespie of Cumberland, B.C., has returned from his visit East.

Dr. Bapty has gone to Fernie at the request of the Hon. Dr. Young to look into sanitary conditions.

Dr. Paintin of Masonville, Quebec has started practice in Regina.

Dr. Barrett of Dawson City has gone to Europe.

Dr. Bawden of Winnipeg has gone to Moose Jaw.

Dr. Hogle of Nanaimo, B.C., has been visiting Vancouver and the vicinity.

Dr. Hart of Winnipeg has gone East for a holiday.

Dr. Baker of Leduc, Alta., has moved to Edmonton where he will practice.

Dr. A. C. Robertson, who has just returned from a year's post-graduate study in Europe, intends devoting his practice now to Orthopædic Surgery.

BORN

CLARKE—Sept. 16th. The wife of Dr. Clarke, of a daughter.

DIXON—5th Oct. The wife of Dr. Dixon, of Wetaskiwin, of a son.

MARRIED

CAIRNS—HEATH—Sept. 16th, at Regina. Dr. K. C. Cairns of Lumsden, to Miss E. M. Heath of Toronto.

PATTON—DEWAR—At Lethbridge, Sept. 14th. Miss Medeline Hamilton Dewar, daughter of the late Wm. Dewar of Paris, Ont., to Dr. W. T. Patton of Coutee.

OBITUARY

MACKAY—At Rapid City, Man., Nov. 1st, Dr. H. R. Mackay passed away. Dr. Mackay was born at Inverness, Scotland, 1864. He studied at Edinburgh and received his M.D. and C.M. degrees. Two years ago he came to Canada and after a short residence in Winnipeg, settled in Rapid City, taking over the practice of Drs. Dixon and Allan. The funeral took place under the auspices of the Oddfellows and Knights of Pythias. He is survived by a widow and four little children, for whom the greatest sympathy is felt.

ACKNOWLEDGEMENTS

We acknowledge with thanks the following papers:—

1. "Ricketts on the Prairie with some other observations," by H. M. Speechly, M.R.C.S. (Eng.), L.R.C.P. (Lond.), Pilot Mound, Manitoba.
2. "On Gall Stones and more particularly upon their Cholesterin Constituent," by J. George Adami, M.A., M.D., F.R.S., Montreal.
3. "Talipes Valgus," by A. C. Robertson, M.D., Edmonton.
4. "Research and Progress in Medicine," by Fredk. Taylor, M.D., F.R.C.P., Guy's Hospital, London.

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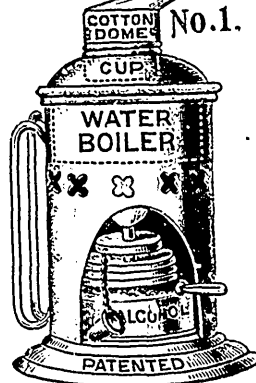
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NOTICE

ODD-NUMBERED SECTIONS

As already publicly announced, odd numbered sections remaining vacant and undisposed of will become available for homestead entry on the coming into force of the Dominion Lands Act on Sept. 1, next.

As the records of only the even numbered sections have hitherto been kept in the books of the various land agencies in the western provinces and the time having been very limited since the passing of the act within which to transfer the records of all odd numbered sections from the head office at Ottawa to the local offices, it is possible that the transfer of records in some cases may not have been absolutely completed by the 1st September. In any case where the record of any quarter section has not been transferred, application will be accepted but will have to be forwarded to head office to be dealt with.

As it has been found impossible as yet to furnish sub-agencies with copies of the records of the odd numbered sections and in view of the large probable demand for entries, all applicants for entry upon odd numbered sections are strongly advised to make their applications in person at the office of the Dominion Lands Agent and not through a Sub Land Agent. Applications for even numbered sections may be dealt with through the Sub-Land Agent as before if desired.

J. W. GREENWAY,

Commissioner of Dominion Lands,
Winnipeg, August 22, 1908.



Synopsis of Canadian North-West Homestead Regulations

Any even numbered section of Dominion lands in Manitoba, Saskatchewan and Alberta, excepting 8 and 26, not reserved, may be homesteaded by any person who is the sole head of a family, or any male over 18 years of age, to the extent of one quarter section of 160 acres more or less.

Application for entry must be made in person by the applicant at a Dominion Lands Agency or Sub-Agency for the district in which the land is situate. Entry by proxy, may, however, be made at an Agency on certain conditions by the father, mother, son, daughter, brother or sister of an intending homesteader.

DUTIES:

(1) At least six months' residence upon and cultivation of the land in each year for three years.

(2) A homesteader may, if he so desires, perform the required residence duties by living on farming land owned solely by him, not less than eighty (80) acres in extent, in the vicinity of his homestead. Joint ownership in a land will not meet this requirement.

(3) A homesteader intending to perform his residence duties in accordance with the above while living with parents or on farming land owned by himself must notify the Agent for the district of such intention.

Six months' notice in writing must be given to the Commissioner of Dominion Lands at Ottawa, of intention to apply for patent.

W. W. CORY,

Deputy of the Minister of the Interior.

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